

Hazards and Hazardous Materials

3.8.1 Introduction

This section addresses the potential impacts of hazards and hazardous materials related to the proposed Project and alternatives, and discusses potential impacts from proposed Project-related releases of hazardous materials to the environment. This section also describes impacts on public health and safety that could result from the proposed Project. These potential impacts include fires, explosions, and releases of hazardous materials associated with construction and operation of the proposed facilities. This section also addresses potential effects of the release of hazardous materials associated with tsunami-induced flooding and other seismic events. The potential risks of inundation associated with tsunami-related flooding are discussed in Section 3.5, Geology).

Potential health and safety impacts associated with encountering contaminated soil and groundwater during construction are discussed in Section 3.7 (Groundwater and Soils).

3.8.2 Environmental Setting

3.8.2.1 Hazardous Materials

Hazardous materials are the raw materials for a product or process that may be classified as toxic, flammable, corrosive, or reactive. Classes of hazardous materials that may be transported at the Port include:

- + Corrosive materials — solids, liquids, or gases that can damage living material or cause fire.
- + Explosive materials — any compound that is classified by the National Fire Protection Association (NFPA) as A, B, or C explosives.
- + Oxidizing materials — any element or compound that yields oxygen or reacts when subjected to water, heat, or fire conditions.
- + Toxic materials — gases, liquids, or solids that may create a hazard to life or health by ingestion, inhalation, or absorption through the skin.

- 1 + Unstable materials — those materials that react from heat, shock, friction, and
 2 contamination, and are capable of violent decomposition or autoreaction, but which
 3 are not designed primarily as an explosive.
- 4 + Radioactive materials — those materials that undergo spontaneous emission of
 5 radiation from decaying atomic nuclei.
- 6 + Water-reactive materials — those materials that react violently or dangerously upon
 7 exposure to water or moisture.

8 Hazardous materials that are transported in containers are stored in individual containers
 9 specifically manufactured for storing and transporting the material. In addition, shipping
 10 companies prepare, package, and label hazardous materials shipments in accordance with
 11 federal requirements (49 CFR 170-179) to facilitate surface transport of the containers.
 12 All hazardous materials in containers are required to be properly manifested. Hazardous
 13 material manifests for inbound containerized hazardous materials are reviewed and
 14 approved by the Port Security and the City Fire Department before they can be unloaded.

15 There are five hazardous liquid bulk facilities in the West Basin area, only two of which
 16 have storage capabilities (Table 3.8-1). There are no liquid bulk facilities located at
 17 Berths 97-109, which comprise the site of the proposed Project. However, the facilities
 18 listed are within approximately 1,000 feet of the proposed site and could pose a hazard to
 19 persons present at the proposed site. This could especially be the case under
 20 Alternative 7 (Non-Shipping Alternative) when large numbers of persons could occupy
 21 the site during the daytime.

Table 3.8-1. Liquid Bulk Facilities in the West Basin Area

Facility	Approximate Storage Volume (Barrels)	Number of Tanks
GATX Berths 118-121	523,000	18
BP North America Berths 118-121	None	None
Petrolane Berth 120	None	None
Western Fuel Oil Berths 120-121	None	None
ConocoPhillips Berths 148-151	817,000	26

22

23 The Los Angeles Harbor Department (LAHD) estimates that the Port, as a whole, handles
 24 a maximum of 10,000 containers per year that contain hazardous materials (LAHD,
 25 2004). This is the approximate capacity of two container ships. Based on the annual
 26 Portwide container volume of 7.4 million TEUs for fiscal year 2004, which is equivalent
 27 to approximately 4 million containers, hazardous materials in containers represents
 28 approximately 0.25 percent of the total containers handled in the Port.

1 Containers containing hazardous materials are transported from the terminal via truck and
2 while in the port, they are only handled by authorized workers. The Transportation
3 Worker Identification Credential (TWIC) program is a Transportation Security
4 Administration (TSA) and USCG initiative to provide a tamper-resistant biometric
5 credential to: maritime workers who require unescorted access to secure areas of port
6 facilities and vessels regulated under the Maritime Transportation Security Act, or MTSA;
7 and all USCG-credentialed merchant mariners. It is estimated that for the Port,
8 750,000 individuals will require TWICs and enrollment and issuance will take place over
9 an 18-month period. To obtain a TWIC, an individual must provide biographic and
10 biometric information such as fingerprints, sit for a digital photograph, and successfully
11 pass a security threat assessment conducted by TSA. The TWIC program will minimize
12 the potential for unauthorized handling of containers that contain hazardous materials.

13 No deaths have resulted from releases of hazardous materials at the Port and no injuries
14 associated with accidental releases of hazardous materials have been reported at
15 hazardous liquid bulk storage facilities in the West Basin area (pers. comm., Curry, 2004;
16 Hawkes, 2007).

17 The California Office of Emergency Services (OES) maintains the Response Information
18 Management System (RIMS) database that includes detailed information on all reported
19 hazardous material spills in California. All spills that occur in the Port, both hazardous
20 and nonhazardous, are reported to the OES and entered into the RIMS database. This
21 database includes spills that may not result in a risk to the public, but could be considered
22 to be an environmental hazard. Information in the RIMS database were evaluated for the
23 period 1997 to 2004 to evaluate the types and number of spills that have occurred at the
24 Ports of Los Angeles and Long Beach that would be associated with container terminals.
25 Table 3.8-2 presents a summary of accidental spills from container terminals that have
26 occurred in the port complex.

27 During the period 1997-2004, there were 40 hazardous material spills directly associated
28 with container terminals in the Ports of Los Angeles and Long Beach. This equates to
29 approximately five spills per year for the entire port complex. During this period, the
30 total throughput of the container terminals was 76,874,841 TEU. Therefore, the
31 probability of a spill involving a hazardous material at the container terminals can be
32 estimated at 5.2×10^{-7} per TEU (40 spills divided by 76,874,841 TEU). This spill
33 probability is a conservative estimate since it includes materials that would not be
34 considered a risk to public safety (e.g., perfume spills), but would still be considered an
35 environmental hazard. It should be noted that, during the period 1997-2004, there were
36 no reported impacts (injuries, fatalities, or evacuations) to the general public. The
37 potential consequences were limited to port workers (for example, in a 1997 incident
38 involving spillage of an unknown dry substance, 2 workers received injuries that were
39 treated at the scene, and 20 workers were evaluated as a precaution).

40 **3.8.2.2 Public Emergency Services**

41 Emergency response/fire protection for the Port is provided by the Los Angeles City
42 Fire Department (LAFD); security is provided by the Port Police office. Two large
43 fireboats and three small fireboats are strategically placed in the Harbor. There are also
44 fire stations equipped with fire trucks located in the Port and nearby in the communities
45 of Wilmington and San Pedro. Public services are discussed in detail in Section 3.13.

Table 3.8-2. Container-Related Spills at Ports of Los Angeles and Long Beach 1997-2004

Spill Control Number	Substance	Spill Size	Port	Injuries	Fatalities	Evacuations
97-0684	Unknown dry substance	Unknown	POLB	2	0	0
97-1644	Phenetidine	Unknown	POLB	0	0	0
97-2220	Perfume	Unknown	POLB	0	0	0
97-2360	Ethanolamine	10 gallons	POLA	0	0	0
97-2782	Arsenic Trioxide	0.5 pounds	POLB	0	0	0
97-3158	Flammable liquid	Unknown	POLB	0	0	0
97-4369	Toluene Disocyaete	1 quart	POLA	0	0	0
98-4030	Nitric Acid	Unknown	POLB	0	0	0
98-4243	Isopropanol	55 gallons	POLB	0	0	0
99-3076	Alkyl Benzine	2 gallons	POLB	0	0	0
99-4630	Hypochlorite Solution	Unknown	POLB	0	0	0
00-1186	Xylenol	5 gallons	POLB	0	0	0
00-1232	Petroleum Distillates	1 gallon	POLB	0	0	0
00-2078	Chromium 6 Oxide	5 pounds	POLA	0	0	0
01-1433	Dodecylbenzene Sulfonic Acid Detergent	330 gallons	POLB	0	0	0
01-3682	Hydroperoxide	15 gallons	POLA	0	0	0
01-3943	Isopropanol	5 gallons	POLA	0	0	0
01-5462	Organic Peroxide	1 gallon	POLA	0	0	0
01-6533	Lead Acid Batteries	5 gallons	POLA	0	0	0
01-6902	Motor oil	3 gallons	POLB	0	0	0
02-0219	Calcium Hypochlorite	2 ounces	POLB	0	0	0
02-0822	Unknown material	Unknown	POLA	0	0	0
02-2033	Aerosol Cans	Unknown	POLA	0	0	0
02-3248	Perfume and Sulfamic Acid	Unknown	POLB	0	0	0
03-0278	Hexachlorocyclopentadiene	2 gallons	POLA	0	0	20
03-1653	Hydro Phosphorous Acid	1 gallon	POLA	0	0	0
03-0568	Organo Phosphorus Pesticide	3 gallons	POLA	0	0	0
03-0563	Organo Phosphorus Pesticide	1 gallon	POLA	0	0	0
03-0133	Sulfuric acid	Unknown	POLA	0	0	0
03-2554	Unknown Corrosive	1 gallon	POLB	0	0	0
03-3307	Unknown Oil	Unknown	POLB	0	0	0
03-4110	Unknown Oil	Unknown	POLA	0	0	0
04-1458	Alkyl benzyne	2,475 gallons	POLB	0	0	0
04-1431	Alkylene Carbonate	1 gallon	POLA	0	0	0
04-0085	Calcium Hypochlorite	Unknown	POLA	0	0	0
04-2525	Cutting Oil	Unknown	POLB	0	0	0
04-1135	Flammable Material	Unknown	POLB	0	0	0
04-2810	Hydrazine Hydrate, 34% solution	1 gallon	POLA	0	0	0
04-5008	Methane Sulfonic Acid	Unknown	POLA	0	0	0
04-1409	Unknown flammable	1 gallon	POLB	0	0	0
Total				2	0	20

3.8.2.3 Port of Los Angeles Risk Management Plan

The Risk Management Plan (RMP), an element of the Port Master Plan (PMP), was adopted in 1983, per California Coastal Commission (CCC) requirements. The purpose of the RMP is to provide siting criteria relative to vulnerable resources and the handling and storage of potentially hazardous cargo such as crude oil, petroleum products, and chemicals. The RMP provides guidance for future development of the Port designed to minimize or eliminate the hazards to vulnerable resources from accidental releases. Proposed Project consistency with this Plan would be limited, as the plan pertains primarily to marine terminals that accept crude oil, petroleum products, and chemicals, rather than container terminals.

3.8.2.4 Homeland Security

3.8.2.4.1 Terrorism Risk

Prior to the events of September 11, 2001, the prospect of a terrorist attack on a U.S. port facility or a commercial vessel in a U.S. port would have been considered highly speculative under CEQA and not analyzed. The climate of the world today has added an additional unknown factor for consideration (i.e., terrorism). There are limited data available to indicate the likelihood of a terrorist attack aimed at the Port or the proposed Project; therefore, the probability component of the analysis described above contains a considerable amount of uncertainty. Nonetheless, this fact does not invalidate the analysis presented herein. A terrorist action could be the cause of events described in this section such as hazardous materials release and/or explosion. The potential impact of those events would remain as described herein.

3.8.2.4.2 Application of Risk Principles

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

3.8.2.4.3 Terrorism Risk Associated with Port Cargo Facilities

The cargo facilities in the port are the locations where cargo moving through the international supply chain is transferred between vessels and land transportation (either over the road tractor-trailers or railroad). Because this function is critical to the international supply chain and, therefore, to the U.S. economy, it is possible that these facilities could be targeted for terrorist actions. These terminals are generally not seen as iconic themselves. During operational periods people on these terminals are generally limited to terminal staff members, longshore workers, and truck drivers. There is no public access to these terminals.

Port facilities could be subject to terrorist actions from the land or the water, and there could be attempts to disrupt cargo operations through various types of actions.

3.8.2.4.4 Terrorism Risk Associated With Commercial Vessels

Commercial vessels in the Port could be subject to terrorist action while at berth or during transit. These vessels could be subject to several types of actions, including an attack from the land, from the surface of the water, or from beneath the surface of the water. During their transit in the Port, these large vessels are highly restricted in their maneuverability.

There have been very few examples of terrorist actions attempted against large commercial vessels since September 11, 2001. On October 6, 2002, a terrorist attack was attempted against the French-flagged crude oil tanker *Limburg*. At the time the *Limburg* was carrying 397,000 barrels of crude oil from Iran to Malaysia. The ship was attacked off the coast of Yemen by a small boat laden with explosives. The *Limburg* caught fire and approximately 90,000 barrels of crude oil leaked into the Gulf of Aden. The *Limburg* did not sink. She was salvaged, repaired, and returned to service under the new name *Maritime Jewel*.

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 in Port waters could block key channels and disrupt commerce, thus resulting in potential economic losses.

3.8.2.4.5 Terrorism Risk Associated With Containerized Cargo

Intermodal cargo containers could be used to transport a harmful device into the port. This could include a weapon of mass destruction, or a conventional explosive device. The likelihood of such an attack would be based on the desire to cause harm to the port. The probability of an attack would have no relationship to Project-related throughput. The potential environmental effects of such an action, if it resulted in release of hazardous material, would be akin to the accidental release of hazardous materials that are addressed herein.

Containerized cargo represents a substantial segment of maritime commerce and is the focus of much of the attention regarding seaport security. Containers are used to transport a wide variety of goods. A large container ship can carry more than 3,000 containers, of which several hundred might be offloaded at a given port.

An intermodal container is similar to a semi-truck trailer without an attached chassis or wheels. Standard container sizes are 8 by 8 by 20 feet or 8 by 8 by 40 feet. Once offloaded from ships, they are transferred to rail cars, or tractor-trailers. Over-the-road weight regulations generally limit the cargo load of a 40-foot container to approximately 45,000 pounds.

Additionally, the use of cargo containers to smuggle weapons of mass destruction (WMDs) through the Port and 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. However, the likelihood of such an event would not be related to Project-related throughput, but rather would be based on the terrorists' desired outcome. Cargo containers represent only one of many potential methods to smuggle WMDs, and with current security initiatives may be less desirable than other established smuggling routes (e.g., land-based ports of entry, cross border tunnels, illegal vessel transportation).

3.8.2.5 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 the Berth 97-109 terminal.

3.8.2.5.1 Security Regulations

The Maritime Transportation Security Act (MTSA) of 2003 resulted in maritime security regulations in Title 33 CFR Parts 101-106. These regulations apply to cargo terminals in the Port including the Berth 97-109 terminal. Title 33 Part 105 requires that cargo terminals meet minimum security standards for physical security, access control, cargo handling security, and interaction with berthed vessels. These regulations require that terminal operators submit a Facility Security Plan (FSP) to the Coast Guard Captain of the Port for review and approval prior to conducting cargo operations. The requirements for submission of the security plans became effective on December 31, 2003. Operational compliance was required by July 1, 2004.

The International Ship and Port Facility Security (ISPS) Code was adopted by the International Maritime Organization (IMO) in 2003. This code requires both ships and ports to conduct vulnerability assessments and to develop security plans 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 Title 33 CFR Part 105, the USCG may impose additional control measures related to security.

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

3.8.2.5.2 Terminal Security Measures

The Berth 97-109 terminal is subject to USCG maritime security regulations discussed in Section 3.8.2.5.1. The Berth 97-109 FSP was approved by the USCG in 2004 and includes the following:

- + Designating a Facility Security Officer (FSO) with a general knowledge of current security threats and patterns, risk assessment methodology, and with the responsibility for implementing and periodically updating the FSP and Assessment and performing an annual audit for the life of the Project;

- 1 + Conducting a FSA to identify site vulnerabilities, possible security threats,
2 consequences of an attack, and facility protective measures;
- 3 + Responding to transportation security incidents; notifying and coordinating with local,
4 state, and federal authorities, preventing unauthorized access; implementing
5 measures and equipment to prevent or deter dangerous substances and devices; and
6 conducting training and evacuation;
- 7 + Implementing scalable security measures to provide increasing levels of security at
8 increasing Maritime Security (MARSEC) levels for facility access control, restricted
9 areas, cargo handling, vessel stores and bunkers, and monitoring;
- 10 + Conducting security exercises at least once each calendar year and drills at least
11 every 3 months; and
- 12 + Mandatory reporting of all security breaches and incidents.

13 Security training is conducted for the FSO of the Terminal operator and associated
14 security personnel for the employees of the Terminal operator. This consists of
15 awareness training and basic security guard training; there are annual refresher courses.
16 Labor is trained by the Pacific Maritime Association.

17 **3.8.2.5.3 Vessel Security Measures**

18 All cargo vessels 300 gross tons or larger that are flagged by IMO signatory nations
19 adhere to the ISPS Code standards discussed in Section 3.8.2.5.1. These requirements
20 include:

- 21 + Ships must develop security plans that address monitoring and controlling access;
22 monitoring the activities of people, cargo, and stores; and ensuring the security and
23 availability of communications;
- 24 + Ships must have a Ship Security Officer (SSO);
- 25 + Ships must be provided with a ship security alert system. These systems transmit
26 ship-to-shore security alerts to a competent authority designated by the Flag State
27 Administration, which may communicate the company name, identify the ship,
28 establish its location, and indicate that the ship security is under threat or has been
29 compromised. For the west coast, this signal is received by the Coast Guard Pacific
30 Area Command Center in Alameda, California.
- 31 + International port facilities that ships visit must have a security plan, including
32 focused security for areas having direct contact with ships; and
- 33 + Ships may have certain equipment onboard to help maintain or enhance the physical
34 security of the ship, including:
 - 35 Monitoring and controlling access;
 - 36 Monitoring the activities of people and cargo;
 - 37 Ensuring the security and availability of communications; and
 - 38 Completing a Declaration of Security signed by the FSO and SSO, which ensures
39 that areas of security overlapping between the ship and facility are adequately
40 addressed.

41 Vessels flagged by nations that are not IMO signatory are subject to special USCG vessel
42 security boarding prior to entering port.

3.8.2.5.4 Security Credentialing

The 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 MTSA. 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. The Port is currently involved in initial implementation of the TWIC program including a series of field tests at selected Port terminals.

3.8.2.5.5 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. Neither the Berth 97-109 terminal nor the LAHD have responsibilities related to security scanning or screening of cargo entering the port. However, 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/>.

3.8.2.5.6 Port of Los Angeles Security Initiatives

LAHD (the Port) is not subject to the international or federal security regulations discussed in Section 3.8.2.5.1. However, all container terminal tenants at the Port are subject to these regulations. The Port 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

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

- 4 + Upgrading security at the World Cruise Center
- 5 + Expanding the waterside camera system in the Port
- 6 + Establish restricted areas for noncommercial vehicles and vessels
- 7 + Installing additional shore-side cameras at critical locations
- 8 + Working with TSA to implement the TWIC program
- 9 + Promoting increased scanning at overseas ports
- 10 + Updating long range security plans for the Port
- 11 + Developing a security awareness training program
- 12 + Enhancing outreach to constituents

13 **3.8.3 Applicable Regulations**

14 **3.8.3.1 List of Regulations**

15 Regulations applicable to the proposed Project or alternative are designed to regulate
16 hazardous materials and hazardous wastes. These regulations also are designed to limit
17 the risk of upset during the use, transport, handling, storage, and disposal of hazardous
18 materials. The proposed Project will be subject to numerous federal, state, and local laws
19 and regulations including, but not limited to, those described below.

20 **3.8.3.1.1 Resource Conservation and Recovery Act of 1976 (42 U.S.C. 21 Section 6901-6987)**

22 The goal of RCRA, a federal statute passed in 1976, is the protection of human health and
23 the environment, the reduction of waste, the conservation of energy and natural resources,
24 and the elimination of the generation of hazardous waste as expeditiously as possible.
25 The Hazardous and Solid Waste Amendments of 1984 significantly expanded the scope
26 of RCRA by adding new corrective action requirements, land disposal restrictions, and
27 technical requirements. The corresponding regulations in 40 CFR 260-299 provide the
28 general framework for managing hazardous waste, including requirements for entities
29 that generate, store, transport, treat, and dispose of hazardous waste.

30 **3.8.3.1.2 DOT Hazardous Materials Regulations (Title 49 CFR Parts 100-185)**

31 The Department of Transportation (DOT) Hazardous Materials Regulations cover all
32 aspects of hazardous materials packaging, handling, and transportation. Parts 172
33 (Emergency Response), 173 (Packaging Requirements), 174 (Rail Transportation),
34 176 (Vessel Transportation), 177 (Highway Transportation), 178 (Packaging
35 Specifications) and 180 (Packaging Maintenance) would all apply to the proposed Project
36 activities.

1 **3.8.3.1.3 The Hazardous Materials Transportation Act (HMTA), 49 CFR 171,**
2 **Subchapter C**

3 The DOT, FHWA, and the Federal Railroad Administration regulate transportation of
4 hazardous materials at the federal level. The HMTA requires that carriers report
5 accidental releases of hazardous materials to DOT at the earliest practical moment. Other
6 incidents that must be reported include deaths, injuries requiring hospitalization, and
7 property damage exceeding \$50,000.

8 **3.8.3.1.4 United States Coast Guard (USCG) Title 33**

9 The USCG, through Title 33 (Navigation and Navigable Waters) and Title 46 (Shipping)
10 of the CFR, is the federal agency responsible for vessel inspection, marine terminal
11 operations safety, coordination of federal responses to marine emergencies, enforcement
12 of marine pollution statutes, marine safety (such as navigation aids), and operation of the
13 National Response Center for spill response, and is the lead agency for offshore spill
14 response. The USCG implemented a revised vessel boarding program in 1994 designed
15 to identify and eliminate substandard ships from U.S. waters. The program pursues this
16 goal by systematically targeting the relative risk of vessels and increasing the boarding
17 frequency on high risk (potentially substandard) vessels. The relative risk of each vessel
18 is determined through the use of a matrix that factors the flag of the vessel, owner,
19 operator, classification society, vessel particulars, and violation history. Vessels are
20 assigned a boarding priority from I to IV, with priority I vessels being the potentially
21 highest risk. The USCG is also responsible for reviewing marine terminal Operations
22 Manuals and issuing Letters of Adequacy upon approval.

23 **3.8.3.1.5 Hazardous Waste Control Law (California Health and Safety Code,**
24 **Chapter 6.5)**

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

30 **3.8.3.1.6 Emergency Planning and Community Right-To-Know Act (42 U.S.C.**
31 **11001 et seq.)**

32 Also known as Title III of the Superfund Amendments and Reauthorization Act (SARA),
33 Emergency Planning and Community Right-to-Know Act (EPCRA) was enacted by
34 Congress as the national legislation on community safety. This law was designated to
35 help local communities protect public health, safety, and the environment from chemical
36 hazards. To implement EPCRA, Congress required each state to appoint a State
37 Emergency Response Commission (SERC). The SERCs were required to divide their
38 states into Emergency Planning Districts and to name a Local Emergency Planning
39 Committee (LEPC) for each district. EPCRA provides requirements for emergency
40 release notification, chemical inventory reporting, and toxic release inventories for
41 facilities that handle chemicals.

3.8.3.1.7 Hazardous Material Release Response Plans and Inventory Law (California Health and Safety Code, 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 Los Angeles City Fire Department (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.

3.8.3.1.8 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.

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

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

3.8.3.2 Other Requirements

California regulates the management of hazardous wastes through Health and Safety Code Section 25100 et seq., and through the California 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 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.

1 Numerous facilities handle, store, or transport hazardous materials in the Port. Activities
2 that involve hazardous liquid bulk cargoes (e.g., fuels) at the Port are governed by the
3 Port of Los Angeles Risk Management Plan (RMP) (LAHD, 1983). This plan provides
4 for a methodology for assessing and considering risk during the siting process for
5 facilities that handle substantial amounts of dangerous cargo, such as liquid bulk facilities.

6 Hazardous materials inside cargo containers fall under the primary jurisdiction of the
7 federal Department of Homeland Security and USCG (33 CFR 126) while the containers
8 are at sea, in Port waters, and at waterfront facilities. Under the jurisdiction of the
9 Department of Homeland Security, the USCG maintains an Office of Operating and
10 Environmental Standards Division, which develops national regulations and policies on
11 marine environmental protection. This division coordinates with appropriate federal,
12 state, and international organizations to minimize conflicting environmental requirements.
13 The USCG also maintains a Hazardous Materials Standards Division (HMSD), which
14 develops standards and industry guidance to promote the safety of life and protection of
15 property and the environment during marine transportation of hazardous materials. This
16 includes transportation of bulk liquid chemicals and liquefied gases, hazardous bulk
17 solids, and packaged hazardous cargoes, as well as hazardous materials used as ship
18 stores and hazardous materials used for shipboard fumigation of cargo.

19 Vessel Traffic Service (VTS) is a Public/Private partnership vessel traffic service for the
20 Ports of Los Angeles and Long Beach. VTS is jointly operated and managed by the
21 Marine Exchange of Southern California (a nonprofit corporation) and the Coast Guard
22 COTP. VTS is a cooperative effort of the State of California, USCG, Marine Exchange
23 of Southern California, Ports of Los Angeles and Long Beach, and is under the authority
24 of California Government Code, Section 8670.21, Harbors and Navigation Code,
25 Sections 445-449.5 and the Port tariffs of Los Angeles and Long Beach.

26 Terminal cargo operations involving hazardous materials are governed by the LAFD in
27 accordance with regulations of state and federal departments of transportation
28 (49 CFR 176). Regulated hazardous materials in the Port may include maritime-use
29 compounds such as chlorinated solvents, petroleum products, compressed gases, paints,
30 cleaners, and pesticides.

31 **3.8.4 Impacts and Mitigation Measures**

32 **3.8.4.1 Methodology**

33 **Risk Probability and Criticality**

34 CEQA guidelines require identifying any adverse change in any of the physical
35 conditions in the area affected by the proposed Project or alternative, including a change
36 in the probability of spills or releases. For incidents that may affect environmental and
37 public safety, a risk matrix is commonly used to evaluate the expected frequencies of
38 scenarios versus the severity of potential consequences to determine the level of
39 significance (see Table 3.8-3). The potential for significant safety impacts increases
40 proportionally to the frequency of occurrence and potential consequences of an event.
41 Frequency is typically classified into six categories (frequent, periodical, occasional,
42 possible, improbable, and extraordinary) based on a predefined expected level of
43 occurrence. The severity of consequence is also classified into five categories

1 (negligible, minor, major, severe, and disastrous) based on the potential environmental
 2 and safety impact on the public.

3 **Table 3.8-3. Risk Matrix**

		Probability					
		Extraordinary- >1,000,000 years	Improbable >10,000 <1,000,000 years	Possible >100 <10,000 years	Occasional >10 and <100 years	Periodic >1 and <10 years	Frequent (>1/year)
Consequences	Catastrophic (> 100 severe injuries or >357,142 bbl)	4	3	2	1	1	1
	Severe (up to 100 severe injuries or 2,380– 357,142 bbls)	4	3	3	2	2	2
	Moderate (up to 10 severe injuries or 238– 2,380 bbl)	4	4	3	3	3	3
	Slight (a few minor injuries or 10-238 bbl)	4	4	4	4	4	4
	Negligible (no minor injuries or <10 bbls)	4	4	4	4	4	4
<p>Note: Incidents that fall in the dark shaded area of the risk matrix (with cell entries of 1 and 2) would be classified as significant in the absence of mitigation, while the lighter shaded areas (with cell entries of 3) would be significant in the absence of engineering and/or administrative controls. Unshaded areas (with cell entries of 4) would be considered less than significant. bbl = barrel that is 42 gallons.</p> <p>Sources: LACFD, 1991; Santa Barbara County, 1995; Aspen Environmental Group, 1996.</p>							

4
 5 Table 3.8-3 specifies values in each category of consequence and frequency classification
 6 typically used in the industry. Incidents that fall in the shaded area of the risk matrix
 7 would be classified as significant, unless for the lighter shaded areas there are
 8 engineering and/or administrative controls in place. The risk matrix approach follows the
 9 Los Angeles County Fire Department (LACFD) risk management guidelines that were
 10 originally developed for the California Risk Management and Prevention Program
 11 (RMPP) and also include the criticality classifications presented in Table 3.8-4. The
 12 RMPP used the combination of accident frequency and consequences to define the
 13 significance of a potential accident in terms of impacts to public safety (i.e., potential
 14 injuries and/or fatalities). Santa Barbara County (1995) added additional criteria to
 15 address the significance of oil spills and environmental hazards, which for the proposed
 16 Project would include fuel spills from container ships. The potential significance of
 17 impacts to public safety and the environment are evaluated using the risk matrix approach.

1 The extent of environmental damage is evaluated in the relevant issue areas (e.g.,
 2 biological resources and water quality).

Table 3.8-4. Criticality and Frequency Classifications

Criticality Classification		
Classification	Description of Public Safety Hazard	Environmental Hazard – Oil Spill Size
Negligible	No significant risk to the public, with no injuries	Less than 10 bbls (420 gal)
Slight	At most a few minor injuries	10–238 bbl (420–10,000 gal)
Moderate	Up to 10 severe injuries	238–2,380 bbl (10,000–100,000 gal)
Severe	Up to 100 severe injuries or up to 10 fatalities	2,380–357,142 bbls (100,000–15,000,000 gal)
Catastrophic	More than 100 severe injuries or more than 10 fatalities	Greater than 357,142 bbl (15,000,000 gal)

Frequency Classification		
Classification	Frequency per year	Description of the Event
Extraordinary	< once in 1,000,000 years	Has never occurred but could occur.
Improbable	between once in 10,000 and once in 1,000,000 years	Occurred on a worldwide basis, but only a few times. Not expected to occur.
Possible	Between once in a 100 and once in 10,000 years	Is not expected to occur during the project lifetime.
Occasional	Between once in a 10 and once in 100 years	Would probably occur during the Project lifetime.
Periodic	Between once per year and once in 10 years	Would occur about once a decade.
Frequent	Greater than once in a year	Would occur once in a year on average.

Sources: Santa Barbara County, 1995; Aspen Environmental Group, 1996.

3
 4 The risk criticality matrix shown in Table 3.8-4 combines accidental probability with the
 5 severity of consequences to identify the risk criticality. Four categories of risk have been
 6 defined by the LACFD as:

- 7 1. Critical. Mitigate within 6 months with administrative or engineering controls (to
 8 reduce the Risk Code to 3 or less).
- 9 2. Undesirable. Mitigate within 1 year with administrative or engineering controls (to
 10 reduce the Risk Code to 3 or less).
- 11 3. Acceptable. Verify need for engineering controls, or that administrative controls are
 12 in place for hazard.
- 13 4. Acceptable. No mitigating action required for the identified hazard.

1 The risk criticality matrix was originally developed for use in evaluating the probability
2 and significance of a release of acutely hazardous materials (AHM) under the
3 requirements of Section 25532(g) of the Health and Safety Code, and has been modified
4 over the years to include other environmental and public safety hazards.

5 **Risk of Upset Due to Terrorism**

6 Analysis of risk of upset is based primarily on potential frequencies of occurrence for
7 various events and upset conditions as established by historical data. The climate of the
8 world today has added an additional unknown factor for consideration; i.e., terrorism.
9 There are limited data available to indicate the likelihood of a terrorist attack aimed at the
10 Port or the proposed Project or alternative and, therefore, the probability component of
11 the analysis described above contains a considerable amount of uncertainty. Nonetheless,
12 this fact does not invalidate the analysis contained herein. Terrorism can be viewed as a
13 potential trigger that could initiate events described in this section such as hazardous
14 materials release and/or explosion. The potential impact of those events, once triggered
15 by whatever means, would remain as described herein. The Berth 97-109 terminal
16 operator would also be required to develop a Terminal Security Plan for the Terminal,
17 which would be approved by the USCG and the California State Lands Commission
18 (CSLC) prior to implementation of the proposed Project or alternative. Ships calling at
19 the Port would need to provide a 96-hour advance notice. They would be screened by the
20 USCG and CBP. The USCG would have options of denying entry of vessels to the Port
21 if any security situation arises.

22 **Hazards Associated with Truck Transportation**

23 Proposed Project/alternative-related increases in truck trips could result in an increase in
24 vehicular accidents, injuries, and fatalities. Therefore, potential impact of increased truck
25 traffic on regional injury and fatality rates have been evaluated.

26 The Federal Motor Carrier Safety Administration (FMCSA), within DOT, operates and
27 maintains the Motor Carrier Management Information System (MCMIS). MCMIS
28 contains information on the safety fitness of commercial motor carriers and hazardous
29 material shippers subject to the FMCSA Regulations and the 49 CFR Hazardous
30 Materials Regulations. As part of these requirements, reportable accident rates are
31 generated for various types of carriers, including carriers of hazardous materials.
32 More than 500,000 motor carriers are included in the database, of which approximately
33 40,000 carry hazardous materials. A DOT-reportable accident is an accident that
34 produces either a fatality, a hospitalization, or requires the vehicle be towed.

35 The Hazardous Materials Information System (HMIS) is another system of databases
36 managed by the Office of Hazardous Materials Safety within DOT. The database
37 maintains information on transportation-related hazardous material incidents.

38 According to an FMCSA detailed analysis (FMCSA, 2001), the estimated nonhazardous
39 materials truck accident rate is more than twice the hazardous materials truck accident
40 rate. The nonhazardous materials truck accident rate was estimated to be 0.73 accidents
41 per million vehicle miles and the average hazardous materials truck accident rate was
42 estimated to be 0.32 accidents per million vehicle miles.

43 Based on the National Highway Traffic Safety Administration (NHTSA) (DOT, 2003), of
44 the estimated 457,000 truck crashes in 2000 (causing fatalities, injuries, or property
45 damage), an estimated 1 percent produced fatalities and 22 percent produced injuries.
46 The Fatality Analysis Reporting System (FARS) and the Trucks Involved in Fatal

1 Accidents (TIFA) survey were the sources of data for this analysis, which primarily
2 examined fatalities associated with vehicle impact and trauma.

3 **3.8.4.1.1 CEQA Baseline**

4 Section 15125 of the CEQA Guidelines requires EIRs to include a description of the
5 physical environmental conditions in the vicinity of a project that exist at the time of the
6 NOP. These environmental conditions would normally constitute the baseline physical
7 conditions by which the CEQA lead agency determines whether an impact is significant.
8 For purposes of this Recirculated Draft EIS/EIR, the CEQA baseline for determining the
9 significance of potential Project impacts is the environmental setting prior to March 2001,
10 pursuant to the ASJ described in Chapter 1, Section 1.4.3. The CEQA baseline for this
11 proposed Project includes 45,135 TEUs per year that occurred on the Project site in the
12 year prior to March 2001.

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

18 **3.8.4.1.2 NEPA Baseline**

19 For purposes of this Recirculated Draft EIS/EIR, the evaluation of significance under
20 NEPA is defined by comparing the proposed Project or other alternative to the NEPA
21 baseline. To ensure a full analysis of the impacts associated with Phases I through III, the
22 NEPA baseline does not include the dredging required for the Berth 100 wharf, the
23 existing bridge across the Southwest Slip, or the 1.3 acres of fill constructed as part of
24 Phase I (i.e., the project site conditions are considered without the in-water Phase I
25 activities and structures) The NEPA baseline condition for determining significance of
26 impacts includes the full range of construction and operational activities the applicant
27 could implement and is likely to implement absent permits from the USACE. The NEPA
28 baseline begins in the year prior to 2001 but is not fixed in time. The NEPA baseline
29 includes construction and operation of backlands container operations on up to 117 acres,
30 but does not include wharves, dredging, and improvements that would require federal
31 permits. The NEPA baseline assumes 117 acres of upland development, which is greater
32 than the container backlands under the 2001 baseline conditions. In addition, under the
33 NEPA baseline, the terminal would store or manage up to 632,500 TEUs. No annual ship
34 calls are included in the NEPA baseline and the four existing A-frame cranes and bridge
35 built as part of Phase I are not included in baseline.

36 Unlike the CEQA baseline, which is defined by conditions at a point in time, the NEPA
37 baseline is not bound by statute to a flat- or no-growth scenario. Therefore, the USACE
38 may project increases in operations over the life of a project to properly describe the
39 NEPA baseline condition. Normally, any ultimate permit decision would focus on direct
40 impacts of the proposed Project or alternative to the aquatic environment, as well as
41 indirect and cumulative impacts in the uplands determined to be within the scope of
42 federal control and responsibility. Significance of the proposed Project or alternative is
43 defined by comparing the proposed Project or alternative to the NEPA baseline (i.e., the
44 increment). The NEPA baseline conditions are described in Section 2.6.2.

45 The NEPA baseline also differs from the No Project Alternative, where the Port would
46 take no further action to construct and develop additional backlands (other than the

1 72 acres that are currently developed). Under the No Project Alternative, no construction
2 would occur other than the Phase I construction. However, the abandonment of the
3 existing bridge and removal of the four A-frame cranes built as part of Phase 1 would
4 occur. Forecasted increases in cargo throughput would still occur as greater operational
5 efficiencies are made.

6 **3.8.4.2 Thresholds of Significance**

7 Criteria for determining the significance of impacts related to risk of upset are based on
8 the *City of Los Angeles CEQA Thresholds Guide* (City of Los Angeles, 2006) and federal
9 and state standards, regulations, and guidelines. The proposed Project or alternative
10 would have a significant impact on risk of upset if it would:

11 **RISK-1** Substantially increase the probable frequency and severity of consequences to
12 people or property as a result of a potential accidental release or explosion of a
13 hazardous substance as defined in Tables 3.8-2 and 3.8-3.

14 **RISK-2** Substantially increase the probable frequency and severity of consequences to
15 people from exposure to health hazards as defined in Tables 3.8-2 and 3.8-3.

16 **RISK-3** Substantially interfere with an existing emergency response or evacuation plan,
17 thereby increasing risk of injury or death as defined in Tables 3.8-2 and 3.8-3.

18 **RISK-4** Not comply with applicable regulations and policies governing hazardous
19 materials and activities at the Port.

20 **RISK-5** Project-related terminal modifications would result in an increased probability
21 of an accidental spill as a result of a tsunami-induced flooding or other seismic
22 event.

23 **RISK-6** Project-related terminal modifications would result in a measurable increase in
24 the probability of a terrorist attack, which would result in adverse
25 consequences to the proposed Project site and nearby areas.

26 **3.8.4.3 Impacts and Mitigation**

27 **3.8.4.3.1 Proposed Project**

28 **3.8.4.3.1.1 Construction Impacts**

29 **Impact RISK-1a: Construction/demolition activities would not**
30 **substantially increase the probable frequency and severity of**
31 **consequences to people or property as a result of an accidental**
32 **release or explosion of a hazardous substance.**

33 The existing 1,200-foot wharf at Berth 100 was completed as part of Phase I construction
34 and involved the placement of 88,000 cubic yards (yd³) of rock; 14,000 yd³ of clean
35 backfill material; and a 652 separate 24-inch-diameter octagonal concrete wharf piles.
36 This section of wharf was completed in 2003 and officially began operation on June 21,
37 2004, in accordance with the terms of the ASJ. Phase II and Phase III in-water
38 construction activities would include the wharf extensions.

39 Of the 1,300 feet of proposed new wharf, 925 feet would be constructed at Berth 102 on a
40 previously approved dike built as part of the approved Channel Deepening Project. The

1 new wharf at Berth 102 would extend northward from the existing Berth 100 wharf. New
2 wharf would also be constructed to extend Berth 100 an additional 375 feet southward.
3 Only the Berth 100 southern wharf extension (375 feet) would require new rock dike
4 (116,000 yd³) and fill (24,000 yd³). Under the proposed Project, a total of 10 new
5 A-frame cranes would be installed on the wharves at Berths 100 and 102.

6 The proposed Project at full buildout (2030) would allow for the operation of
7 approximately 142 acres of backlands. Phase I construction added backland acreage to
8 the baseline backlands (then used as container overflow from the Yang Ming Terminal)
9 for a combined total 72 acres for Phase I. Phase II construction would develop 45 acres
10 created by the Channel Deepening Project prior to 2001. Phase III construction would
11 develop an additional 25 acres of backlands on existing adjacent land, which would
12 include demolition of the existing Catalina Express Terminal facilities and their
13 conversion to backlands. Catalina Terminal operations would be relocated to the south of
14 the Vincent Thomas Bridge at Berth 95. Passenger loading of the Catalina Express
15 would use floating docks located between Lane Victory and the bridge. Existing parking
16 facilities at Berth 95 would be used. Operations at the Catalina Terminal would be
17 temporarily housed in trailers or the Pavilion Building.

18 Development of the backlands would include construction of several office and
19 maintenance buildings, gate and entrance facilities, chassis racks, a compressed air
20 system, lighting, fire hydrants, and other infrastructure and equipment necessary to
21 ensure the safe and efficient movement of cargo. These additional backlands
22 improvements would require construction activities such as grading, drainage, paving,
23 striping, lighting, fencing, and the addition of utility facilities and equipment. The
24 proposed Project includes traffic control modifications and reconfiguration of roadway
25 geometrics at the existing shared entrance to the Berth 97-109 and Berth 121-131
26 terminals along John S. Gibson Boulevard to improve the flow of truck traffic.

27 Two bridges would be constructed across the Southwest Slip as part of the proposed
28 Project to facilitate additional cargo movement between the Berth 97-109 Container
29 Terminal and the Berth 121-131 terminal.

30 Best management practices (BMPs) and Los Angeles Municipal Code regulations
31 (Chapter 5, Section 57, Division 4 and 5; Chapter 6, Article 4) would govern construction
32 and demolition activities. Federal and state regulations that govern the storage of
33 hazardous materials in containers (i.e., the types of materials and the size of packages
34 containing hazardous materials) and the separation of containers holding hazardous
35 materials, would limit the potential adverse impacts of contamination to a relatively small
36 area. In addition, standard BMPs would be used during construction and demolition
37 activities to minimize runoff of contaminants and clean-up any spills, in compliance with
38 the State General Permit for Storm Water Discharges Associated with Construction
39 Activity (Water Quality Order 99-08-DWQ) and Project-specific Storm Water Pollution
40 Prevention Plan (SWPPP) (see Section 3.14, Water Quality, Sediments, and
41 Oceanography for more information).

42 **CEQA Impact Determination**

43 Implementation of construction and demolition standards, including BMPs, would
44 minimize the potential for an accidental release of petroleum products and/or
45 hazardous materials and/or explosion during construction/demolition activities at
46 Berths 97-109. Standards include, in addition to prevention measures, procedures
47 designed to: effectively and efficaciously clean up spills and immediately implement

1 remedial actions; and procedures for the handling and disposal of materials such as
2 asbestos that would be encountered during demolition activities. It is unlikely that
3 construction and demolition activities would involve the use of substantial quantities
4 of hazardous materials and the most likely source of these materials would be from
5 vehicles at the site. Thus, the most likely spills or releases of hazardous materials
6 during construction would involve petroleum products such as diesel fuel, gasoline,
7 oils, and lubricants. Because construction/demolition-related spills are not
8 uncommon, the probability of a spill occurring is classified as “frequent” (more than
9 once a year). However, such spills are typically short-term and localized. This is
10 attributable to the fact that the volume in any single source vehicle is generally
11 less than 50 gallons and fuel trucks that might be present at the site are limited to
12 10,000 gallons or less. Thus, the potential consequence of such accidents is
13 classified as “slight,” resulting in a Risk Code of 4, which is “acceptable.” Therefore,
14 under CEQA, construction and demolition would not substantially increase the
15 probable frequency and severity of consequences to people or property as a result of
16 an accidental release or explosion of a hazardous substance. Based on criterion
17 **RISK-1**, impacts would be less than significant.

18 *Mitigation Measures*

19 No mitigation is required.

20 *Residual Impacts*

21 With no mitigation required, the residual impacts would be less than significant.

22 **NEPA Impact Determination**

23 The proposed Project would include construction of new wharves, dikes, and
24 backland areas, which would result in increased susceptibility to hazardous materials
25 spills during construction. Implementation of construction standards, including
26 BMPs, would minimize the potential for an accidental release of hazardous materials
27 and/or explosion during in-water and upland construction activities at Berths 97-109.
28 Because construction/demolition-related spills are not uncommon, the probability of
29 a spill occurring is classified as “frequent” (more than once a year). However,
30 because such spills are typically short term and localized, the potential consequence
31 of such accidents is classified as “slight,” resulting in a Risk Code of 4, which is
32 “acceptable.” Therefore, under NEPA, construction and demolition would not
33 substantially increase the probable frequency and severity of consequences to people
34 or property as a result of an accidental release or explosion of a hazardous substance.
35 Based on risk criterion **RISK-1**, impacts would be less than significant.

36 *Mitigation Measures*

37 No mitigation is required.

38 *Residual Impacts*

39 With no mitigation required, the residual impacts would be less than significant.

1 **Impact RISK-2a: Construction/demolition activities would not**
2 **substantially increase the probable frequency and severity of**
3 **consequences to people from exposure to health hazards.**

4 Construction and demolition activities would be conducted using BMPs and in
5 accordance with the Los Angeles Municipal Code (Chapter 5, Section 57, Division 4
6 and 5; Chapter 6, Article 4). Quantities of hazardous materials that exceed the thresholds
7 provided in Chapter 6.95 of the California Health and Safety Code would be subject to a
8 Release Response Plan (RRP) and a Hazardous Materials Inventory (HMI).

9 Implementation of increased inventory accountability and spill prevention controls
10 associated with this Release Response Plan and Hazardous Materials Inventory, such as
11 limiting the types of materials stored and size of packages containing hazardous materials,
12 would limit both the frequency and severity of potential releases of hazardous materials,
13 thus minimizing potential health hazards and/or contamination of soil or water during
14 construction/demolition activities. These measures reduce the frequency and
15 consequences of spills by requiring proper packaging for the material being shipped,
16 limits on package size, and thus potential spill size, as well as proper response measures
17 for the materials being handled. Impacts from contamination of soil or water during
18 construction/demolition activities would apply to not only construction personnel, but to
19 people and property occupying operational portions of the Project area because the
20 Berth 97-109 terminal would be operating during ongoing construction activities.

21 **CEQA Impact Determination**

22 Several standard policies regulate the storage of hazardous materials including the
23 types of materials, size of packages containing hazardous materials, and the
24 separation of containers containing hazardous materials. These measures reduce the
25 frequency and consequences of spills by requiring proper packaging for the material
26 being shipped, limits on package size, and thus potential spill size, as well as proper
27 response measures for the materials being handled. Implementation of these
28 preventative measures would minimize the potential for spills to affect members of
29 the public and limit the adverse impacts of contamination to a relatively small area.
30 Because construction/demolition-related spills are not uncommon, the probability of
31 a spill occurring is classified as “frequent” (more than once a year). However,
32 because such spills are typically short-term and localized, the potential consequence
33 of such accidents is classified as “slight,” resulting in a Risk Code of 4, which is
34 “acceptable.” Therefore, under CEQA, construction/demolition activities at
35 Berths 97-109 would not substantially increase the probable frequency and severity
36 of consequences to people from exposure to health hazards. Based on risk criterion
37 **RISK-2**, impacts would be less than significant.

38 ***Mitigation Measures***

39 No mitigation is required.

40 ***Residual Impacts***

41 With no mitigation required, the residual impacts would be less than significant.

42 **NEPA Impact Determination**

43 The proposed Project would include construction of wharves, dikes, and backland
44 areas, which would result in increased susceptibility to hazardous materials spills
45 during construction. Several standard policies regulate the storage of hazardous

1 materials including the types of materials, size of packages containing hazardous
2 materials, and the separation of containers containing hazardous materials. These
3 measures reduce the frequency and consequences of spills by requiring proper
4 packaging for the material being shipped, limits on package size, and thus potential
5 spill size, as well as proper response measures for the materials being handled.
6 Implementation of these preventative measures would minimize the potential for
7 spills to affect members of the public and limit the potential adverse impacts of
8 contamination to a relatively small area. Therefore, under NEPA,
9 construction/demolition activities at Berths 97-109 would not substantially increase
10 the probable frequency and severity of consequences to people from exposure to
11 health hazards. Based on risk criterion **RISK-2**, impacts would be less than
12 significant.

13 *Mitigation Measures*

14 No mitigation is required.

15 *Residual Impacts*

16 With no mitigation required, the residual impacts would be less than significant.

17 **Impact RISK-3a: Construction/demolition activities would not** 18 **substantially interfere with an existing emergency response or** 19 **evacuation plan or increase the risk of injury or death.**

20 Emergency response and evacuation planning is the responsibility of the Los Angeles
21 Police Department (LAPD), LAFD, Port Police, and United States Coast Guard (USCG).
22 Construction and demolition activities would be subject to emergency response and
23 evacuation systems implemented by LAFD. During construction/demolition activities,
24 the LAFD would require that adequate vehicular access to the proposed Project area be
25 provided and maintained. Prior to commencement of construction/demolition activities,
26 all plans would be reviewed by the LAFD to ensure adequate access is maintained
27 throughout construction/demolition.

28 **CEQA Impact Determination**

29 Proposed Project contractors would be required to adhere to all LAFD emergency
30 response and evacuation regulations, ensuring compliance with existing emergency
31 response plans. Therefore, under CEQA, construction/demolition activities would
32 not substantially interfere with an existing emergency response or evacuation plan or
33 increase the risk of injury or death. Based on risk criterion **RISK-3**, impacts would
34 be less than significant.

35 *Mitigation Measures*

36 No mitigation is required.

37 *Residual Impacts*

38 With no mitigation required, the residual impacts would be less than significant.

39 **NEPA Impact Determination**

40 Proposed Project contractors would be required to adhere to all LAFD emergency
41 response and evacuation regulations, ensuring compliance with existing emergency
42 response plans. Therefore, under NEPA, construction/demolition activities would

1 not substantially interfere with an existing emergency response or evacuation plan or
2 increase the risk of injury or death. Based on risk criterion **RISK-3** impacts would
3 be less than significant.

4 *Mitigation Measures*

5 No mitigation is required.

6 *Residual Impacts*

7 With no mitigation required, the residual impacts would be less than significant.

8 **Impact RISK-4a: The proposed Project would comply with applicable** 9 **regulations and policies guiding development in the Port.**

10 As described in Section 3.8.3.1, List of Regulations, the proposed Project is subject to
11 numerous regulations for development and operation of the proposed facilities. For
12 example, construction and demolition would be completed in accordance with RCRA,
13 HSWA, CERCLA, CCR Title 22 and Title 26, and the California Hazardous Waste
14 Control Law, which would govern proper containment, spill control, and disposal of
15 hazardous waste generated during demolition and construction activities. Implementation
16 of increased inventory accountability, spill prevention controls, and waste disposal controls
17 associated with these regulations would limit both the frequency and severity of potential
18 releases of hazardous materials.

19 Potential releases of hazardous substances during demolition and/or construction would
20 be addressed through the federal Emergency Planning and Right-to-Know Act, which is
21 administered in California by the SERC, and the Hazardous Material Release Response
22 Plans and Inventory Law. In addition, demolition and construction would be completed
23 in accordance with the Los Angeles Municipal Fire Code, which regulates the
24 construction of buildings and other structures used to store flammable hazardous
25 materials, and the Los Angeles Municipal Public Property Code, which regulates the
26 discharge of materials into the sanitary sewer and storm drain. The latter requires the
27 construction of spill-containment structures to prevent the entry of forbidden materials,
28 such as hazardous materials, into sanitary sewers and storm drains. LAHD maintains
29 compliance with these federal, state, and local laws through a variety of methods,
30 including internal compliance reviews, preparation of regulatory plans, and agency
31 oversight. LAHD has implemented various plans and programs to ensure compliance
32 with these regulations. These regulations must be adhered to during design and
33 construction of the proposed Project. Implementation of increased spill prevention
34 controls, spill release notification requirements, and waste disposal controls associated
35 with these regulations would limit both the frequency and severity of potential releases of
36 hazardous materials.

37 Construction/demolition activities would be conducted using BMPs in accordance with
38 City guidelines, as detailed in the Development Best Management Practices Handbook
39 (City of Los Angeles, 2002). Applicable BMPs include, but are not limited to, vehicle
40 and equipment fueling and maintenance; material delivery, storage, and use; spill
41 prevention and control; solid and hazardous waste management; and contaminated soil
42 management. Proposed Project plans and specifications will be reviewed by the LAFD
43 for conformance to the Los Angeles Municipal Fire Code, as a standard practice.
44 Implementation of increased spill prevention controls associated with these BMPs would
45 limit both the frequency and severity of potential releases of hazardous materials.

CEQA Impact Determination

Because proposed Project construction/demolition would be completed using standard BMPs and in accordance with LAHD plans and programs, LAFD regulations, and applicable hazardous waste laws and regulations, impacts relating to compliance with applicable regulations and policies guiding development in the Port would be less than significant under CEQA under criterion **RISK-4**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Because proposed Project construction would be completed using standard BMPs and in accordance with LAHD plans and programs, LAFD regulations, and all applicable hazardous waste laws and regulations, impacts under NEPA relating to compliance with applicable regulations and policies guiding development in the Port would be less than significant under criterion **RISK-4**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-5a: Tsunami-induced flooding and seismic events would result in fuel releases from demolition/construction equipment or hazardous substances releases from containers, which in turn would result in risks to persons and/or the environment.

As discussed in Section 3.5, there is the potential for a major or great earthquake or a large tsunami to affect the Port. Either event could likely lead to a fuel spill from demolition and/or construction equipment, as well as from containers of petroleum products and hazardous substances used during the demolition/construction period. Unfinished structures are especially vulnerable to damage from earthquakes and tsunamis during the construction period.

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 feet and is defined as Mean Lower-Low Water level (MLLW). For purposes of this discussion, all proposed Project structures and land surfaces are expressed as height above (or below) MLLW. The mean sea level (msl) in the Port is +2.8 feet above MLLW (NOAA, 2005). 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 described in Section 3.5.2 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 +2.8 feet must be considered in comparing projected tsunami run-up (i.e., amount of wharf overtopping and

1 flooding) to proposed wharf height and topographic elevations, which are measured with
2 respect to MLLW.

3 A reasonably foreseeable scenario for generation of a tsunami or seiche in the San Pedro
4 Bay Ports include the recently developed Port Complex model, which predicts tsunami
5 wave heights of 1.3 to 5.3 feet above msl at the proposed Project site, under both
6 earthquake and landslide scenarios. Incorporating the Port msl of +2.8 feet, the model
7 predicts tsunami wave heights of 4.1 to 8.1 feet above MLLW at the proposed Project site.
8 Because the proposed Project site elevation ranges from 10 to 15 feet above MLLW,
9 localized tsunami-induced flooding would not occur.

10 While the analysis above considers the greatest reasonably foreseeable seismic risk based
11 on a maximum seismic event, with respect to msl, a theoretical maximum worst-case
12 wave action from a tsunami would result if the single highest tide predicted over the next
13 40 years at the San Pedro Bay Ports coincided with the seismic event. The single highest
14 tide predicted over the next 40 years is 7.3 feet above MLLW. This condition is expected
15 to occur less than 1 percent of the time over this 40-year period. If that very rare
16 condition were to coincide with a maximum tsunami event, the model predicts tsunami
17 wave heights of 8.6 to 12.6 feet above MLLW at the proposed Project site. Because the
18 proposed Project site elevation ranges from 10 to 15 feet above MLLW, localized
19 tsunami-induced flooding up to 2.6 feet is possible. To determine the extent of potential
20 impacts due to tsunami-induced flooding, Port structural engineers have determined that
21 Port reinforced concrete or steel structures designed to meet California earthquake
22 protocols incorporated into MOTEMS would be expected to survive complete inundation
23 in the event of a tsunami (pers. comm., Yin, 2006). However, substantial infrastructure
24 damage and/or injury to personnel could occur as a result of complete site inundation.

25 As previously discussed, there is a potential for tsunami-induced flooding under the
26 theoretical maximum worst-case scenario. However, the likelihood of a large tsunami is
27 very low during construction of the proposed Project and the overall probability of this
28 worst-case scenario is less than 1 in a 100,000-year period.

29 The most likely worst-case tsunami scenario was based partially on a magnitude
30 7.6 earthquake on the offshore Santa Catalina fault. The recurrence interval for a
31 magnitude 7.5 earthquake along an offshore fault in the Southern California Continental
32 Borderland is about 10,000 years. Similarly, the recurrence interval of a magnitude
33 7.0 earthquake is about 5,000 years and the recurrence interval of a magnitude
34 6.0 earthquake is about 500 years. However, there is no certainty that any of these
35 earthquake events would result in a tsunami, since only about 10 percent of earthquakes
36 worldwide result in a tsunami. In addition, available evidence indicates that
37 tsunamigenic landslides would be extremely infrequent and occur less often than large
38 earthquakes. This suggests recurrence intervals for such landslide events would be
39 longer than the 10,000-year recurrence interval estimated for a magnitude 7.5 earthquake
40 (Moffatt and Nichol, 2007). As noted above, the probability of the worst-case
41 combination of a large tsunami and extremely high tides would be less than once in a
42 100,000-year period.

43 The analysis presented above assumes the coincidence of two unlikely events: the
44 occurrence of the single highest tide predicted over the next 40 years; and the theoretical
45 maximum wave action from a tsunami. Such an assumption represents an extremely
46 conservative, worst-case scenario: one that is not required under CEQA or NEPA.

CEQA Impact Determination

Impacts due to major or great earthquakes and seismically induced tsunamis and seiches are typical for the entire California coastline and would not be increased by construction of the proposed Project. However, because the proposed Project site elevation is located within 10 to 15 feet above MLLW and projects in the construction phase are especially vulnerable to tsunami damage due to the presence of unfinished structures, there is a substantial risk of coastal flooding due to tsunamis and seiches, which in turn, could result in accidental spills of petroleum products or hazardous substances. Because a major tsunami is not expected during the life of the proposed Project, but could occur (see Section 3.5, Geology, for additional information on the probability of a major tsunami), the probability of a major tsunami occurring is classified as “improbable” (less than once every 10,000 years). The potential consequence of such an event is classified as “moderate,” resulting in a Risk Code of 4, which is “acceptable.” The volume of spilled fuel is also expected to be relatively low. While there would be fuel-containing equipment present during construction, most equipment is equipped with watertight tanks, with the most likely scenario being the infiltration of water into the tank and fuel combustion chambers and very little fuel spilled. Thus, the volume spilled in the event of a tsunami or other seismic risk 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 hazardous materials spills under criterion **RISK-5**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Impacts due to major or great earthquakes and seismically induced tsunamis and seiches are typical for the entire California coastline and would not be increased by construction of the proposed Project. However, because the proposed Project site elevation is located within 10 to 15 feet above MLLW and projects in the construction phase are especially vulnerable to tsunami damage due to the presence of unfinished structures, there is a substantial risk of coastal flooding due to tsunamis and seiches, which in turn, could result in accidental spills of petroleum products or hazardous substances. Because a major tsunami is not expected during the life of the proposed Project, but could occur (see Section 3.5, Geology, for additional information on the probability of a major tsunami), the probability of a major tsunami occurring is classified as “improbable” (less than once every 10,000 years). The potential consequence of such an event is classified as “slight,” resulting in a Risk Code of 4, which is “acceptable.” In light of such a low probability and acceptable risk of a large tsunami or other seismic risk, impacts would be less than significant under criterion **RISK-5**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-6a: A potential terrorist attack would result in adverse consequences to areas near the proposed Project site during the construction period.

Risk of Terrorist Actions during Construction

The probability of a terrorist attack on the proposed Project facilities is not likely to appreciably change during construction compared to baseline conditions. It is possible that the increase in construction vessel traffic in the vicinity of the Berth 97-109 terminal could lead to a greater opportunity of a successful terrorist attack; however, existing Port security measures would counter this potential increase in unauthorized access to the terminal. The Berth 97-109 terminal would be operational during the construction period; therefore, the risks associated with terrorism discussed in Section 3.8.2.4 will apply to the terminal during this period. Such risks are addressed in Section 3.8.4.3.1.2 immediately below.

Consequences of Terrorist Attack

During construction, a terrorist action could block key road access points and waterways and result in economic disruption. Potential environmental damage could include fuel spills and the release of hazardous materials into the marine environment, with associated degradation of water quality and damage to marine biological resources. These impacts would be limited to the area surrounding the point of attack and would be contained by the relevant oil spill response contractor. A potential fire associated with a terrorist attack could result in short-term impacts to local air quality.

CEQA Impact Determination

Access to the terminal site during construction could occur by land, water, and/or air. However, existing Port security measures would counter any potential increase in unauthorized access to the terminal site through the use of vehicles or vessels. The potential for a terrorist attack that would result in adverse consequences to areas near the proposed Project site during the construction period is considered improbable and the consequences could be moderate. This combination would result in a Risk Code of 4, which is “acceptable,” and impacts would be less than significant under criterion **RISK-6**.

Mitigation Measures

Because terrorism impacts are less than significant, no mitigation is required.

Residual Impacts

With no mitigation required, residual impacts would be less than significant.

NEPA Impact Determination

Impacts under NEPA would be less than significant as defined in the CEQA determination above.

1 *Mitigation Measures*

2 As terrorism impacts are less than significant, no mitigation is required.

3 *Residual Impacts*

4 With no mitigation required, residual impacts would be less than significant.

5 **3.8.4.3.1.2 Operational Impacts**

6 **Impact RISK-1b: Berth 97-109 terminal operations would not**
7 **substantially increase the probable frequency and severity of**
8 **consequences to people or property as a result of accidental release**
9 **or explosion of a hazardous substance.**

10 As of 2001 (CEQA baseline), the Berth 97-109 terminal handled approximately
11 45,135 TEUs per year. With buildout of the proposed Project, operations would rise to
12 approximately 1,551,000 TEUs per year when functioning at maximum capacity (in
13 2030). This would equate to a more than a thirty-fourfold increase in throughput capacity
14 over CEQA baseline conditions.

15 Terminal operations would be subject to safety regulations that govern the shipping,
16 transport, storage and handling of hazardous materials, which would limit the severity
17 and frequency of potential releases of hazardous materials resulting in increased exposure
18 of people to health hazards (i.e., Port RMP, USCG and LAFD regulations and
19 requirements, and DOT regulations). For example, as discussed in Section 3.8.3.1, List
20 of Regulations, and summarized below, the USCG maintains a HMSD, under the
21 jurisdiction of the federal Department of Homeland Security (33 CFR 126), which
22 develops standards and industry guidance to promote the safety of life and protection of
23 property and the environment during marine transportation of hazardous materials. In
24 addition, the DOT Hazardous Materials Regulations (Title 49 CFR Parts 100-185)
25 regulate almost all aspects of terminal operations. Parts 172 (Emergency Response),
26 173 (Packaging Requirements), 174 (Rail Transportation), 176 (Vessel Transportation),
27 177 (Highway Transportation), 178 (Packaging Specifications) and 180 (Packaging
28 Maintenance) would all apply to the proposed Project activities.

29 Terminal cargo operations involving hazardous materials are also governed by the LAFD
30 in accordance with regulations of state and federal departments of transportation
31 (49 CFR 176). The transport of hazardous materials in containers on the street and
32 highway system is regulated by Caltrans procedures and the Standardized Emergency
33 Management System prescribed under Section 8607 of the California Government Code.
34 These safety regulations strictly govern the storage of hazardous materials in containers
35 (i.e., types of materials and size of packages containing hazardous materials).
36 Implementation of increased hazardous materials inventory control and spill prevention
37 controls associated with these regulations would limit both the frequency and severity
38 of potential releases of hazardous materials.

39 Terminal maintenance activities would involve the use of hazardous materials such as
40 petroleum products, solvents, paints, and cleaners. Quantities of hazardous materials that
41 exceed the thresholds provided in Chapter 6.95 of the California Health and Safety Code
42 would be subject to an RRP and HMI. Implementation of increased inventory
43 accountability and spill prevention controls associated with this RRP and HMI would
44 limit both the frequency and severity of potential releases of hazardous materials. Based
45 on the limited volumes that could potentially spill, quantities of hazardous materials used

1 at Berths 97-109 that are below the thresholds of Chapter 6.95 would not likely result in a
2 substantial release into the environment.

3 **CEQA Impact Determination**

4 Because projected terminal operations at Berths 97-109 would accommodate
5 approximately a thirty-fourfold increase in containerized cargo compared to the
6 CEQA baseline, the potential for an accidental release or explosion of hazardous
7 materials would also be expected to increase proportionally.

8 During the period 1997-2004 there were 40 hazardous material spills directly
9 associated with container terminals in the Ports of Los Angeles and Long Beach.
10 This equates to approximately five spills per year for the entire Port complex. During
11 this period, the total throughput of the container terminals at both Ports was
12 76,874,841 TEU. Therefore, the probability of a spill at a container terminal can be
13 estimated at 5.2×10^{-7} per TEU (40 spills divided by 76,874,841 TEU). This spill
14 probability conservatively represents the baseline hazardous material spill probability
15 since it includes materials that would not be considered a risk to public safety (e.g.,
16 perfume spills), but would still be considered an environmental hazard. The
17 probability of spills associated with future operations would be based on the spill
18 probability per TEU times the increase in TEUs under the proposed Project.

19 It should be noted, with respect to hazardous material spills, that during this period
20 there were no reported impacts to the public (injuries, fatalities and evacuations),
21 with potential consequences limited to port workers (two worker injuries that were
22 treated at the scene and 20 workers evaluated as a precaution).

23 Based on the accident history at the Port of containers containing hazardous materials,
24 which includes 40 incidents over an 8-year period in the entire Port complex (Ports of
25 Los Angeles and Long Beach), the frequency of Project-related spills can be
26 estimated as shown in Table 3.8-5.

Table 3.8-5. Proposed Project: Existing and Projected Cargo Throughput
Volumes at Berths 97-109 and the Port

Operations	Overall Throughput (TEUs)	Increase in TEUs (multiples [X])	Potential Spills (per year)
Port-Wide (2005)	7,484,624	NA	3.9
CEQA Project Baseline (2001)	45,135	NA	0.02
Project (2030)	1,551,000	33.3 X	0.8

Note:
TEU = twenty-foot equivalent unit

27
28 Based on the projected increase in TEUs, the frequency of potential Project-related
29 spills would increase from 0.02 to 0.8 spills per year. This spill frequency would be
30 classified as “periodic” (between once per year and once in 10 years). Because,
31 based on history, a slight possibility exists for injury and or property damage to occur
32 during one of these frequent accidents, the potential consequence of such accidents is
33 classified as “slight,” resulting in a Risk Code of 4, which is “acceptable.” It should
34 be noted that there were no impacts to the public from any of the hazardous materials

1 spills that were reported during the 1997-2004 period. Compliance with applicable
 2 federal, state, and local laws and regulations governing the transport of hazardous
 3 materials and emergency response to hazardous material spills, as described above,
 4 would minimize the potentials for adverse public health impacts. Therefore, under
 5 CEQA, proposed Project operations would not substantially increase the probable
 6 frequency and severity of consequences to people or property as a result of a
 7 potential accidental release or explosion of a hazardous substance. CEQA impacts
 8 would be less than significant under criterion **RISK-1**.

9 *Mitigation Measures*

10 No mitigation is required.

11 *Residual Impacts*

12 With no mitigation required, the residual impacts would be less than significant.

13 **NEPA Impact Determination**

14 The proposed Project would include the construction of new wharves, dikes, and
 15 backlands, which in turn would result in an increase in TEUs, in comparison to the
 16 NEPA baseline. Berth 97-109 terminal operations under the NEPA baseline would
 17 accommodate approximately 632,500 TEUs per year when optimized and
 18 functioning at maximum capacity (in 2030). The proposed Project would result in a
 19 net increase of 918,500 TEUs per year compared to the NEPA baseline. An overall
 20 increase in TEUs would result in proportionally greater hazardous materials
 21 containers subject to accidental release or explosion as shown in Table 3.8-6.

Table 3.8-6. Proposed Project: Existing and Projected Cargo Throughput
 Volumes at Berths 97-109

Operations	TEUs	Increase in TEUs over CEQA Baseline (%)	Potential Spills (per year)
Port Baseline (2005)	7,484,624	NA	3.9
NEPA Baseline (2030)	632,500	NA	0.3
Project (2030)	1,551,000	145%	0.8

Note:
 TEU = twenty-foot equivalent unit

22
 23 Based on the projected increase in TEUs, the frequency of potential Project-related
 24 spills would increase from 0.3 to 0.8 spills per year. This spill frequency would be
 25 classified as “periodic” (between once per year and once in 10 years). Because,
 26 based on history, a slight possibility exists for injury and or property damage to occur
 27 during one of these frequent accidents, the potential consequence of such accidents is
 28 classified as “slight,” resulting in a Risk Code of 4, which is “acceptable.” It should
 29 be noted that there were no impacts to the public from any of the hazardous materials
 30 spills that were reported during the 1997-2004 period. Compliance with applicable
 31 federal, state, and local laws and regulations governing the transport of hazardous
 32 materials and emergency response to hazardous material spills, as described above,

1 would minimize the potentials for adverse public health impacts. Therefore, under
2 NEPA, proposed Project operations would not substantially increase the probable
3 frequency and severity of consequences to people or property as a result of a
4 potential accidental release or explosion of a hazardous substance. NEPA impacts
5 would be less than significant under criterion **RISK-1**.

6 *Mitigation Measures*

7 No mitigation is required.

8 *Residual Impacts*

9 With no mitigation required, the residual impacts would be less than significant.

10 **Impact RISK-2b: Proposed Project operations would substantially** 11 **increase the probable frequency and severity of consequences to** 12 **people or property from exposure to health hazards.**

13 The proposed Project would include siting facilities that would potentially handle
14 hazardous materials and increase other hazards to the public. These hazards would
15 include the similar containerized hazardous materials that were handled at the Project site
16 under the 2001 baseline conditions, but the volume of hazardous materials under the
17 proposed Project would increase proportionally with the increase in TEU throughput
18 (relative to baseline conditions). Likewise, the increased throughput volume would
19 increase the chance of a fire or explosion at the terminal, as well as hazards associated
20 with container transportation. The handling and storing of increased quantities of
21 hazardous materials would increase the probability of a local accident involving a release,
22 spill, fire or explosion, which is proportional to the size of the terminal and its throughput
23 as addressed in **Impact RISK-1b**.

24 Because projected terminal operations at Berths 97-109 would accommodate
25 approximately a thirty-fourfold increase in containerized cargo compared to the CEQA
26 Baseline, the potential for increased truck transportation-related accidents would also
27 occur. Potential Project-related increases in truck trips could result in an increase in
28 vehicular accidents, injuries, and fatalities. Therefore, potential impacts of increased
29 truck traffic on regional injury and fatality rates are evaluated.

30 According to an FMCSA detailed analysis (FMCSA, 2001), the estimated nonhazardous
31 materials truck accident rate is more than twice the hazardous materials truck accident
32 rate. The nonhazardous materials truck accident rate was estimated to be 0.73 accidents
33 per million vehicle miles and the average hazardous materials truck accident rate was
34 estimated to be 0.32 accidents per million vehicle miles. The hazardous materials truck
35 accident rate is not directly applicable to the proposed Project container trucks since such
36 trucks are generally limited to bulk hazardous material carriers. Therefore, to conduct a
37 conservative analysis, the higher accident rate associated with nonhazardous materials
38 trucks was used.

39 Based on the NHTSA (DOT, 2003), of the estimated 457,000 truck crashes in 2000
40 (causing fatalities, injuries, or property damage), an estimated 1 percent produced
41 fatalities and 22 percent produced injuries. The FARS and the TIFA survey were the
42 sources of data for this analysis, which primarily examined fatalities associated with
43 vehicle impact and trauma.

1 Based on these statistics and the projected truck trips for the existing facilities and
 2 proposed Project, the potential rate of truck accidents, injuries and fatalities can be
 3 estimated and evaluated.

4 **CEQA Impact Determination**

5 Potential Project-related truck accident rates can be estimated based on national
 6 average accident rates and the average number of miles per cargo truck trip. Based
 7 on the air pollutant emission inventory of the Port, it was determined that the average
 8 truck trip was approximately 49 miles (Starcrest Consulting Group, 2003). Given the
 9 annual number of truck trips, the average distance of each trip, and the published
 10 accident, injury and fatality rates, probabilities were estimated as shown in
 11 Table 3.8-7.

Table 3.8-7. Proposed Project: Existing and Projected Truck Trips at Berths 97-109

Operations	Annual Truck Trips	Increase over CEQA Baseline (%)	Accident Rate (per year)	Injury Probability (per year)	Fatality Probability (per year)
CEQA Baseline (2001)	0	NA	0.0	0.0	0.0
Project (2030)	1,508,004	NA	53.9	11.8	0.5

12
 13 Because the occurrence of truck accidents associated with Berths 97-109 occur at a
 14 frequency greater than one per year, truck accidents are considered a “frequent” event.
 15 Because the possibility exists for injury and/or fatality to occur during one of these
 16 frequent accidents, as noted in Table 3.8-7, the consequence of such accidents is
 17 classified as “severe,” resulting in a Risk Code of 2. An impact with a Risk Code
 18 of 2 is classed as significant and requires additional engineering or administrative
 19 controls to mitigate the potentially significant adverse impacts.

20 The Port is currently developing a port-wide transportation master plan (TMP) for
 21 roadways in and around its facilities. Present and future traffic improvement needs
 22 are being determined based on existing and projected traffic volumes. The results
 23 will be a TMP providing ideas on what to expect and how to prepare for future traffic
 24 volumes. Some of the transportation improvements already under consideration
 25 include I-110/SR-47/Harbor Boulevard interchange improvements, Navy Way
 26 connector (grade separation) to westbound Seaside Avenue, south Wilmington grade
 27 separations, and additional traffic capacity analysis for the Vincent Thomas Bridge.
 28 In addition, the Port is working on several strategies to increase rail transport, which
 29 will reduce reliance on trucks. These projects would serve to reduce the frequency of
 30 truck accidents.

31 The Port also is currently phasing out older trucks as part of its Clean Truck Program,
 32 and the TWIC program will help identify and exclude truck drivers that lack the
 33 proper licensing and training. The phasing out of older trucks would reduce the
 34 probability of accidents that occur as a result of mechanical failure by approximately
 35 10 percent (ADL, 1990). Proper driver training, or more specifically, the reduction in
 36 the number of drivers that do not meet minimum training specifications, would
 37 further reduce potential accidents by approximately 30 percent. The potential
 38 number of injuries would be reduced to approximately 7.4, which would reduce the
 39 consequence classification to “moderate” and a Risk Code to 3 or less. Therefore,

1 proposed Project operations would not substantially increase the probable frequency
 2 and severity of consequences to people from exposure to health hazards and potential
 3 impacts under CEQA would be considered less than significant.

4 **Mitigation Measures**

5 No mitigation is required.

6 **Residual Impacts**

7 With no mitigation required, the residual impacts would be less than significant under
 8 CEQA.

9 **NEPA Impact Determination**

10 The proposed Project would result the construction of wharves, dikes, and backland
 11 areas, which would result in an increase in TEUs and truck trips, in comparison to the
 12 NEPA baseline as described under the NEPA Impact Determination for **Impact**
 13 **RISK 1b**. Given the annual number of truck trips, the average distance of each trip,
 14 and the published accident, injury, and fatality rates, probabilities were estimated as
 15 shown in Table 3.8-8.

Table 3.8-8. Proposed Project: Existing and Projected Truck Trips at Berths 97-109

Operations	Annual Truck Trips	Increase over NEPA Baseline (%)	Accident Rate (per year)	Injury Probability (per year)	Fatality Probability (per year)
NEPA Baseline (2030)	0	NA	0.0	0.0	0.0
Project (2030)	1,508,004	NA	53.9	11.8	0.5

16
 17 Because the occurrence of truck accidents associated with Berths 97-109 occur at a
 18 frequency greater than one per year, truck accidents are considered a “frequent” event.
 19 Because the possibility exists for injury and/or fatality to occur during one of these
 20 frequent accidents as noted in Table 3.8-8, the consequence of such accidents is
 21 classified as “severe,” resulting in a Risk Code of 2. An impact with a Risk Code
 22 of 2 is classed as significant and requires additional engineering or administrative
 23 controls to mitigate the potentially significant adverse impacts.

24 The Port is currently developing a port-wide TMP for roadways in and around its
 25 facilities. Present and future traffic improvement needs are being determined based
 26 on existing and projected traffic volumes. The results will be a TMP providing ideas
 27 on what to expect and how to prepare for future traffic volumes. Some of the
 28 transportation improvements already under consideration include I-110/SR-47/
 29 Harbor Boulevard interchange improvements, Navy Way connector (grade separation)
 30 to westbound Seaside Avenue, south Wilmington grade separations, and additional
 31 traffic capacity analysis for the Vincent Thomas Bridge. In addition, the Port is
 32 working on several strategies to increase rail transport, which will reduce reliance on
 33 trucks. These projects would serve to reduce the frequency of truck accidents.

34 The Port also is currently phasing out older trucks as part of its Clean Truck Program,
 35 and the TWIC program will help identify and exclude truck drivers that lack the
 36 proper licensing and training. The phasing out of older trucks would reduce the
 37 probability of accidents that occur as a result of mechanical failure by approximately

1 10 percent (ADL, 1990). Proper driver training, or more specifically, the reduction in
2 the number of drivers that do not meet minimum training specifications, would
3 further reduce potential accidents by approximately 30 percent. The potential
4 number of injuries would be reduced to approximately 7.4, which would reduce the
5 consequence classification to “moderate” and a Risk Code to 3 or less. Therefore,
6 proposed Project operations would not substantially increase the probable frequency
7 and severity of consequences to people from exposure to health hazards and potential
8 impacts under NEPA would be considered less than significant

9 *Mitigation Measures*

10 No mitigation is required.

11 *Residual Impacts*

12 With no mitigation required, the residual impacts would be less than significant under
13 NEPA.

14 **Impact RISK-3b: Proposed Project operations would not** 15 **substantially interfere with any existing emergency response plans** 16 **or emergency evacuation plans.**

17 The proposed Project would optimize terminal operations by increasing backland
18 capacity and constructing new wharves and dikes to accommodate modern container
19 terminal ships, and implementing transportation infrastructure improvements. The
20 Berth 97-109 terminal would operate as a container terminal similar to other terminals in
21 the West Basin; therefore, proposed terminal operations would not interfere with any
22 existing contingency plans, since the current activities are consistent with the contingency
23 plans and the proposed Project would not add any additional activities that would be
24 inconsistent with these plans. In addition, existing oil spill contingency and emergency
25 response plans for the proposed Project site would be revised to incorporate proposed
26 facility and operation changes. Because existing management plans are commonly
27 revised to incorporate terminal operation changes, conflicts with existing contingency
28 and emergency response plans are not anticipated.

29 Berth 97-109 facilities personnel, including dock laborers and equipment operators,
30 would be trained in emergency response and evacuation procedures. The proposed
31 Project site would be secured, with access allowed only to authorized personnel. The
32 LAFD and Port Police would be able to provide adequate emergency response services to
33 the proposed Project site. Additionally, proposed Project operations would also be
34 subject to emergency response and evacuation systems implemented by the LAFD, which
35 would review all plans to ensure that adequate access in the proposed Project vicinity is
36 maintained. All proposed Project contractors would be required to adhere to plan
37 requirements.

38 **CEQA Impact Determination**

39 The proposed Project would operate as a container terminal and operations would be
40 subject to emergency response and evacuation systems implemented by the LAFD.
41 Thus, proposed Project operations would not interfere with any existing emergency
42 response or emergency evacuation plans or increase the risk of injury or death.
43 Therefore, impacts would be less than significant under CEQA.

1 *Mitigation Measures*

2 No mitigation is required.

3 *Residual Impacts*

4 With no mitigation required, the residual impacts would be less than significant under
5 CEQA.

6 **NEPA Impact Determination**

7 The proposed Project would operate as a container terminal and operations would be
8 subject to emergency response and evacuation systems implemented by the LAFD.
9 Thus, proposed Project operations would not interfere with any existing emergency
10 response or emergency evacuation plans or increase the risk of injury or death.
11 Therefore, impacts would be less than significant under NEPA.

12 *Mitigation Measures*

13 No mitigation is required.

14 *Residual Impacts*

15 With no mitigation required, the residual impacts would be less than significant under
16 NEPA.

17 **Impact RISK-4b: The proposed Project would comply with applicable**
18 **regulations and policies guiding development in the Port.**

19 The proposed Project is subject to numerous regulations for operation of the proposed
20 facilities. LAHD has implemented various plans and programs to ensure compliance
21 with these regulations, which must be adhered to during operation of the proposed Project.
22 For example, as discussed in Section 3.8.3.1, List of Regulations, the USCG maintains a
23 HMSD, under the jurisdiction of the federal Department of Homeland Security
24 (33 CFR 126), which develops standards and industry guidance to promote the safety of
25 life and protection of property and the environment during marine transportation of
26 hazardous materials. Among other requirements, the proposed Project would conform to
27 the USCG requirement to provide a segregated cargo area for containerized hazardous
28 materials. Terminal cargo operations involving hazardous materials are also governed by
29 the LAFD in accordance with regulations of state and federal departments of
30 transportation (49 CFR 176). The transport of hazardous materials in containers on the
31 street and highway system is regulated by Caltrans procedures and the Standardized
32 Emergency Management System prescribed under Section 8607 of the California
33 Government Code. These safety regulations strictly govern the storage of hazardous
34 materials in containers (i.e., types of materials and size of packages containing hazardous
35 materials). In addition, any facility constructed in the proposed Project area, identified as
36 either a hazardous cargo facility or a vulnerable resource, would be required to conform
37 to the RMP, which includes packaging constraints and the provision of a separate storage
38 area for hazardous cargo.

39 LAHD maintains compliance with these state and federal laws through a variety of
40 methods, including internal compliance reviews, preparation of regulatory plans, and
41 agency oversight. Most notably, the Port RMP implements development guidelines in an
42 effort to minimize the danger of accidents to vulnerable resources. This would be
43 achieved mainly through physical separation as well as through facility design features,
44 fire protection, and other risk management methods. There are two primary categories of

1 vulnerable resources, people, and facilities. People are further divided into subgroups.
2 The first subgroup is comprised of residences, recreational users, and visitors. Within the
3 Port setting, residences and recreational users are considered vulnerable resources. The
4 second subgroup is comprised of workers in high density (i.e., generally more than
5 10 people per acre, per employer).

6 Facilities that are vulnerable resources include Critical Regional Activities/Facilities and
7 High Value Facilities. Critical Regional Activities/Facilities are facilities in the Port that
8 are important to the local or regional economy, the national defense, or some major
9 aspect of commerce. These facilities typically have a large quantity of unique equipment,
10 a very large working population, and are critical to both the economy and to national
11 defense. Such facilities in the Port have been generally defined in the Port RMP as the
12 former Todd Shipyard, Fish Harbor, Badger Avenue Bridge, and Vincent Thomas Bridge.

13 High Value Facilities are nonhazardous facilities, in and near the Ports, which have very
14 high economic value. These facilities include both facility improvements and cargo
15 in-place, such as container storage areas. However, the determination of a vulnerable
16 resource is made by the Port and LAFD on a case-by-case basis. Although the Port
17 generally considers container terminals to be High Value Facilities, these types of
18 facilities have never been considered vulnerable resources in risk analyses completed by
19 the Port and LAFD (pers. comm., Knott, 2007). Because container terminals are not
20 considered vulnerable resources, the proposed Project would not conflict with the RMP.

21 Proposed Project plans and specifications will be reviewed by the LAFD for conformance
22 to the Los Angeles Municipal Fire Code, as a standard practice. Buildings will be
23 equipped with fire protection equipment as required by the Los Angeles Municipal Fire
24 Code. Access to all buildings and adequacy of road and fire lanes will be reviewed by
25 the LAFD to ensure that adequate access and firefighting features are provided. Proposed
26 Project plans would include an internal circulation system, code-required features, and
27 other firefighting design elements, as approved by the LAFD.

28 Operation of the proposed Project would be required to comply with all existing
29 hazardous waste laws and regulations, including the federal RCRA and CERCLA, and
30 CCR Title 22 and Title 26. The proposed Project would comply with these laws and
31 regulations, which would ensure that potential hazardous materials handling would occur
32 in an acceptable manner.

33 **CEQA Impact Determination**

34 Operations at the proposed Project site would not conflict with RMP guidelines.
35 Proposed Project plans and specifications will be reviewed by the LAFD for
36 conformance to the Los Angeles Municipal Fire Code, and operation of the proposed
37 Project would be required to comply with all existing applicable hazardous waste
38 laws and regulations. Therefore, under CEQA, proposed Project operations would
39 comply with applicable regulations and policies guiding development in the Port.
40 Impacts would be less than significant.

41 *Mitigation Measures*

42 No mitigation is required.

43 *Residual Impacts*

44 With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Operations at the proposed Project site would not conflict with RMP guidelines. Proposed Project plans and specifications will be reviewed by the LAFD for conformance to the Los Angeles Municipal Fire Code, and operation of the proposed Project would be required to comply with all existing applicable hazardous waste laws and regulations. Therefore, under NEPA, proposed Project operations would comply with applicable regulations and policies guiding development in the Port. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-5b: Tsunami-induced flooding and seismic events would result in fuel releases from ships or hazardous substances releases from containers, which in turn would result in risks to persons and/or the environment.

As discussed in Section 3.5, there is the potential for a large tsunami to affect the Port. A large tsunami would likely lead to a fuel spill if a moored vessel is present. Although crude oil tankers would not moor at Berths 97-109, each ship contains large quantities of fuel oil (up to 5,000 barrels). While in transit, the hazards posed to tankers are insignificant, and in most cases, imperceptible. However, while docked, a tsunami striking the Port could cause significant ship movement and even a hull breach if the ship is pushed against the wharf.

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 feet and is defined as MLLW. For purposes of this discussion, all proposed Project structures and land surfaces are expressed as height above (or below) MLLW. The msl in the Port is +2.8 feet above MLLW (NOAA, 2005). 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 described in Section 3.5.2 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 +2.8 feet must be considered in comparing projected tsunami run-up (i.e., amount of wharf overtopping and flooding) to proposed wharf height and topographic elevations, which are measured with respect to MLLW.

A reasonably foreseeable scenario for generation of a tsunami or seiche in the San Pedro Bay Ports include the recently developed Port Complex model, which predicts tsunami wave heights of 1.3 to 5.3 feet above msl at the proposed Project site, under both earthquake and landslide scenarios. Incorporating the Port msl of +2.8 feet, the model predicts tsunami wave heights of 4.1 to 8.1 feet above MLLW at the proposed Project site. Because the proposed Project site elevation ranges from 10 to 15 feet above MLLW, localized tsunami-induced flooding would not occur.

While the analysis above considers the greatest reasonably foreseeable seismic risk based on a maximum seismic event, with respect to msl, a theoretical maximum worst-case

1 wave action from a tsunami would result if the single highest tide predicted over the next
2 40 years at the San Pedro Bay Ports coincided with the seismic event. The single highest
3 tide predicted over the next 40 years is 7.3 feet above MLLW. This condition is expected
4 to occur less than 1 percent of the time over this 40-year period. If that very rare
5 condition were to coincide with a maximum tsunami event, the model predicts tsunami
6 wave heights of 8.6 to 12.6 feet above MLLW at the proposed Project site. Because the
7 proposed Project site elevation ranges from 10 to 15 feet above MLLW, localized
8 tsunami-induced flooding up to 2.6 feet is possible. To determine the extent of potential
9 impacts due to tsunami-induced flooding, Port structural engineers have determined that
10 Port reinforced concrete or steel structures designed to meet California earthquake
11 protocols incorporated into MOTEMS would be expected to survive complete inundation
12 in the event of a tsunami (pers. comm., Yin, 2006). However, substantial infrastructure
13 damage and/or injury to personnel would occur as a result of complete site inundation.

14 As previously discussed, there is a potential for tsunami-induced flooding under the
15 theoretical maximum worst-case scenario. However, the likelihood of a large tsunami is
16 very low during operation of the proposed Project and the overall probability of this
17 worst-case scenario is less than 1 in a 100,000-year period.

18 The most likely worst-case tsunami scenario was based partially on a magnitude
19 7.6 earthquake on the offshore Santa Catalina fault. The recurrence interval for a
20 magnitude 7.5 earthquake along an offshore fault in the Southern California Continental
21 Borderland is about 10,000 years. Similarly, the recurrence interval of a magnitude
22 7.0 earthquake is about 5,000 years and the recurrence interval of a magnitude
23 6.0 earthquake is about 500 years. However, there is no certainty that any of these
24 earthquake events would result in a tsunami, since only about 10 percent of earthquakes
25 worldwide result in a tsunami. In addition, available evidence indicates that
26 tsunamigenic landslides would be extremely infrequent and occur less often than large
27 earthquakes. This suggests recurrence intervals for such landslide events would be
28 longer than the 10,000-year recurrence interval estimated for a magnitude 7.5 earthquake
29 (Moffatt and Nichol, 2007). As noted above, the probability of the worst-case
30 combination of a large tsunami and extremely high tides would be less than once in a
31 100,000-year period.

32 Containers of hazardous substances on ships or on berths could similarly be damaged as a
33 result of a large tsunami. Such damage would result in releases of both hazardous and
34 nonhazardous cargo to the environment, adversely affecting persons and/or the marine
35 waters. However, containers carrying hazardous cargo would not necessarily release
36 their contents in the event of a large tsunami. The DOT regulations (49 CFR Parts 172
37 through 180) covering hazardous material packaging and transportation would minimize
38 potential release volumes since packages must meet minimum integrity specifications and
39 size limitations.

40 The owner or operators of tanker vessels are required to have an approved Tank Vessel
41 Response Plan on board and a qualified individual in the U.S. with full authority to
42 implement removal actions in the event of an oil spill incident, and to contract with the
43 spill response organizations to carry out cleanup activities in case of a spill. The existing
44 oil spill response capabilities in the Port are sufficient to isolate spills with containment
45 booms and recover the maximum possible spill from an oil tanker.

46 Various studies have shown that double-hull tank vessels have lower probability of
47 releases when tanker vessels are involved in accidents. Because of these studies, the
48 USCG issued regulations addressing double-hull requirements for tanker vessels. The

1 regulations establish a timeline for eliminating single-hull vessels from operating in the
2 navigable waters or the Exclusive Economic Zone (EEZ) of the U.S. after January 1,
3 2010 and double-bottom or double-sided vessels by January 1, 2015. Only vessels
4 equipped with a double hull, or with an approved double containment system will be
5 allowed to operate after those times. It is unlikely that single-hull vessels will use the
6 proposed Project terminal facilities given the current proposed Project schedule and the
7 planned phase-out of these vessels.

8 **CEQA Impact Determination**

9 Designing new facilities based on existing building codes may not prevent substantial
10 damage to structures from coastal flooding as a result of tsunamis or seiches.

11 Impacts due to seismically induced tsunamis and seiches are typical for the entire
12 California coastline and would not be increased by construction of the proposed
13 Project. However, because the proposed Project site elevation is located within 10 to
14 15 feet above MLLW, there is a substantial risk of coastal flooding due to tsunamis
15 and seiches, which in turn, could result in accidental spills of petroleum products or
16 hazardous substances. Because a major tsunami is not expected during the life of the
17 proposed Project, but could occur (see Section 3.5, Geology, for additional
18 information on the probability of a major tsunami), the probability of a major tsunami
19 occurring is classified as “improbable” (less than once every 10,000 years). The
20 potential consequence of such an event is classified as “moderate,” resulting in a Risk
21 Code of 4, which is “acceptable.” The volume of spilled fuel is also expected to be
22 relatively low since all fuel storage containers at the Project site would be quite small
23 in comparison to the significance criteria volumes. While there will be fuel-
24 containing equipment present during construction, most equipment is equipped with
25 watertight tanks, with the most likely scenario being the infiltration of water into the
26 tank and fuel combustion chambers and very little fuel spilled. Thus, the volume
27 spilled in the event of a tsunami or other seismic risk would be less than
28 10,000 gallons, which is considered “slight.” In light of such a low probability and
29 acceptable risk of a large tsunami, impacts under CEQA would be less than
30 significant as they pertain to hazardous materials spills under criterion **RISK-5**.

31 *Mitigation Measures*

32 No mitigation is required.

33 *Residual Impacts*

34 With no mitigation required, the residual impacts would be less than significant.

35 **NEPA Impact Determination**

36 Designing new facilities based on existing building codes may not prevent substantial
37 damage to structures from coastal flooding as a result of tsunamis or seiches.

38 Impacts due to seismically induced tsunamis and seiches are typical for the entire
39 California coastline and would not be increased by construction of the proposed
40 Project. However, because the proposed Project site elevation is located within 10 to
41 15 feet above MLLW, there is a substantial risk of coastal flooding due to tsunamis
42 and seiches, which in turn, could result in accidental spills of petroleum products or
43 hazardous substances. Because a major tsunami is not expected during the life of the
44 proposed Project, but could occur (see Section 3.5, Geology for additional
45 information on the probability of a major tsunami), the probability of a major tsunami
46 occurring is classified as “improbable” (less than once every 10,000 years). The

1 potential consequence of such an event is classified as “moderate,” resulting in a Risk
2 Code of 4, which is “acceptable.” The volume of spilled fuel is also expected to be
3 relatively low since all fuel storage containers at the Project site would be quite small
4 in comparison to the significance criteria volumes. While there will be fuel-
5 containing equipment present during construction, most equipment is equipped with
6 watertight tanks, with the most likely scenario being the infiltration of water into the
7 tank and fuel combustion chambers and very little fuel spilled. Thus, the volume
8 spilled in the event of a tsunami would be less than 10,000 gallons, which is
9 considered “slight.” In light of such a low probability and acceptable risk of a large
10 tsunami or other seismic risk, impacts under NEPA would be less than significant as
11 they pertain to hazardous materials spills under criterion **RISK-5**.

12 *Mitigation Measures*

13 No mitigation is required.

14 *Residual Impacts*

15 With no mitigation required, the residual impacts would be considered less than
16 significant.

17 **Impact RISK-6b: A potential terrorist attack would result in adverse** 18 **consequences to areas near the proposed Project site during the** 19 **operations period.**

20 **Risk of Terrorist Actions Associated with Project Operations**

21 The probability of a terrorist attack on the proposed Project facilities is not likely to
22 appreciably change over current conditions. It is possible that the increase in vessel
23 traffic in the vicinity of the Berth 97-109 terminal could lead to a greater opportunity of a
24 successful terrorist attack; however, existing Port security measures would counter this
25 potential increase in unauthorized access to the terminal.

26 **Consequences of Terrorist Attack**

27 The risks associated with terrorism discussed in Section 3.8.2.4 during construction
28 would apply to the terminal during operations. The potential consequences of a terrorist
29 action on a container terminal would be mainly environmental and economic. A terrorist
30 action involving a container vessel while at berth may result in a fuel and/or commodity
31 spill and its associated environmental damage. Within the Port, a terrorist action could
32 block key waterways and result in economic disruption. Potential environmental damage
33 would include fuel and/or commodity spills into the marine environment, with associated
34 degradation of water quality and damage to marine biological resources. Container ships
35 typically carry up to 5,000 barrels of fuel oil but would not be full when arriving at the
36 port. These impacts would be limited to the area surrounding the point of attack and
37 would be contained by the relevant oil spill response contractor. A potential fire
38 associated with a terrorist attack could result in short-term impacts to local air quality.
39 Such potential impacts to the environment are addressed in specific resource sections
40 including air quality (Section 3.2), biology (Section 3.3), and water quality (Section 3.14).

41 The consequences associated with the smuggling of WMDs would be substantial in terms
42 of impacts to the environment and public health and safety. However, the consequences
43 of a WMD attack would not be affected by the Project. Furthermore, the likelihood of
44 such an event would not be impacted by Project-related infrastructure or throughput

1 increases, but would depend on the terrorist's desired outcome and the ability of
2 safeguards, unaffected by the Project, to thwart it. Cargo containers represent only one of
3 many potential methods to smuggle WMD, and with current security initiatives (see
4 Section 3.8.2.5) may be less plausible than other established smuggling routes (e.g., land-
5 based ports of entry, cross-border tunnels, and illegal vessel transportation).

6 **CEQA Impact Determination**

7 Potential public safety consequences of a terrorist attack on the Berth 97-109
8 terminal for the proposed Project are considered negligible since, in the event of a
9 successful attack, the potential for a small number of offsite injuries are possible
10 mainly due to fire, which in turn would be a result of large amounts of fuel spilled
11 into Port waters. Potential thermal radiation and explosion overpressure levels would
12 be limited to the immediate vicinity of the attack and would not overlap existing,
13 planned, or permitted vulnerable resources including bulk oil and petroleum facilities
14 located in the West Basin. However, the potential for limited public exposure along
15 Port waterways is possible.

16 Any increase in the volume of container vessels visiting the proposed Project site
17 would not change the probability or consequences of a terrorist attack on the
18 Berth 97-109 terminal since the terminal is already considered a potential economic
19 target, as well as a potential mode to smuggle a weapon into the United States. In
20 addition, the measures outlined in Section 3.8.2.5 would serve to reduce the potential
21 for a successful terrorist attack on the Berth 97-109 facility compared to Project
22 baseline conditions (under which many of these measures had not been implemented).
23 These measures have since improved both terminal and cargo security and have
24 resulted in enhanced cargo screening. Therefore, potential impacts under CEQA
25 associated with a potential terrorist attack on the Berth 97-109 facility are considered
26 less than significant.

27 *Mitigation Measures*

28 Because terrorism impacts are less than significant, no mitigation is required.

29 *Residual Impacts*

30 With no mitigation required, residual impacts would be less than significant.

31 **NEPA Impact Determination**

32 Potential impacts under NEPA would be that same as under CEQA and are
33 considered less than significant.

34 *Mitigation Measures*

35 As terrorism impacts are less than significant, no mitigation is required.

36 *Residual Impacts*

37 No residual impacts would occur.

1 **3.8.4.3.2 Alternatives**

2 **3.8.4.3.2.1 Alternative 1 – No Project Alternative**

3 Alternative 1, the No Project Alternative, would utilize the terminal site constructed as
4 part of Phase I for container storage. Because of this, the Phase I construction activities
5 are included under Alternative 1, although the in-water Phase I elements would not be
6 used.

7 Under Alternative 1, no ships would dock at Berths 97-109. The 1.3 acres of fill, the
8 wharf at Berth 100, and the bridge over the Southwest Slip would be abandoned in place.
9 In addition, the four existing A-frame cranes would be dismantled and removed. The
10 backlands area of the Project site would remain at 72 acres and would be used for
11 supplemental storage of cargo containers (up to 457,100 TEUs) associated with the
12 existing adjacent Yang Ming Container Terminal at Berths 121-131.

13 **3.8.4.3.2.1.1 Construction Impacts**

14 **CEQA Impact Determination**

15 During the period when facilities and infrastructure were developed (2001-2005), no
16 incidents occurred that: exposed people to the accidental release of hazardous
17 materials, caused contamination of soil or water, involved an accidental release from
18 a fire or explosion, interfered with existing emergency response and evacuation plans,
19 or involved a terrorist attack. Therefore, construction impacts under CEQA for
20 **RISK-1a, RISK-2a, RISK-3a, RISK-4a, RISK-5a, and RISK-6a** would be less
21 than significant.

22 *Mitigation Measures*

23 No mitigation is required.

24 *Residual Impacts*

25 No residual impacts would occur.

26 **NEPA Impact Determination**

27 The impacts of the No Project Alternative under CEQA are not required to be
28 analyzed under NEPA. NEPA requires the analysis of a No Federal Action
29 Alternative (see Alternative 2 below).

30 *Mitigation Measures*

31 Because there would be no federal action, no mitigation would be required.

32 *Residual Impacts*

33 No residual impacts would occur.

3.8.4.3.2.1.2 Operational Impacts

Impact RISK-1b: Berth 97-109 terminal operations would not increase the probable frequency and severity of consequences to people or property as a result of accidental release or explosion of a hazardous substance.

Under Alternative 1, the Berth 97-109 terminal site would accommodate a maximum of 457,100 TEUs per year when optimized and functioning at maximum capacity (in 2025). This compares to 45,135 TEUs under baseline conditions (in 2001). Terminal operations would be subject to safety regulations that govern the storage and handling of hazardous materials, which would limit the severity and frequency of potential releases of hazardous materials resulting in increased exposure of people to health hazards (i.e., Port RMP, USCG and LAFD regulations and requirements, and DOT regulations). For example, as discussed in Section 3.8.3.1, List of Regulations, and summarized below, the USCG maintains a HMSD, under the jurisdiction of the federal Department of Homeland Security (33 CFR 126), which develops standards and industry guidance to promote the safety of life and protection of property and the environment during marine transportation of hazardous materials. In addition, the DOT Hazardous Materials Regulations (Title 49 CFR Parts 100-185) regulate almost all aspects of terminal operations. Parts 172 (Emergency Response), 173 (Packaging Requirements), 174 (Rail Transportation), 176 (Vessel Transportation), 177 (Highway Transportation), 178 (Packaging Specifications), and 180 (Packaging Maintenance) would all apply to the alternative Project activities.

Terminal cargo operations involving hazardous materials are also governed by the LAFD in accordance with regulations of state and federal departments of transportation (49 CFR 176). The transport of hazardous materials in containers on the street and highway system is regulated by Caltrans procedures and the Standardized Emergency Management System prescribed under Section 8607 of the California Government Code. These safety regulations strictly govern the storage of hazardous materials in containers (i.e., types of materials and size of packages containing hazardous materials). Implementation of increased hazardous materials inventory control and spill prevention controls associated with these regulations would limit both the frequency and severity of potential releases of hazardous materials.

Terminal maintenance activities would involve the use of hazardous materials such as petroleum products, solvents, paints, and cleaners. Quantities of hazardous materials that exceed the thresholds provided in Chapter 6.95 of the California Health and Safety Code would be subject to an RRP and HMI. Implementation of increased inventory accountability and spill prevention controls associated with this RRP and HMI would limit both the frequency and severity of potential releases of hazardous materials. Based on the limited volumes that could potentially spill, quantities of hazardous materials used at Berths 97-109 that are below the thresholds of Chapter 6.95 would not likely result in a substantial release into the environment.

CEQA Impact Determination

Because projected terminal operations at Berths 97-109 would accommodate approximately a 10-fold increase in containerized cargo compared to the CEQA baseline, the potential for an accidental release or explosion of hazardous materials would also be expected to increase proportionally.

1 During the period 1997-2004, there were 40 hazardous material spills directly
 2 associated with container terminals in the Ports of Los Angeles and Long Beach.
 3 This equates to approximately five spills per year for the entire port complex. During
 4 this period, the total throughput of the container terminals was 76,874,841 TEU.
 5 Therefore, the probability of a spill at a container terminal can be estimated at
 6 5.2×10^{-7} per TEU (40 spills divided by 76,874,841 TEU). This spill probability
 7 conservatively represents the baseline hazardous material spill probability since it
 8 includes materials that would not be considered a risk to public safety (e.g., perfume
 9 spills) but nevertheless would be considered an environmental hazard. The
 10 probability of spills associated with future operations would be based on the spill
 11 probability per TEU times the increment in TEUs under the alternative project.

12 It should be noted that during this period there were no reported impacts to the public
 13 (injuries, fatalities, and evacuations), with potential consequences limited to port
 14 workers (two worker injuries that were treated at the scene and 20 workers evaluated
 15 as a precaution).

16 Based on the accident history at the Port of containers containing hazardous materials,
 17 which includes 40 incidents over an 8-year period in the entire Port complex (Ports of
 18 Los Angeles and Long Beach), the frequency of Project-related spills can be
 19 estimated as shown in Table 3.8-9.

Table 3.8-9. Alternative 1: Existing and Projected Berth 97-109 Capacity (TEUs)

Operations	TEUs	Increase in TEUs over CEQA Baseline (times or multiples)	Potential Spills (per year)
Port-Wide (2005)	7,484,624	NA	3.9
CEQA Baseline (2001)	45,135	NA	0.02
Alternative 1 (2030)	457,100	10.1 times	0.24

Note:
TEU = twenty-foot equivalent unit

20
 21 Based on the projected increase in TEUs occupying the terminal site, the frequency
 22 of potential Alternative 1-related spills would increase from 0.02 to 0.24 spills per
 23 year. This spill frequency would be classified as “periodic” (between once per year
 24 and once in 10 years). Because, based on history, a slight possibility exists for injury
 25 and or property damage to occur during one of these frequent accidents, the
 26 consequence of such accidents is classified as “slight,” resulting in a Risk Code of
 27 4, which is “acceptable.” It should be noted that there were no impacts to the public
 28 from any of the hazardous materials spills that were reported during the 1997-2004
 29 period. Compliance with applicable federal, state, and local laws and regulations
 30 governing the transport of hazardous materials and emergency response to hazardous
 31 material spills, as described above, would minimize the potentials for adverse public
 32 health impacts. Therefore, under CEQA, Alternative 1 operations would not
 33 substantially increase the probable frequency and severity of consequences to people

1 or property as a result of an accidental release or explosion of a hazardous substance.
2 Impacts under CEQA would be less than significant under criterion **RISK-1**.

3 *Mitigation Measures*

4 No mitigation is required.

5 *Residual Impacts*

6 With no mitigation required, the residual impacts would be less than significant.

7 **NEPA Impact Determination**

8 The impacts of the No Project Alternative under CEQA are not required to be
9 analyzed under NEPA. NEPA requires the analysis of a No Federal Action
10 Alternative (see Alternative 2 below).

11 *Mitigation Measures*

12 Because there would be no federal action, no mitigation would be required.

13 *Residual Impacts*

14 No residual impacts would occur.

15 **Impact RISK-2b: Alternative 1 operations would not substantially**
16 **increase the probable frequency and severity of consequences to**
17 **people or property from exposure to health hazards.**

18 Under this alternative, Berth 97-109 terminal operations would accommodate a
19 maximum of 457,100 TEUs per year when optimized and functioning at maximum
20 capacity (in 2025). This compares to 45,135 TEUs under baseline conditions (in 2001).
21 The increased volume would increase the chance of a fire or explosion at the terminal.
22 The handling and storing of increased quantities of hazardous materials would increase
23 the probability of a local accident involving a release, spill, fire, or explosion, which is
24 proportional to the size of the terminal and TEUs at the site as addressed in **Impact**
25 **RISK-1b**.

26 Under Alternative 1, the Berth 97-109 terminal site accommodates the storage and
27 management of containers entering and leaving via the adjacent Yang Ming Terminal.
28 Were the containers not occupying the Berth 97-109 terminal site, they would be located
29 at the Yang Ming Terminal. Thus, truck trips accounted for by the movement of these
30 containers are not part of Alternative 1.

31 **CEQA Impact Determination**

32 In the absence of truck trips associated with containers stored and managed at the
33 Berth 97-109 terminal site attributable to Alternative 1, no impacts would occur.

34 *Mitigation Measure*

35 No mitigation is required.

36 *Residual Impacts*

37 With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

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

Mitigation Measures

Because there would be no federal action, no mitigation would be required.

Residual Impacts

No residual impacts would occur.

Impact RISK-3b: Alternative 1 operations would not substantially interfere with any existing emergency response plans or emergency evacuation plans.

Under Alternative 1, the Berth 97-109 terminal would operate as a container backlands area in support of Berth 121-131 operations. Therefore, proposed backland operations would not interfere with any existing contingency plans, since the current activities are consistent with the contingency plans and the alternative project would not add any additional activities that would be inconsistent with these plans.

Berth 97-109 facilities personnel, including laborers and equipment operators, would be trained in emergency response and evacuation procedures. The Project site would be secured, with access allowed only to authorized personnel. The LAFD and Port Police would be able to provide adequate emergency response services to the Project site. Additionally, Alternative 1 operations would be subject to emergency response and evacuation systems implemented by the LAFD, which would review all plans to ensure that adequate access in the Project vicinity is maintained. All contractors would be required to adhere to plan requirements.

CEQA Impact Determination

Because the terminal would continue to be operated as a container terminal, Alternative 1 operations would continue to be subject to emergency response and evacuation systems implemented by the LAFD. Alternative 1 operations would not interfere with any existing emergency response or emergency evacuation plans or increase the risk of injury or death. Therefore, impacts would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

No residual impacts would occur.

NEPA Impact Determination

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

1 *Mitigation Measures*

2 No mitigation would be required.

3 *Residual Impacts*

4 No residual impacts would occur.

5 **Impact RISK-4b: Alternative 1 operations would comply with**
6 **applicable regulations and policies guiding development in the Port.**

7 Alternative 1 operations would be subject to numerous regulations. LAHD has
8 implemented various plans and programs to ensure compliance with these regulations,
9 which must be adhered to during Alternative 1 operations. For example, as discussed in
10 Section 3.8.3.1, List of Regulations, the USCG maintains a HMSD, under the jurisdiction
11 of the federal Department of Homeland Security (33 CFR 126), which develops standards
12 and industry guidance to promote the safety of life and protection of property and the
13 environment during marine transportation of hazardous materials. Among other
14 requirements, Alternative 1 operations would conform to the USCG requirement to
15 provide a segregated cargo area for containerized hazardous materials. Terminal cargo
16 operations involving hazardous materials are also governed by the LAFD in accordance
17 with regulations of state and federal departments of transportation (49 CFR 176). The
18 transport of hazardous materials in containers on the street and highway system is
19 regulated by Caltrans procedures and the Standardized Emergency Management System,
20 prescribed under Section 8607 of the California Government Code. These safety
21 regulations strictly govern the storage of hazardous materials in containers (i.e., types of
22 materials and size of packages containing hazardous materials). Any facilities identified
23 as either a hazardous cargo facility or a vulnerable resource would be required to conform
24 to the RMP, which includes packaging constraints and the provision of a separate storage
25 area for hazardous cargo.

26 LAHD maintains compliance with these state and federal laws through a variety of
27 methods, including internal compliance reviews, preparation of regulatory plans, and
28 agency oversight. Most notably, the Port RMP implements development guidelines in an
29 effort to minimize the danger of accidents to vulnerable resources. This would be
30 achieved mainly through physical separation as well as through facility design features,
31 fire protection, and other risk management methods. There are two primary categories of
32 vulnerable resources, people, and facilities. People are further divided into subgroups.
33 The first subgroup is comprised of residences, recreational users, and visitors. Within the
34 Port setting, residences and recreational users are considered vulnerable resources. The
35 second subgroup is comprised of workers in high density (i.e., generally more than
36 10 people per acre, per employer).

37 Facilities that are vulnerable resources include Critical Regional Activities/Facilities and
38 High Value Facilities. Critical Regional Activities/Facilities are facilities in the Port that
39 are important to the local or regional economy, the national defense, or some major
40 aspect of commerce. These facilities typically have a large quantity of unique equipment,
41 a very large working population, and are critical to both the economy and to national
42 defense. Such facilities in the Port have been generally defined in the Port RMP as the
43 former Todd Shipyard, Fish Harbor, Badger Avenue Bridge, and Vincent Thomas Bridge.

44 High Value Facilities are nonhazardous facilities, in and near the Ports, which have very
45 high economic value. These facilities include both facility improvements and cargo
46 in-place, such as container storage areas. However, the determination of a vulnerable

1 resource is made by the Port and LAFD on a case-by-case basis. Although the Port
2 generally considers container terminals to be High Value Facilities, these types of
3 facilities have never been considered vulnerable resources in risk analyses completed by
4 the Port and LAFD (pers. comm., Knott, 2007). Because container terminals are not
5 considered vulnerable resources, this alternative would not conflict with the RMP.

6 Plans and specifications of existing facilities have been reviewed by the LAFD for
7 conformance to the Los Angeles Municipal Fire Code, as a standard practice. Buildings
8 have been equipped with fire protection equipment as required by the Los Angeles
9 Municipal Fire Code. Access to all buildings and adequacy of road and fire lanes have
10 been reviewed by the LAFD to ensure that adequate access and firefighting features are
11 provided.

12 Operation of Alternative 1 would be required to comply with all existing hazardous waste
13 laws and regulations, including the federal RCRA and CERCLA, and CCR Title 22 and
14 Title 26. Alternative 1 operations would comply with these laws and regulations, which
15 would ensure that potential hazardous materials handling would occur in an acceptable
16 manner.

17 **CEQA Impact Determination**

18 Alternative 1 operations would not conflict with RMP guidelines or the Los Angeles
19 Municipal Fire Code and would be required to comply with all applicable existing
20 hazardous waste laws and regulations. Therefore, under CEQA, Alternative 1
21 operations would comply with applicable regulations and policies guiding
22 development in the Port. Impacts under CEQA would be less than significant.

23 *Mitigation Measures*

24 No mitigation is required.

25 *Residual Impacts*

26 With no mitigation required, the residual impacts would be less than significant.

27 **NEPA Impact Determination**

28 The impacts of the No Project Alternative under CEQA are not required to be
29 analyzed under NEPA. NEPA requires the analysis of a No Federal Action
30 Alternative (see Alternative 2 below).

31 *Mitigation Measures*

32 No mitigation would be required.

33 *Residual Impacts*

34 No residual impacts would occur.

35 **Impact RISK-5b: Tsunami-induced flooding and seismic events** 36 **would result in fuel releases from ships or hazardous substances** 37 **releases from containers, which in turn would result in risks to** 38 **persons and/or the environment.**

39 As discussed in Section 3.5, there is the potential for a large tsunami to impact the Port.
40 A large tsunami would likely lead to a fuel spill if a moored vessel is present. Although
41 crude oil tankers would not moor at Berths 97-109, each ship contains large quantities of

1 fuel oil. While in transit, the hazards posed to tankers are insignificant, and in most cases,
2 imperceptible. However, while docked, a tsunami striking the Port could cause
3 significant ship movement and even a hull breach if the ship is pushed against the wharf.

4 Under this alternative, Berths 97-109 terminal operations would handle a maximum
5 throughput of 457,100 TEUs per year when optimized and functioning at maximum
6 capacity (in 2025). This alternative would result in 1,093,900 fewer TEUs per year
7 compared to the proposed Project. Thus, the number of ship calls and the overall health
8 risk to persons and/or the environment would be reduced compared to the proposed
9 Project.

10 The Port is subject to diurnal tides, meaning two high tides and two low tides during a
11 24-hour day. The average of the lowest water level during low tide periods each day is
12 typically set as a benchmark of 0 feet and is defined as MLLW. For purposes of this
13 discussion, all alternative Project structures and land surfaces are expressed as height
14 above (or below) MLLW. The msl in the Port is +2.8 feet above MLLW (NOAA, 2005).
15 This height reflects the arithmetic mean of hourly heights observed over the National
16 Tidal Datum Epoch (19 years) and, therefore, reflects the mean of both high and low
17 tides in the Port. The recently developed Port Complex model described in Section 3.5.2
18 predicts tsunami wave heights with respect to msl, rather than MLLW and, therefore, can
19 be considered a reasonable average condition under which a tsunami might occur. The
20 Port msl of +2.8 feet must be considered in comparing projected tsunami run-up (i.e.,
21 amount of wharf overtopping and flooding) to proposed wharf height and topographic
22 elevations, which are measured with respect to MLLW.

23 A reasonably foreseeable scenario for generation of a tsunami or seiche in the San Pedro
24 Bay Ports include the recently developed Port Complex model, which predicts tsunami
25 wave heights of 1.3 to 5.3 feet above msl at the alternative Project site, under both
26 earthquake and landslide scenarios. Incorporating the Port msl of +2.8 feet, the model
27 predicts tsunami wave heights of 4.1 to 8.1 feet above MLLW at the alternative Project
28 site. Because the alternative Project site elevation ranges from 10 to 15 feet above
29 MLLW, localized tsunami-induced flooding would not occur.

30 While the analysis above considers the greatest reasonably foreseeable seismic scenario
31 based on a maximum seismic event, with respect to msl, a theoretical maximum worst-
32 case wave action from a tsunami would result if the single highest tide predicted over the
33 next 40 years at the San Pedro Bay Ports coincided with the seismic event. The single
34 highest tide predicted over the next 40 years is 7.3 feet above MLLW. This condition is
35 expected to occur less than 1 percent of the time over this 40-year period. If that very
36 rare condition were to coincide with a maximum tsunami event, the model predicts
37 tsunami wave heights of 8.6 to 12.6 feet above MLLW at the alternative Project site.
38 Because the alternative Project site elevation ranges from 10 to 15 feet above MLLW,
39 localized tsunami-induced flooding up to 2.6 feet is possible. To determine the extent of
40 potential impacts due to tsunami-induced flooding, Port structural engineers have
41 determined that Port reinforced concrete or steel structures designed to meet California
42 earthquake protocols incorporated into MOTEMS would be expected to survive complete
43 inundation in the event of a tsunami (pers. comm., Yin, 2006). However, substantial
44 infrastructure damage and/or injury to personnel would occur as a result of complete site
45 inundation.

46 As previously discussed, there is a potential for tsunami-induced flooding under the
47 theoretical maximum worst-case scenario. However, the likelihood of a large tsunami is

1 very low during construction of the alternative Project and the overall probability of this
2 worst-case scenario is less than 1 in a 100,000-year period.

3 The most likely worst-case tsunami scenario was based partially on a magnitude
4 7.6 earthquake on the offshore Santa Catalina fault. The recurrence interval for a
5 magnitude 7.5 earthquake along an offshore fault in the Southern California Continental
6 Borderland is about 10,000 years. Similarly, the recurrence interval of a magnitude
7 7.0 earthquake is about 5,000 years and the recurrence interval of a magnitude
8 6.0 earthquake is about 500 years. However, there is no certainty that any of these
9 earthquake events would result in a tsunami, since only about 10 percent of earthquakes
10 worldwide result in a tsunami. In addition, available evidence indicates that
11 tsunamigenic landslides would be extremely infrequent and occur less often than large
12 earthquakes. This suggests recurrence intervals for such landslide events would be
13 longer than the 10,000-year recurrence interval estimated for a magnitude 7.5 earthquake
14 (Moffatt and Nichol, 2007). As noted above, the probability of the worst-case
15 combination of a large tsunami and extremely high tides would be less than once in a
16 100,000-year period.

17 Containers of hazardous substances on ships or on berths could similarly be damaged as a
18 result of a large tsunami. Such damage would result in releases of both hazardous and
19 nonhazardous cargo to the environment, adversely affecting persons and/or the marine
20 waters. However, containers carrying hazardous cargo would not necessarily release
21 their contents in the event of a large tsunami. The DOT regulations (49 CFR
22 Parts 172-180) covering hazardous material packaging and transportation would
23 minimize potential release volumes since packages must meet minimum integrity
24 specifications and size limitations.

25 The owner or operators of tanker vessels are required to have an approved Tank Vessel
26 Response Plan on board and a qualified individual in the U.S. with full authority to
27 implement removal actions in the event of an oil spill incident, and to contract with the
28 spill response organizations to carry out cleanup activities in case of a spill. The existing
29 oil spill response capabilities in the Port are sufficient to isolate spills with containment
30 booms and recover the maximum possible spill from an oil tanker.

31 Various studies have shown that double-hull tank vessels have lower probability of
32 releases when tanker vessels are involved in accidents. Because of these studies, the
33 USCG issued regulations addressing double-hull requirements for tanker vessels. The
34 regulations establish a timeline for eliminating single-hull vessels from operating in the
35 navigable waters or the EEZ of the U.S. after January 1, 2010, and double-bottom or
36 double-sided vessels by January 1, 2015. Only vessels equipped with a double hull, or
37 with an approved double containment system will be allowed to operate after those times.

38 **CEQA Impact Determination**

39 Designing new facilities based on existing building codes (as was done for the
40 facilities constructed between 2001 and 2005) may not prevent substantial damage to
41 structures from coastal flooding as a result of tsunamis and seiches. Impacts due to
42 seismically induced tsunamis and seiches are typical for the entire California
43 coastline and would not be increased by Alternative 1 operations. However, because
44 the Project site elevation is located within 10 to 15 feet above MLLW, there is a
45 substantial risk of coastal flooding due to tsunamis and seiches, which in turn, could
46 result in accidental spills of petroleum products or hazardous substances. Because a
47 major tsunami is not expected during the life of Alternative 1, but could occur (see

1 Section 3.5, Geology, for additional information on the probability of a major
2 tsunami), the probability of a major tsunami occurring is classified as “improbable”
3 (less than once every 10,000 years). The consequence of such an event is classified
4 as “moderate,” resulting in a Risk Code of 4, which is “acceptable.” The volume of
5 spilled fuel is also expected to be relatively low since all fuel storage containers at the
6 Project site would be quite small in comparison to the significance criteria volumes.
7 While there will be fuel-containing equipment present during construction, most
8 equipment is equipped with watertight tanks, with the most likely scenario being the
9 infiltration of water into the tank and fuel combustion chambers and very little fuel
10 spilled. Thus, the volume spilled in the event of a tsunami would be less than
11 10,000 gallons, which is considered “slight.” In light of such a low probability and
12 acceptable risk of a large tsunami or other seismic risk, impacts under CEQA would
13 be less than significant as they pertain to hazardous materials spills under criterion
14 **RISK-5.**

15 *Mitigation Measures*

16 No mitigation is required.

17 *Residual Impacts*

18 Residual impacts would be less than significant.

19 **NEPA Impact Determination**

20 The impacts of the No Project Alternative under CEQA are not required to be
21 analyzed under NEPA. NEPA requires the analysis of a No Federal Action
22 Alternative (see Alternative 2 below).

23 *Mitigation Measures*

24 No mitigation would be required.

25 *Residual Impacts*

26 No residual impacts would occur.

27 **Impact RISK-6b: A potential terrorist attack would result in adverse 28 consequences to areas near the Alternative 1 site during the 29 operations period.**

30 **Risk of Terrorist Actions Associated with Operations**

31 The probability of a terrorist attack on the Alternative 1 facilities is not likely to
32 appreciably change over current conditions. It is possible that the increase (over baseline)
33 in vessel traffic in the vicinity of the Berth 97-109 terminal could lead to a greater
34 opportunity of a successful terrorist attack; however, existing Port security measures
35 would counter this potential increase in unauthorized access to the terminal.

36 **Consequences of Terrorist Attack**

37 The risks associated with terrorism discussed in Section 3.8.2.4 would apply to the
38 terminal during operations. The potential consequences of a terrorist action on a
39 container terminal would be mainly environmental and economic. A terrorist action
40 involving a container vessel while at berth may result in a fuel spill and/or commodity
41 and its associated environmental damage. Within the Port, a terrorist action could block

1 key waterways and result in economic disruption. Potential environmental damage
2 would include fuel and/or commodity spills into the marine environment, with associated
3 degradation of water quality and damage to marine biological resources. Container ships
4 typically carry up to 5,000 barrels of fuel oil but would not be full when arriving at the port.
5 These impacts would be limited to the area surrounding the point of attack and would be
6 contained by the relevant oil spill response contractor. A potential fire associated with a
7 terrorist attack could result in short-term impacts to local air quality. Such potential
8 impacts to the environment are addressed in specific resource sections including air
9 quality (Section 3.2), biology (Section 3.3), and water quality (Section 3.14).

10 The consequences associated with the smuggling of WMDs would be substantial in terms
11 of impacts to the environment and public health and safety. However, the consequences
12 of a WMD attack would not be affected by the alternative. Furthermore, the likelihood of
13 such an event would not be affected by alternative-related infrastructure or throughput
14 increases, but would depend on the terrorist's desired outcome and the ability of
15 safeguards, unaffected by the alternative, to thwart it. Cargo containers represent only
16 one of many potential methods to smuggle WMDs, and with current security initiatives
17 (see Section 3.8.2.5) may be less plausible than other established smuggling routes (e.g.,
18 land-based ports of entry, cross-border tunnels, and illegal vessel transportation).

19 **CEQA Impact Determination**

20 Potential public safety consequences of a terrorist attack on the Berth 97-109
21 terminal for the alternative Project are considered negligible since, in the event of a
22 successful attack, the potential for a small number of onsite injuries are possible
23 mainly due to fire, which in turn would be a result of fuel spilled into Port waters.
24 Potential thermal radiation and explosion overpressure levels would be limited to the
25 immediate vicinity of the attack and would not overlap existing, planned, or
26 permitted vulnerable resources including bulk oil and petroleum facilities located in
27 the West Basin. However, the potential for limited public exposure along Port
28 waterways is possible.

29 An increase in the volume of container vessels visiting the terminal would not change
30 the probability or consequences of a terrorist attack on the Berth 97-109 terminal
31 since the terminal is already considered a potential economic target, as well as a
32 potential mode to smuggle a weapon into the United States. In addition, the
33 measures outlined in Section 3.8.2.5 would serve to reduce the potential for a
34 successful terrorist attack on the Berth 97-109 facility compared to Project baseline
35 conditions (under which many of these measures had not yet been implemented).
36 These measures have since improved both terminal and cargo security, and have
37 resulted in enhanced cargo screening. Therefore, potential impacts under CEQA
38 associated with a potential terrorist attack on the Berth 97-109 facility are considered
39 less than significant.

40 *Mitigation Measures*

41 Because terrorism impacts are less than significant, no mitigation is required.

42 *Residual Impacts*

43 With no mitigation required, residual impacts would be less than significant.

NEPA Impact Determination

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

Mitigation Measures

Mitigation measures are not required.

Residual Impacts

No residual impacts would occur.

3.8.4.3.2.2 Alternative 2 – No Federal Action Alternative

Alternative 2, No Federal Action Alternative, would utilize the terminal site constructed as part of Phase I for container storage and would increase the backland area to 117 acres. Because of this, the Phase I construction activities are included under Alternative 2 although the in-water Phase I elements would not be used (Phase I dike, fill, and the wharf would be abandoned). Alternative 2 would include the operation of 117 acres of backlands area for supplemental storage of containers from the existing Berth 121-131 container terminal.

Under Alternative 2, no ships would dock at Berths 97-109. The 1.3 acres of fill, the wharf at Berth 100, and the bridge over the Southwest Slip would be abandoned in place. In addition, the four existing A-frame cranes would be dismantled and removed. The backlands area of the Project site would remain at 72 acres and would be used for the supplemental storage of cargo containers (up to 632,500 TEUs) associated with the existing adjacent container terminal at Berths 121-131. Alternative 2 would involve the expansion of landside operations as the area of backlands would increase from 72 acres in 2005 to 117 acres by 2015 and beyond.

3.8.4.3.2.2.1 Construction Impacts

Impact RISK-1a: Construction/demolition activities would not substantially increase the probable frequency and severity of consequences to people or property as a result of an accidental release or explosion of a hazardous substance.

Alternative 2 at full buildout (2030) would allow for the operation of approximately 117 acres of backlands. Phase I construction during 2002 and 2003 added 58.5 acres to the previously used 13.5-acre backlands (used as container overflow from the existing Yang Ming Terminal) for a combined total 72 acres for Phase I. During this period, no accidental release or explosion of a hazardous substance occurred.

Further development of the backlands (from 72 to 117 acres) under Alternative 2 would require construction activities such as grading, drainage, paving, striping, lighting, and fencing. Federal and state regulations that govern the storage of hazardous materials in containers (i.e., the types of materials and the size of packages containing hazardous materials) and the separation of containers holding hazardous materials, would limit the potential adverse impacts of contamination to a relatively small area. In addition, standard BMPs would be used during construction and demolition activities to minimize runoff of contaminants and clean-up procedures, in compliance with the State General Permit for Storm Water Discharges Associated with Construction Activity (Water

1 Quality Order 99-08-DWQ) and Project-specific SWPPP (see Section 3.14, Water
2 Quality, Sediments, and Oceanography, for more information).

3 **CEQA Impact Determination**

4 Implementation of construction standards, including BMPs, would minimize the
5 potential for an accidental release of petroleum products and/or hazardous materials
6 and/or explosion during construction activities at Berths 97-109. Standards include,
7 in addition to prevention measures, procedures designed to: effectively and
8 efficaciously clean up spills and immediately implement remedial actions; and
9 procedures for the handling and disposal of materials such as asbestos that would be
10 encountered during demolition activities. It is unlikely that construction and
11 demolition activities would involve the use of substantial quantities of hazardous
12 materials and the most likely source of these materials would be from vehicles at the
13 site. Thus, the most likely spills or releases of hazardous materials during
14 construction would involve petroleum products such as diesel fuel, gasoline, oils, and
15 lubricants. Because construction/demolition-related spills are not uncommon, the
16 probability of a spill occurring is classified as “frequent” (more than once a year).
17 However, such spills are typically short-term and localized. This is attributable to the
18 fact that the volume in any single source vehicle is generally less than 50 gallons and
19 fuel trucks that might be present at the site are limited to 10,000 gallons or less. Thus,
20 the potential consequence of such accidents is classified as “slight” resulting in a
21 Risk Code of 4, which is “acceptable.” Therefore, under CEQA, construction would
22 not substantially increase the probable frequency and severity of consequences to
23 people or property as a result of an accidental release or explosion of a hazardous
24 substance. Based on criterion **RISK-1**, impacts would be less than significant.

25 *Mitigation Measures*

26 No mitigation is required.

27 *Residual Impacts*

28 With no mitigation required, the residual impacts would be less than significant.

29 **NEPA Impact Determination**

30 The development that occurred under Phase I of the proposed Project is applied to
31 Alternative 2. In addition, backland development under Alternative 2 would be the
32 same as under the NEPA baseline. As discussed above under the CEQA Impact
33 Determination, construction would not substantially increase the probable frequency
34 and severity of consequences to people or property as a result of an accidental release
35 or explosion of a hazardous substance. Therefore, significant impacts under NEPA
36 would not occur.

37 *Mitigation Measures*

38 Mitigation measures are not required.

39 *Residual Impacts*

40 Residual impacts would be less than significant.

1 **Impact RISK-2a: Construction/demolition activities would not**
2 **substantially increase the probable frequency and severity of**
3 **consequences to people from exposure to health hazards.**

4 Construction activities would be conducted using BMPs and in accordance with the
5 Los Angeles Municipal Code (Chapter 5, Section 57, Division 4 and 5; Chapter 6,
6 Article 4). Quantities of hazardous materials that exceed the thresholds provided in
7 Chapter 6.95 of the California Health and Safety Code would be subject to a Release
8 Response Plan (RRP) and a Hazardous Materials Inventory (HMI). Implementation of
9 increased inventory accountability and spill prevention controls associated with this
10 Release Response Plan and Hazardous Materials Inventory, such as limiting the types of
11 materials stored and size of packages containing hazardous materials, would limit both
12 the frequency and severity of potential releases of hazardous materials, thus minimizing
13 potential health hazards and/or contamination of soil or water during construction
14 activities. These measures reduce the frequency and consequences of spills by requiring
15 proper packaging for the material being shipped, limits on package size, and thus
16 potential spill size, as well as proper response measures for the materials being handled.
17 Impacts from contamination of soil or water during construction activities would apply to
18 not only construction personnel, but to people and property occupying operational
19 portions of the terminal site because Berth 97-109 terminal would be operating during
20 ongoing construction activities.

21 **CEQA Impact Determination**

22 Several standard policies regulate the storage of hazardous materials including the
23 types of materials, size of packages containing hazardous materials, and the
24 separation of containers containing hazardous materials. These measures reduce the
25 frequency and consequences of spills by requiring proper packaging for the material
26 being shipped, limits on package size, and thus potential spill size, as well as proper
27 response measures for the materials being handled. Implementation of these
28 preventative measures would minimize the potential for spills to affect members of
29 the public and limit the adverse impacts of contamination to a relatively small area.
30 Because construction-related spills are not uncommon, the probability of a spill
31 occurring is classified as “frequent” (more than once a year). However, because such
32 spills are typically short-term and localized, the potential consequence of such
33 accidents is classified as “slight” resulting in a Risk Code of 4, which is “acceptable.”
34 Therefore, under CEQA, construction activities at Berths 97-109 would not
35 substantially increase the probable frequency and severity of consequences to people
36 from exposure to health hazards. In addition, construction activities that occurred
37 between 2001 and 2005 did not increase the probable frequency and severity of
38 consequences to people from exposure to health hazards. Based on risk criterion
39 **RISK-2**, impacts would be less than significant.

40 *Mitigation Measures*

41 No mitigation is required.

42 *Residual Impacts*

43 Residual impacts would be less than significant.

1 **NEPA Impact Determination**

2 The development that occurred under Phase I of the proposed Project is applied to
3 Alternative 2. As discussed above under the CEQA Impact Determination,
4 construction activities that occurred between 2001 and 2005 did not increase the
5 probable frequency and severity of consequences to people from exposure to health
6 hazards. In addition, backland development under Alternative 2 would be the same
7 as under the NEPA baseline. Therefore, significant impacts under NEPA would not
8 occur because there would be no substantive change in environmental conditions
9 between Alternative 2 and the NEPA baseline.

10 *Mitigation Measures*

11 No mitigation is required.

12 *Residual Impacts*

13 Residual impacts would be less than significant.

14 **Impact RISK-3a: Construction/demolition activities would not** 15 **substantially interfere with an existing emergency response or** 16 **evacuation plan or increase the risk of injury or death.**

17 Emergency response and evacuation planning is the responsibility of the Los Angeles
18 Police Department (LAPD), LAFD, Port Police, and United States Coast Guard (USCG).
19 Construction and demolition activities would be subject to emergency response and
20 evacuation systems implemented by LAFD. During construction activities, the LAFD
21 would require that adequate vehicular access to the proposed Project area be provided
22 and maintained. Prior to commencement of construction activities, all plans would be
23 reviewed by the LAFD to ensure adequate access is maintained throughout
24 construction/demolition.

25 **CEQA Impact Determination**

26 Under Alternative 2, contractors were be required (during construction activities that
27 occurred in 2002-2003) and would be during future activities to adhere to all LAFD
28 emergency response and evacuation regulations, ensuring compliance with existing
29 emergency response plans. Therefore, under CEQA, construction activities would
30 not substantially interfere with an existing emergency response or evacuation plan or
31 increase the risk of injury or death. Based on risk criterion **RISK-3**, impacts would
32 be less than significant.

33 *Mitigation Measures*

34 No mitigation is required.

35 *Residual Impacts*

36 With no mitigation required, the residual impacts would be less than significant.

37 **NEPA Impact Determination**

38 The development that occurred under Phase I of the proposed Project is applied to
39 Alternative 2. In addition, backland development under Alternative 2 would be the
40 same as under the NEPA baseline. As discussed above, construction activities would
41 not substantially interfere with an existing emergency response or evacuation plan or

1 increase the risk of injury or death. Therefore, significant impacts under NEPA
2 would not occur.

3 *Mitigation Measures*

4 Mitigation measures are not required.

5 *Residual Impacts*

6 Residual impacts would be less than significant.

7 **Impact RISK-4a: Alternative 2 would comply with applicable** 8 **regulations and policies guiding development in the Port.**

9 As described in Section 3.8.3.1, List of Regulations, Alternative 2 is subject to numerous
10 regulations for development and operation of the proposed facilities. For example,
11 construction and demolition would be completed in accordance with RCRA, HSWA,
12 CERCLA, CCR Title 22 and Title 26, and the California Hazardous Waste Control Law,
13 which would govern proper containment, spill control, and disposal of hazardous waste
14 generated during construction activities. Implementation of increased inventory
15 accountability, spill prevention controls, and waste disposal controls associated with these
16 regulations would limit both the frequency and severity of potential releases of hazardous
17 materials.

18 Potential releases of hazardous substances during construction would be addressed
19 through the federal Emergency Planning and Right-to-Know Act, which is administered
20 in California by the SERC, and the Hazardous Material Release Response Plans and
21 Inventory Law. In addition, construction would be completed in accordance with the
22 Los Angeles Municipal Fire Code, which regulates the construction of buildings and
23 other structures used to store flammable hazardous materials, and the Los Angeles
24 Municipal Public Property Code, which regulates the discharge of materials into the
25 sanitary sewer and storm drain. The latter requires the construction of spill-containment
26 structures to prevent the entry of forbidden materials, such as hazardous materials, into
27 sanitary sewers and storm drains. LAHD maintains compliance with these federal, state,
28 and local laws through a variety of methods, including internal compliance reviews,
29 preparation of regulatory plans, and agency oversight. LAHD has implemented various
30 plans and programs to ensure compliance with these regulations. These regulations must
31 be adhered to during design and construction. Implementation of increased spill
32 prevention controls, spill release notification requirements, and waste disposal controls
33 associated with these regulations would limit both the frequency and severity of potential
34 releases of hazardous materials.

35 Construction activities would be conducted using BMPs in accordance with City
36 guidelines, as detailed in the *Development Best Management Practices Handbook*
37 (City of Los Angeles, 2002). Applicable BMPs include, but are not limited to, vehicle
38 and equipment fueling and maintenance; material delivery, storage, and use; spill
39 prevention and control; solid and hazardous waste management; and contaminated soil
40 management. Plans and specifications will be reviewed by the LAFD for conformance to
41 the Los Angeles Municipal Fire Code, as a standard practice. Implementation of
42 increased spill prevention controls associated with these BMPs would limit both the
43 frequency and severity of potential releases of hazardous materials.

CEQA Impact Determination

Because past construction under Alternative 2 included standard BMPs, as would future construction, and because construction occurs in accordance with LAHD plans and programs, LAFD regulations, and all applicable hazardous waste laws and regulations, impacts relating to compliance with applicable regulations and policies guiding development in the Port would be less than significant under CEQA under criterion **RISK-4**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

The development that occurred under Phase I of the proposed Project is applied to Alternative 2. In addition, backland development under Alternative 2 would be the same as under the NEPA baseline. As discussed above, construction would occur in compliance with applicable regulations and policies guiding development in the Port. Therefore, significant impacts under NEPA would not occur.

Mitigation Measures

No mitigation is required.

Residual Impacts

Residual impacts would be less than significant.

Impact RISK-5a: Tsunami-induced flooding and seismic events would result in fuel releases from demolition/construction equipment or hazardous substances releases from containers, which in turn would result in risks to persons and/or the environment.

As discussed in Section 3.5, there is the potential for a major or great earthquake or a large tsunami to affect the Port. Either event could likely lead to a fuel spill from construction equipment, as well as from containers of petroleum products and hazardous substances used during the construction period.

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 feet and is defined as Mean Lower-Low Water level (MLLW). For purposes of this discussion, all proposed Project structures and land surfaces are expressed as height above (or below) MLLW. The mean sea level (msl) in the Port is +2.8 feet above MLLW (NOAA, 2005). 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 described in Section 3.5.2 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 +2.8 feet must be considered in comparing projected tsunami run-up (i.e., amount of wharf overtopping and

1 flooding) to proposed wharf height and topographic elevations, which are measured with
2 respect to MLLW.

3 A reasonably foreseeable scenario for generation of a tsunami or seiche in the San Pedro
4 Bay Ports include the recently developed Port Complex model, which predicts tsunami
5 wave heights of 1.3 to 5.3 feet above msl at the proposed Project site, under both
6 earthquake and landslide scenarios. Incorporating the Port msl of +2.8 feet, the model
7 predicts tsunami wave heights of 4.1 to 8.1 feet above MLLW at the Alternative 2 site.
8 Because Alternative 2 site elevation ranges from 10 to 15 feet above MLLW, localized
9 tsunami-induced flooding would not occur.

10 While the analysis above considers the greatest reasonably foreseeable seismic risk based
11 on a maximum seismic event, with respect to msl, a theoretical maximum worst-case
12 wave action from a tsunami would result if the single highest tide predicted over the next
13 40 years at the San Pedro Bay Ports coincided with the seismic event. The single highest
14 tide predicted over the next 40 years is 7.3 feet above MLLW. This condition is expected
15 to occur less than 1 percent of the time over this 40-year period. If that very rare
16 condition were to coincide with a maximum tsunami event, the model predicts tsunami
17 wave heights of 8.6 to 12.6 feet above MLLW at the Alternative 2 site. Because the
18 Alternative 2 site elevation ranges from 10 to 15 feet above MLLW, localized tsunami-
19 induced flooding up to 2.6 feet is possible. To determine the extent of potential impacts
20 due to tsunami-induced flooding, Port structural engineers have determined that Port
21 reinforced concrete or steel structures designed to meet California earthquake protocols
22 incorporated into MOTEMS would be expected to survive complete inundation in the
23 event of a tsunami (pers. comm., Yin, 2006). However, substantial infrastructure damage
24 and/or injury to personnel could occur as a result of complete site inundation.

25 As previously discussed, there is a potential for tsunami-induced flooding under the
26 theoretical maximum worst-case scenario. However, the likelihood of a large tsunami is
27 very low during construction activities of Alternative 2 and the overall probability of this
28 worst-case scenario is less than 1 in a 100,000-year period.

29 The most likely worst-case tsunami scenario was based partially on a magnitude
30 7.6 earthquake on the offshore Santa Catalina fault. The recurrence interval for a
31 magnitude 7.5 earthquake along an offshore fault in the Southern California Continental
32 Borderland is about 10,000 years. Similarly, the recurrence interval of a magnitude
33 7.0 earthquake is about 5,000 years and the recurrence interval of a magnitude
34 6.0 earthquake is about 500 years. However, there is no certainty that any of these
35 earthquake events would result in a tsunami, since only about 10 percent of earthquakes
36 worldwide result in a tsunami. In addition, available evidence indicates that
37 tsunamigenic landslides would be extremely infrequent and occur less often than large
38 earthquakes. This suggests recurrence intervals for such landslide events would be
39 longer than the 10,000-year recurrence interval estimated for a magnitude 7.5 earthquake
40 (Moffatt and Nichol, 2007). As noted above, the probability of the worst-case
41 combination of a large tsunami and extremely high tides would be less than once in a
42 100,000-year period.

43 The analysis presented above assumes the coincidence of two unlikely events: the
44 occurrence of the single highest tide predicted over the next 40 years; and the theoretical
45 maximum wave action from a tsunami. Such an assumption represents an extremely
46 conservative, worst-case scenario: one that is not required under CEQA or NEPA.

CEQA Impact Determination

Impacts due to major or great earthquake and seismically induced tsunamis and seiches are typical for the entire California coastline and would not be increased by construction of Alternative 2. However, because the Alternative 2 site is located within 10 to 15 feet above MLLW, there is a substantial risk of coastal flooding due to tsunamis and seiches, which in turn, could result in accidental spills of petroleum products or hazardous substances. Because a major tsunami is not expected during the life of the proposed Project, but could occur (see Section 3.5, Geology, for additional information on the probability of a major tsunami), the probability of a major tsunami occurring is classified as “improbable” (less than once every 10,000 years). The potential consequence of such an event is classified as “moderate,” resulting in a Risk Code of 4, which is “acceptable.” The volume of spilled fuel is also expected to be relatively low. While there would be fuel-containing equipment present during construction, most equipment is equipped with watertight tanks, with the most likely scenario being the infiltration of water into the tank and fuel combustion chambers and very little fuel spilled. Thus, the volume spilled in the event of a tsunami or other seismic risk 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 hazardous materials spills under criterion **RISK-5**. No tsunami or other seismic risk, and associated release of fuel and/or hazardous materials, occurred during prior construction activities between 2001 and 2005.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

The development that occurred under Phase I of the proposed Project is applied to Alternative 2. In addition, backland development under Alternative 2 would be the same as under the NEPA baseline. As discussed above, the tsunami or other seismic risk under Alternative 2 would be of low probability and acceptable. Therefore, significant impacts under NEPA would not occur.

Mitigation Measures

No mitigation measures are required.

Residual Impacts

Residual impacts would be less than significant.

Impact RISK-6a: A potential terrorist attack would result in adverse consequences to areas near the proposed Project site during the construction period.

Risk of Terrorist Actions during Construction

The probability of a terrorist attack on the Alternative 2 facilities is not likely to appreciably change during construction compared to baseline conditions since existing

1 Port security measures would counter any potential increase in unauthorized access to the
2 terminal. The Berth 97-109 terminal would be operational during the construction period;
3 therefore, the risks associated with terrorism discussed in Section 3.8.2.4 will apply to the
4 terminal during this period.

5 **Consequences of Terrorist Attack**

6 During construction activities, a terrorist action could block key road access points and
7 result in economic disruption. Potential environmental damage could include fuel spills
8 and the release of hazardous materials into the marine environment, with associated
9 degradation of water quality and damage to marine biological resources. These impacts
10 would be limited to the area surrounding the point of attack and would be contained by
11 the relevant oil spill response contractor. A potential fire associated with a terrorist
12 attack could result in short-term impacts to local air quality.

13 **CEQA Impact Determination**

14 Access to the terminal site during construction could occur by land and/or water.
15 However, existing Port security measures would counter any potential increase in
16 unauthorized access to the terminal site through the use of vehicles or vessels. The
17 potential for a terrorist attack that would result in adverse consequences to areas near
18 the terminal site during the construction period is considered improbable and the
19 consequences could be moderate. This combination would result in a Risk Code of 4,
20 which is “acceptable,” and impacts would be less than significant under criterion
21 **RISK-6**. No terrorist attack took place during prior construction activity between
22 2001 and 2005.

23 *Mitigation Measures*

24 No mitigation is required.

25 *Residual Impacts*

26 Residual impacts would be less than significant.

27 **NEPA Impact Determination**

28 The development that occurred under Phase I of the proposed Project is applied to
29 Alternative 2. In addition, backland development under Alternative 2 would be the
30 same as under the NEPA baseline. As discussed above, construction of the terminal
31 under Alternative 2 would result in a Risk Code of 4, which is “acceptable.”
32 Therefore, significant impacts under NEPA would not occur.

33 *Mitigation Measures*

34 No mitigation measures are required.

35 *Residual Impacts*

36 Residual impacts would be less than significant.

3.8.4.3.2.2.2 Operational Impacts

Impact RISK-1b: Berth 97-109 terminal operations would not increase the probable frequency and severity of consequences to people or property as a result of accidental release or explosion of a hazardous substance.

Under Alternative 2, Berth 97-109 terminal operations would accommodate the storage and management of a maximum of 632,500 TEUs per year when optimized and functioning at maximum capacity (in 2025).

Terminal operations would be subject to safety regulations that govern the storage and handling of hazardous materials, which would limit the severity and frequency of potential releases of hazardous materials resulting in increased exposure of people to health hazards (i.e., Port RMP, USCG, and LAFD regulations and requirements, and DOT regulations). For example, as discussed in Section 3.8.3.1, List of Regulations, and summarized below, the USCG maintains a HMSD, under the jurisdiction of the federal Department of Homeland Security (33 CFR 126), which develops standards and industry guidance to promote the safety of life and protection of property and the environment during marine transportation of hazardous materials. In addition, the DOT Hazardous Materials Regulations (Title 49 CFR Parts 100-185) regulate almost all aspects of terminal operations. Parts 172 (Emergency Response), 173 (Packaging Requirements), 174 (Rail Transportation), 176 (Vessel Transportation), 177 (Highway Transportation), 178 (Packaging Specifications), and 180 (Packaging Maintenance) would all apply to the alternative Project activities.

Terminal cargo operations involving hazardous materials are also governed by the LAFD in accordance with regulations of state and federal departments of transportation (49 CFR 176). The transport of hazardous materials in containers on the street and highway system is regulated by Caltrans procedures and the Standardized Emergency Management System prescribed under Section 8607 of the California Government Code. These safety regulations strictly govern the storage of hazardous materials in containers (i.e., types of materials and size of packages containing hazardous materials). Implementation of increased hazardous materials inventory control and spill prevention controls associated with these regulations would limit both the frequency and severity of potential releases of hazardous materials.

Terminal maintenance activities would involve the use of hazardous materials such as petroleum products, solvents, paints, and cleaners. Quantities of hazardous materials that exceed the thresholds provided in Chapter 6.95 of the California Health and Safety Code would be subject to an RRP and HMI. Implementation of increased inventory accountability and spill prevention controls associated with this RRP and HMI would limit both the frequency and severity of potential releases of hazardous materials. Based on the limited volumes that could potentially spill, quantities of hazardous materials used at Berths 97-109 that are below the thresholds of Chapter 6.95 would not likely result in a substantial release into the environment.

CEQA Impact Determination

Because projected terminal operations at Berths 97-109 would accommodate approximately a 14-fold increase in containerized cargo compared to the CEQA baseline, the potential for an accidental release or explosion of hazardous materials would also be expected to increase proportionally.

1 During the period 1997-2004 there were 40 hazardous material spills directly
 2 associated with container terminals in the Ports of Los Angeles and Long Beach.
 3 This equates to approximately five spills per year for the entire port complex. During
 4 this period, the total throughput of the container terminals was 76,874,841 TEU.
 5 Therefore, the probability of a spill at a container terminal can be estimated at
 6 5.2×10^{-7} per TEU (40 spills divided by 76,874,841 TEU). This spill probability
 7 conservatively represents the baseline hazardous material spill probability since it
 8 include materials that would not be considered a risk to public safety (e.g., perfume
 9 spills), but would still be considered an environmental hazard. The probability of
 10 spills associated with future operations would be based on the spill probability per
 11 TEU times the increase in TEUs under Alternative 2.

12 It should be noted that during this period there were no reported impacts to the public
 13 (injuries, fatalities and evacuations), with potential consequences limited to port
 14 workers (two worker injuries that were treated at the scene and 20 workers evaluated
 15 as a precaution).

16 Based on the accident history at the Port of containers containing hazardous materials,
 17 which includes 40 incidents over an 8-year period in the entire Port complex (Ports of
 18 Los Angeles and Long Beach), the frequency of Project-related spills can be
 19 estimated as shown in Table 3.8-10.

Table 3.8-10. Alternative 2: Existing and Projected Berths 97-109 Site Capacity (TEUs)

Operations	TEUs	Increase in TEUs over CEQA Baseline (times or multiples)	Potential Spills (per year)
Port Baseline (2005)	7,484,624	NA	3.9
CEQA Project Baseline (2001)	45,135	NA	0.02
Alternative 2 (2030)	632,500	14.0 times	0.33

Note:
 TEU = twenty-foot equivalent unit

20
 21 Based on the projected increase in TEUs, the frequency of potential Alternative 2-
 22 related spills would increase from 0.02 to 0.33 spills per year. This spill frequency
 23 would be classified as “periodic” (between once per year and once in 10 years).
 24 Because, based on history, a slight possibility exists for injury and or property damage
 25 to occur during one of these frequent accidents, the consequence of such accidents is
 26 classified as “slight,” resulting in a Risk Code of 4, which is “acceptable.” It should be
 27 noted that there were no impacts to the public from any of the hazardous materials
 28 spills that were reported during the 1997-2004 period. Compliance with applicable
 29 federal, state, and local laws and regulations governing the transport of hazardous
 30 materials and emergency response to hazardous material spills, as described above,
 31 would minimize the potentials for adverse public health impacts. Therefore, under
 32 CEQA, Alternative 2 operations would not substantially increase the probable

1 frequency and severity of consequences to people or property as a result of an
2 accidental release or explosion of a hazardous substance. Impacts under CEQA would
3 be less than significant under criterion **RISK-1**.

4 *Mitigation Measures*

5 No mitigation is required.

6 *Residual Impacts*

7 Residual impacts would be less than significant.

8 **NEPA Impact Determination**

9 Backland development and operations under Alternative 2 would be the same as
10 backland operations under the NEPA baseline. Therefore, potential impacts under
11 NEPA would not occur because there would be no net change in environmental
12 conditions between Alternative 2 and the NEPA baseline.

13 *Mitigation Measures*

14 No mitigation is required.

15 *Residual Impacts*

16 Residual impacts would be less than significant.

17 **Impact RISK-2b: Alternative 2 operations would not substantially** 18 **increase the probable frequency and severity of consequences to** 19 **people or property from exposure to health hazards.**

20 Under Alternative 2, Berth 97-109 terminal operations would accommodate a maximum
21 of 632,500 TEUs per year when optimized and functioning at maximum capacity (in
22 2025). This compares to 45,135 TEUs under baseline conditions (in 2001). The
23 increased volume would increase the chance of a fire or explosion at the terminal. The
24 handling and storing of increased quantities of hazardous materials would increase the
25 probability of a local accident involving a release, spill, fire or explosion, which is
26 proportional to the size of the terminal and TEUs at the site as addressed in
27 **Impact RISK-1b**.

28 Under Alternative 2, the Berth 97-109 terminal site accommodates the storage and
29 management of containers entering and leaving via the adjacent Yang Ming Terminal.
30 Were the containers not occupying the Berth 97-109 terminal site, they would be located
31 at the Yang Ming Terminal. Thus, truck trips accounted for by the movement of these
32 containers are not part of Alternative 2.

33 **CEQA Impact Determination**

34 In the absence of truck trips associated with containers stored and managed at the
35 Berth 97-109 terminal site attributable to Alternative 1, no impacts would occur.

36 *Mitigation Measure*

37 No mitigation is required.

38 *Residual Impacts*

39 Residual impacts would be less than significant.

1 **NEPA Impact Determination**

2 Backland development and operations under Alternative 2 would be the same as
3 under the NEPA baseline. Therefore, potential impacts under NEPA would not occur
4 because there would be no net change in environmental conditions between
5 Alternative 2 and the NEPA baseline.

6 *Mitigation Measures*

7 No mitigation is required.

8 *Residual Impacts*

9 No residual impacts would occur.

10 **Impact RISK-3b: Alternative 2 operations would not substantially**
11 **interfere with any existing emergency response plans or emergency**
12 **evacuation plans.**

13 Under Alternative 2, the Berth 97-109 terminal would operate as a container backlands;
14 therefore, proposed terminal operations would not interfere with any existing contingency
15 plans, since the current activities are consistent with the contingency plans and the
16 alternative Project would not add any additional activities that would be inconsistent with
17 these plans. Berth 97-109 facilities personnel, including laborers and equipment operators,
18 would be trained in emergency response and evacuation procedures. The terminal site
19 would be secured, with access allowed only to authorized personnel. The LAFD and Port
20 Police would be able to provide adequate emergency response services to the terminal site.
21 Additionally, Alternative 2 operations would be subject to emergency response and
22 evacuation systems implemented by the LAFD, which would review all plans to ensure that
23 adequate access in the vicinity of the terminal site is maintained. All contractors would be
24 required to adhere to plan requirements.

25 **CEQA Impact Determination**

26 Because the terminal would continue to be operated as a container terminal,
27 Alternative 2 operations would continue to be subject to emergency response and
28 evacuation systems implemented by the LAFD. Alternative 2 operations would not
29 interfere with any existing emergency response or emergency evacuation plans or
30 increase the risk of injury or death. Therefore, impacts would be less than significant
31 under CEQA.

32 *Mitigation Measures*

33 No mitigation is required.

34 *Residual Impacts*

35 Residual impacts would be less than significant.

36 **NEPA Impact Determination**

37 Backland development and operations under Alternative 2 would be the same as
38 under the NEPA baseline. Therefore, potential impacts under NEPA would not occur
39 because there would be no net change in environmental conditions between
40 Alternative 2 and the NEPA baseline.

1 *Mitigation Measures*

2 No mitigation is required.

3 *Residual Impacts*

4 No residual impacts would occur.

5 **Impact RISK-4b: Alternative 2 operations would comply with**
6 **applicable regulations and policies guiding development in the Port.**

7 Alternative 2 operations would be subject to numerous regulations. LAHD has
8 implemented various plans and programs to ensure compliance with these regulations,
9 which must be adhered to during Alternative 2 operations. For example, as discussed in
10 Section 3.8.3.1, List of Regulations, the USCG maintains a HMSD, under the jurisdiction
11 of the federal Department of Homeland Security (33 CFR 126), which develops standards
12 and industry guidance to promote the safety of life and protection of property and the
13 environment during marine transportation of hazardous materials.

14 Among other requirements, Alternative 2 operations would conform to the USCG
15 requirement to provide a segregated cargo area for containerized hazardous materials.
16 Terminal cargo operations involving hazardous materials are also governed by the LAFD
17 in accordance with regulations of state and federal departments of transportation
18 (49 CFR 176). The transport of hazardous materials in containers on the street and
19 highway system is regulated by Caltrans procedures and the Standardized Emergency
20 Management System, prescribed under Section 8607 of the California Government Code.
21 These safety regulations strictly govern the storage of hazardous materials in containers
22 (i.e., types of materials and size of packages containing hazardous materials). Any
23 facilities identified as either a hazardous cargo facility or a vulnerable resource would be
24 required to conform to the RMP, which includes packaging constraints and the provision
25 of a separate storage area for hazardous cargo.

26 LAHD maintains compliance with these state and federal laws through a variety of
27 methods, including internal compliance reviews, preparation of regulatory plans, and
28 agency oversight. Most notably, the Port RMP implements development guidelines in an
29 effort to minimize the danger of accidents to vulnerable resources. This would be
30 achieved mainly through physical separation as well as through facility design features,
31 fire protection, and other risk management methods. There are two primary categories of
32 vulnerable resources, people, and facilities. People are further divided into subgroups.
33 The first subgroup is comprised of residences, recreational users, and visitors. Within the
34 Port setting, residences and recreational users are considered vulnerable resources. The
35 second subgroup is comprised of workers in high density (i.e., generally more than
36 10 people per acre, per employer).

37 Facilities that are vulnerable resources include Critical Regional Activities/Facilities and
38 High Value Facilities. Critical Regional Activities/Facilities are facilities in the Port that
39 are important to the local or regional economy, the national defense, or some major
40 aspect of commerce. These facilities typically have a large quantity of unique equipment,
41 a very large working population, and are critical to both the economy and to national
42 defense. Such facilities in the Port have been generally defined in the Port RMP as the
43 former Todd Shipyard, Fish Harbor, Badger Avenue Bridge, and Vincent Thomas Bridge.

44 High Value Facilities are nonhazardous facilities, in and near the Ports, which have very
45 high economic value. These facilities include both facility improvements and cargo
46 in-place, such as container storage areas. However, the determination of a vulnerable

1 resource is made by the Port and LAFD on a case-by-case basis. Although the Port
2 generally considers container terminals to be High Value Facilities, these types of
3 facilities have never been considered vulnerable resources in risk analyses completed by
4 the Port and LAFD (pers. comm., Knott, 2007). Because container terminals are not
5 considered vulnerable resources, this alternative would not conflict with the RMP.

6 Plans and specifications of existing facilities have been reviewed by the LAFD for
7 conformance to the Los Angeles Municipal Fire Code, as a standard practice. Buildings
8 have been equipped with fire protection equipment as required by the Los Angeles
9 Municipal Fire Code. Access to all buildings and adequacy of road and fire lanes have
10 been reviewed by the LAFD to ensure that adequate access and firefighting features are
11 provided.

12 Operation of Alternative 2 would be required to comply with all existing hazardous waste
13 laws and regulations, including the federal RCRA and CERCLA, and CCR Title 22 and
14 Title 26. Alternative 2 operations would comply with these laws and regulations, which
15 would ensure that potential hazardous materials handling would occur in an acceptable
16 manner.

17 **CEQA Impact Determination**

18 Alternative 2 operations would not conflict with RMP guidelines or the Los Angeles
19 Municipal Fire Code and would be required to comply with all applicable existing
20 hazardous waste laws and regulations. Therefore, under CEQA, Alternative 2
21 operations would comply with applicable regulations and policies guiding
22 development in the Port. Impacts would be less than significant.

23 *Mitigation Measures*

24 No mitigation is required.

25 *Residual Impacts*

26 Residual impacts would be less than significant.

27 **NEPA Impact Determination**

28 Backland development and operations under Alternative 2 would be the same as
29 under the NEPA baseline. Therefore, potential impacts under NEPA would not occur
30 because there would be no net change in environmental conditions between
31 Alternative 2 and the NEPA baseline.

32 *Mitigation Measures*

33 No mitigation is required.

34 *Residual Impacts*

35 No residual impacts would occur.

36 **Impact RISK-5b: Tsunami-induced flooding and seismic events** 37 **would result in fuel releases from ships or hazardous substances** 38 **releases from containers, which in turn would result in risks to** 39 **persons and/or the environment.**

40 As discussed in Section 3.5, there is the potential for a large tsunami to impact the Port.
41 A large tsunami would likely lead to a fuel spill if a moored vessel is present. Although

1 crude oil tankers would not moor at Berths 97-109, each ship contains large quantities of
2 fuel oil. While in transit, the hazards posed to tankers are insignificant, and in most cases,
3 imperceptible. However, while docked, a tsunami striking the Port could cause
4 significant ship movement and even a hull breach if the ship is pushed against the wharf.

5 Under this alternative, Berth 97-109 terminal operations would handle a maximum
6 throughput of 632,500 TEUs per year when optimized and functioning at maximum
7 capacity (in 2025). This alternative would result in 918,500 fewer TEUs per year
8 compared to the proposed Project. Thus, the number of ship calls and the overall health
9 risk to persons and/or the environment would be reduced compared to the proposed
10 Project.

11 The Port is subject to diurnal tides, meaning two high tides and two low tides during a
12 24-hour day. The average of the lowest water level during low tide periods each day is
13 typically set as a benchmark of 0 feet and is defined as MLLW. For purposes of this
14 discussion, all alternative Project structures and land surfaces are expressed as height
15 above (or below) MLLW. The msl in the Port is +2.8 feet above MLLW (NOAA, 2005).
16 This height reflects the arithmetic mean of hourly heights observed over the National
17 Tidal Datum Epoch (19 years) and, therefore, reflects the mean of both high and low
18 tides in the Port. The recently developed Port Complex model described in Section 3.5.2
19 predicts tsunami wave heights with respect to msl, rather than MLLW and, therefore, can
20 be considered a reasonable average condition under which a tsunami might occur. The
21 Port msl of +2.8 feet must be considered in comparing projected tsunami run-up (i.e.,
22 amount of wharf overtopping and flooding) to proposed wharf height and topographic
23 elevations, which are measured with respect to MLLW.

24 A reasonably foreseeable scenario for generation of a tsunami or seiche in the San Pedro
25 Bay Ports include the recently developed Port Complex model, which predicts tsunami
26 wave heights of 1.3 to 5.3 feet above msl at the alternative Project site, under both
27 earthquake and landslide scenarios. Incorporating the Port msl of +2.8 feet, the model
28 predicts tsunami wave heights of 4.1 to 8.1 feet above MLLW at the alternative Project
29 site. Because the alternative Project site elevation ranges from 10 to 15 feet above
30 MLLW, localized tsunami-induced flooding would not occur.

31 While the analysis above considers the greatest reasonably foreseeable seismic risk
32 scenario based on a maximum seismic event, with respect to msl, a theoretical maximum
33 worst-case wave action from a tsunami would result if the single highest tide predicted
34 over the next 40 years at the San Pedro Bay Ports coincided with the seismic event. The
35 single highest tide predicted over the next 40 years is 7.3 feet above MLLW. This
36 condition is expected to occur less than 1 percent of the time over this 40-year period.
37 If that very rare condition were to coincide with a maximum tsunami event, the model
38 predicts tsunami wave heights of 8.6 to 12.6 feet above MLLW at the alternative Project
39 site. Because the alternative Project site elevation ranges from 10 to 15 feet above
40 MLLW, localized tsunami-induced flooding up to 0.6 (about 7 inches) feet is possible.
41 To determine the extent of potential impacts due to tsunami-induced flooding, Port
42 structural engineers have determined that Port reinforced concrete or steel structures
43 designed to meet California earthquake protocols incorporated into MOTEMS would be
44 expected to survive complete inundation in the event of a tsunami (pers. comm., Yin,
45 2006). However, substantial infrastructure damage and/or injury to personnel would
46 occur as a result of complete site inundation.

47 As previously discussed, there is a potential for tsunami-induced flooding under the
48 theoretical maximum worst-case scenario. However, the likelihood of a large tsunami is

1 very low during construction of the alternative Project and the overall probability of this
2 worst-case scenario is less than 1 in a 100,000-year period.

3 The most likely worst-case tsunami scenario was based partially on a magnitude
4 7.6 earthquake on the offshore Santa Catalina fault. The recurrence interval for a
5 magnitude 7.5 earthquake along an offshore fault in the Southern California Continental
6 Borderland is about 10,000 years. Similarly, the recurrence interval of a magnitude
7 7.0 earthquake is about 5,000 years and the recurrence interval of a magnitude
8 6.0 earthquake is about 500 years. However, there is no certainty that any of these
9 earthquake events would result in a tsunami, since only about 10 percent of earthquakes
10 worldwide result in a tsunami. In addition, available evidence indicates that
11 tsunamigenic landslides would be extremely infrequent and occur less often than large
12 earthquakes. This suggests recurrence intervals for such landslide events would be
13 longer than the 10,000-year recurrence interval estimated for a magnitude 7.5 earthquake
14 (Moffatt and Nichol, 2007). As noted above, the probability of the worst-case
15 combination of a large tsunami and extremely high tides would be less than once in a
16 100,000-year period.

17 Containers of hazardous substances on ships or on berths could similarly be damaged as a
18 result of a large tsunami. Such damage would result in releases of both hazardous and
19 nonhazardous cargo to the environment, adversely affecting persons and/or the marine
20 waters. However, containers carrying hazardous cargo would not necessarily release
21 their contents in the event of a large tsunami. The DOT regulations (49 CFR Parts 172
22 through 180) covering hazardous material packaging and transportation would minimize
23 potential release volumes since packages must meet minimum integrity specifications and
24 size limitations.

25 The owner or operators of tanker vessels are required to have an approved Tank Vessel
26 Response Plan on board and a qualified individual in the U.S. with full authority to
27 implement removal actions in the event of an oil spill incident, and to contract with the
28 spill response organizations to carry out cleanup activities in case of a spill. The existing
29 oil spill response capabilities in the Port are sufficient to isolate spills with containment
30 booms and recover the maximum possible spill from an oil tanker.

31 Various studies have shown that double-hull tank vessels have lower probability of
32 releases when tanker vessels are involved in accidents. Because of these studies, the
33 USCG issued regulations addressing double-hull requirements for tanker vessels. The
34 regulations establish a timeline for eliminating single-hull vessels from operating in the
35 navigable waters or the EEZ of the U.S. after January 1, 2010, and double-bottom or
36 double-sided vessels by January 1, 2015. Only vessels equipped with a double hull, or
37 with an approved double containment system will be allowed to operate after those times.

38 **CEQA Impact Determination**

39 Because projected terminal operations at Berths 97-109 would accommodate
40 approximately 918,500 fewer TEUs per year compared to the proposed Project, the
41 number of hazardous materials containers and ship calls subject to accidental release
42 or explosion of hazardous materials would also be expected to decrease. Impacts due
43 to seismically induced tsunamis and seiches are typical for the entire California
44 coastline and would not be increased by Alternative 2 operations. However, because
45 the Project site elevation is located within 10 to 15 feet above MLLW, there is a
46 substantial risk of coastal flooding due to tsunamis and seiches, which in turn, could
47 result in accidental spills of petroleum products or hazardous substances. Because a

1 major tsunami is not expected during the life of Alternative 2, but could occur (see
2 Section 3.5, Geology, for additional information on the probability of a major
3 tsunami), the probability of a major tsunami occurring is classified as “improbable”
4 (less than once every 10,000 years). The consequence of such an event is classified
5 as “moderate,” resulting in a Risk Code of 4, which is “acceptable.” The volume of
6 spilled fuel is also expected to be relatively low since all fuel storage containers at the
7 Project site would be quite small in comparison to the significance criteria volumes.
8 While there will be fuel-containing equipment present during construction, most
9 equipment is equipped with watertight tanks, with the most likely scenario being the
10 infiltration of water into the tank and fuel combustion chambers and very little fuel
11 spilled. Thus, the volume spilled in the event of a tsunami or other seismic risk
12 would be less than 10,000 gallons, which is considered “slight.” In light of such a
13 low probability and acceptable risk of a large tsunami, impacts would be less than
14 significant as they pertain to hazardous materials spills under criterion **RISK-5**.

15 *Mitigation Measures*

16 No mitigation is required.

17 *Residual Impacts*

18 Residual impacts would be less than significant.

19 **NEPA Impact Determination**

20 Backland development and operations under Alternative 2 would be the same as
21 under the NEPA baseline. Therefore, potential impacts under NEPA would not occur
22 because there would be no net change in environmental conditions between
23 Alternative 2 and the NEPA baseline.

24 *Mitigation Measures*

25 No mitigation is required.

26 *Residual Impacts*

27 No residual impacts would occur.

28 **Impact RISK-6b: A potential terrorist attack would result in adverse** 29 **consequences to areas near the Alternative 2 site during the** 30 **operations period.**

31 **Risk of Terrorist Actions Associated with Operations**

32 The probability of a terrorist attack on the alternative Project facilities is not likely to
33 appreciably change over the existing baseline. It is possible that the increase in vessel
34 traffic in the vicinity of the Berth 97-109 terminal could lead to a greater opportunity of a
35 successful terrorist attack; however, existing Port security measures would counter this
36 potential increase in unauthorized access to the terminal.

37 **Consequences of Terrorist Attack**

38 The risks associated with terrorism discussed in Section 3.8.2.4 during construction
39 would apply to the terminal during operations. The potential consequences of a terrorist
40 action on a container terminal would be mainly environmental and economic. A terrorist
41 action involving a container vessel while at berth may result in a fuel spill and/or

1 commodity and its associated environmental damage. Within the Port, a terrorist action
2 could block key waterways and result in economic disruption. Potential environmental
3 damage would include fuel and/or commodity spills into the marine environment, with
4 associated degradation of water quality and damage to marine biological resources.
5 Container ships typically carry up to 5,000 barrels of fuel oil but would not be full when
6 arriving at the port. These impacts would be limited to the area surrounding the point of
7 attack and would be contained by the relevant oil spill response contractor. A potential
8 fire associated with a terrorist attack could result in short-term impacts to local air quality.
9 Such potential impacts to the environment are addressed in specific resource sections
10 including air quality (Section 3.2), biology (Section 3.3), and water quality (Section 3.14).

11 The consequences associated with the smuggling of WMDs would be substantial in terms
12 of impacts to the environment and public health and safety. However, the consequences
13 of a WMD attack would not be affected by the alternative. Furthermore, the likelihood of
14 such an event would not be affected by alternative-related infrastructure or throughput
15 increases, but would depend on the terrorist's desired outcome and the ability of
16 safeguards, unaffected by the alternative, to thwart it. Cargo containers represent only
17 one of many potential methods to smuggle WMDs, and with current security initiatives
18 (see Section 3.8.2.5) may be less plausible than other established smuggling routes (e.g.,
19 land-based ports of entry, cross-border tunnels, and illegal vessel transportation).

20 **CEQA Impact Determination**

21 Potential public safety consequences of a terrorist attack on the Berth 97-109
22 terminal for the alternative Project are considered negligible since, in the event of a
23 successful attack, the potential for a small number of offsite injuries are possible
24 mainly due to fire, which in turn would be a result of fuel spilled into Port waters.
25 Potential thermal radiation and explosion overpressure levels would be limited to the
26 immediate vicinity of the attack and would not overlap any existing, planned, or
27 permitted vulnerable resources including bulk oil and petroleum facilities located in
28 the West basin. However, the potential for limited public exposure along Port
29 waterways is possible.

30 An increase in the volume of container vessels visiting the terminal would not change
31 the probability or consequences of a terrorist attack on the Berth 97-109 terminal
32 because the terminal is already considered a potential economic target, as well as a
33 potential mode to smuggle a weapon into the United States. In addition, the
34 measures outlined in Section 3.8.2.5 would serve to reduce the potential for a
35 successful terrorist attack on the Berth 97-109 facility compared to Project baseline
36 conditions (under which many of these measures had not yet been implemented).
37 These measures have since improved both terminal and cargo security, and have
38 resulted in enhanced cargo screening. Therefore, potential impacts under CEQA
39 associated with a potential terrorist attack on the Berth 97-109 facility are considered
40 less than significant.

41 *Mitigation Measures*

42 No mitigation is required.

43 *Residual Impacts*

44 Residual impacts would be less than significant.

NEPA Impact Determination

Backland development and operations under Alternative 2 would be the same as under the NEPA baseline. Therefore, potential impacts under NEPA would not occur because there would be no net change in environmental conditions between Alternative 2 and the NEPA baseline.

Mitigation Measures

No mitigation is required.

Residual Impacts

No residual impacts would occur.

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

Alternative 3 would include all Phase I improvements and the 375-foot southern extension of Berth 100 and installation of one additional A-frame crane during Phase III of construction and would, thus, involve in-water construction activities. It would not include the wharf extension at Berth 102. Alternative 3 would also require the temporary relocation of the Catalina Express Terminal and utilization of 142 acres of backlands.

3.8.4.3.2.3.1 Construction Impacts

Impact RISK-1a: Construction/demolition activities would not substantially increase the probable frequency and severity of consequences to people or property as a result of accidental release or explosion of a hazardous substance.

Construction activities from the Reduced Fill alternative (Alternative 3) would include creation of additional backlands bringing the total to 142 acres, construction of a 375-foot wharf extension at Berth 100, and the addition of one additional A-frame crane. Construction equipment could spill oil, gas, or fluids during normal usage or during refueling, resulting in potential health and safety impacts to not only construction personnel, but to people and property occupying operational portions of the Project area, as the Berth 97-109 terminal would be operating during Phase III construction activities. BMPs and Los Angeles Municipal Code regulations (Chapter 5, Section 57, Divisions 4 and 5; Chapter 6, Article 4) would govern Phase III construction activities. Federal and state regulations that govern the storage of hazardous materials in containers (i.e., the types of materials and the size of packages containing hazardous materials) and the separation of containers holding hazardous materials, would limit the potential adverse impacts of contamination to a relatively small area. In addition, standard BMPs would be used during construction and demolition activities to minimize runoff of contaminants, in compliance with the State General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order 99-08-DWQ) and Project-specific SWPPP (see Section 3.14, Water Quality, Sediments, and Oceanography, for more information).

CEQA Impact Determination

Implementation of construction and demolition standards, including BMPs, would minimize the potential for an accidental release of petroleum products and/or hazardous materials and/or explosion during construction/demolition activities at Berths 97-109. Because construction/demolition-related spills are not uncommon,

1 the probability of a spill occurring is classified as “frequent” (more than once a year).
2 However, because such spills are typically short-term and localized, mainly due to
3 the fact that the volume in any single vehicle is generally less than 50 gallons and
4 fuel trucks are limited to 10,000 gallons or less, the potential consequence of such
5 accidents is classified as “slight,” resulting in a Risk Code of 4, which is
6 “acceptable.” Therefore, under CEQA, construction and demolition activities
7 associated with Alternative 3 would not substantially increase the probable frequency
8 and severity of consequences to people or property as a result of an accidental release
9 or explosion of a hazardous substance. Based on criterion **RISK-1**, impacts under
10 CEQA would be less than significant.

11 *Mitigation Measures*

12 No mitigation is required.

13 *Residual Impacts*

14 With no mitigation required, the residual impacts would be less than significant.

15 **NEPA Impact Determination**

16 Under Alternative 3, in-water and upland construction impacts would be similar to,
17 but slightly less than those described for the proposed Project, because the Berth 102
18 wharf extension would not occur under this alternative. Alternative 3 would include
19 construction of new wharves, dikes, and backland areas, which would result in
20 increased susceptibility to hazardous materials spills during construction.
21 Implementation of construction standards, including BMPs, would minimize the
22 potential for an accidental release of hazardous materials and/or explosion during
23 in-water and upland construction activities at Berths 97-109. Because construction-
24 and demolition-related spills are not uncommon, the probability of a spill occurring is
25 classified as “frequent” (more than once a year). However, because such spills are
26 typically short-term and localized, the potential consequence of such accidents is
27 classified as “slight,” resulting in a Risk Code of 4, which is “acceptable.” Therefore,
28 under NEPA, construction and demolition activities associated with Alternative 3
29 would not substantially increase the probable frequency and severity of consequences
30 to people or property as a result of an accidental release or explosion of a hazardous
31 substance. Based on risk criterion **RISK-1**, impacts under NEPA would be less than
32 significant.

33 *Mitigation Measures*

34 No mitigation is required.

35 *Residual Impacts*

36 With no mitigation required, the residual impacts would be less than significant.

37 **Impact RISK-2a: Construction/demolition activities would not** 38 **substantially increase the probable frequency and severity of** 39 **consequences to people from exposure to health hazards.**

40 Risk of upset impacts during construction would remain basically the same, but slightly
41 reduced compared to those described for the proposed Project. Under this alternative, the
42 proposed extension to Berth 102 would not be constructed. Consequently, the potential
43 for construction equipment to spill oil, gas, or fluids during normal usage or during

1 refueling would be reduced. Therefore, this alternative would reduce the potential for an
2 accidental release of hazardous materials and/or contamination of soil or water and would
3 reduce the potential for an accidental release from a fire or explosion during construction
4 activities.

5 Construction and demolition activities would be conducted using BMPs and in
6 accordance with the Los Angeles Municipal Code (Chapter 5, Section 57, Divisions 4
7 and 5; Chapter 6, Article 4). Quantities of hazardous materials that exceed the thresholds
8 provided in Chapter 6.95 of the California Health and Safety Code would be subject to an
9 RRP and HMI. Implementation of increased inventory accountability and spill
10 prevention controls associated with this RRP and HMI, such as limiting the types of
11 materials stored and size of packages containing hazardous materials, would limit both
12 the frequency and severity of potential releases of hazardous materials, thus minimizing
13 potential health hazards and/or contamination of soil or water during
14 construction/demolition activities. These measures reduce the frequency and
15 consequences of spills by requiring proper packaging for the material being shipped,
16 limits on package size, and thus potential spill size, as well as proper response measures
17 for the materials being handled. Impacts from contamination of soil or water during
18 construction/demolition activities would apply to not only construction personnel, but to
19 people and property occupying operational portions of the Project area, as Berth 97-109
20 terminal would be operating during construction activities.

21 **CEQA Impact Determination**

22 Several standard policies regulate the storage of hazardous materials including the
23 types of materials, size of packages containing hazardous materials, and the
24 separation of containers containing hazardous materials. These measures reduce the
25 frequency and consequences of spills by requiring proper packaging for the material
26 being shipped, limits on package size, and thus potential spill size, as well as proper
27 response measures for the materials being handled. Implementation of these
28 preventative measures would minimize the potential for spills to impact members of
29 the public and limit the adverse impacts of contamination to a relatively small area.
30 Because construction/demolition-related spills are not uncommon, the probability of
31 a spill occurring is classified as “frequent” (more than once a year). However,
32 because such spills are typically short-term and localized, the potential consequence
33 of such accidents is classified as “slight,” resulting in a Risk Code of 4, which is
34 “acceptable.” Therefore, under CEQA, construction/demolition activities at
35 Berths 97-109 would not substantially increase the probable frequency and severity
36 of consequences to people from exposure to health hazards. Based on risk criterion
37 **RISK-2**, impacts under CEQA from Alternative 3 would be less than significant.

38 *Mitigation Measures*

39 No mitigation is required.

40 *Residual Impacts*

41 With no mitigation required, the residual impacts would be less than significant.

42 **NEPA Impact Determination**

43 Under Alternative 3, in-water and upland construction impacts would be similar to,
44 but slightly less than those described for the proposed Project. Reduced impacts
45 include reduced potential for accidental releases or explosion of petroleum products or

1 a hazardous substance and reduced potential for exposure of personnel to health
2 hazards.

3 Alternative 3 would include construction of new wharves, dikes, and backland areas,
4 which would result in increased susceptibility to hazardous materials spills during
5 construction. Several standard policies regulate the storage of hazardous materials
6 including the types of materials, size of packages containing hazardous materials, and
7 the separation of containers containing hazardous materials. These measures reduce
8 the frequency and consequences of spills by requiring proper packaging for the
9 material being shipped, limits on package size, and thus potential spill size, as well as
10 proper response measures for the materials being handled. Implementation of these
11 preventative measures would minimize the potential for spills to affect members of
12 the public and limit the potential adverse impacts of contamination to a relatively
13 small area. Therefore, under NEPA, construction/ demolition activities at
14 Berths 97-109 would not substantially increase the probable frequency and severity
15 of consequences to people from exposure to health hazards. Impacts under NEPA
16 from Alternative 3 would be less than significant.

17 *Mitigation Measures*

18 No mitigation is required.

19 *Residual Impacts*

20 With no mitigation required, the residual impacts would be less than significant.

21 **Impact RISK-3a: Construction/demolition activities would not**
22 **substantially interfere with an existing emergency response or**
23 **evacuation plan or increase the risk of injury or death.**

24 Emergency response and evacuation planning is the responsibility of the LAPD, LAFD,
25 Port Police, and USCG. Construction and demolition activities would be subject to
26 emergency response and evacuation systems implemented by LAFD. During
27 construction/demolition activities, the LAFD would require that adequate vehicular
28 access to the site be provided and maintained. Prior to commencement of
29 construction/demolition activities, all plans would be reviewed by the LAFD to ensure
30 adequate access is maintained throughout construction/demolition.

31 **CEQA Impact Determination**

32 Alternative 3 contractors would be required to adhere to all LAFD emergency
33 response and evacuation regulations, ensuring compliance with existing emergency
34 response plans. Therefore, under CEQA, construction/demolition activities
35 associated with Alternative 3 would not substantially interfere with an existing
36 emergency response or evacuation plan or increase risk of injury or death. Based on
37 risk criterion **RISK-3**, impacts under CEQA would be less than significant.

38 *Mitigation Measures*

39 No mitigation is required.

40 *Residual Impacts*

41 With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Alternative 3 contractors would be required to adhere to all LAFD emergency response and evacuation regulations, ensuring compliance with existing emergency response plans. Therefore, under NEPA, construction/demolition activities associated with Alternative 3 would not substantially interfere with an existing emergency response or evacuation plan or increase the risk of injury or death. Based on risk criterion **RISK-3**, impacts under NEPA would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-4a: Alternative 3 construction/demolition would comply with applicable regulations and policies guiding development in the Port.

As described in Section 3.8.3.1, List of Regulations, Alternative 3 would be subject to numerous regulations for development and operation of the proposed facilities. For example, construction and demolition would be completed in accordance with RCRA, HSWA, CERCLA, CCR Title 22 and Title 26, and the California Hazardous Waste Control Law, which would govern proper containment, spill control, and disposal of hazardous waste generated during demolition and construction activities. Implementation of increased inventory accountability, spill prevention controls, and waste disposal controls associated with these regulations would limit both the frequency and severity of potential releases of hazardous materials.

Potential releases of hazardous substances during demolition and/or construction would be addressed through the federal Emergency Planning and Right-to-Know Act, which is administered in California by the SERC, and the Hazardous Material Release Response Plans and Inventory Law. In addition, demolition and construction would be completed in accordance with the Los Angeles Municipal Fire Code, which regulates the construction of buildings and other structures used to store flammable hazardous materials, and the Los Angeles Municipal Public Property Code, which regulates the discharge of materials into the sanitary sewer and storm drain. The latter requires the construction of spill-containment structures to prevent the entry of forbidden materials, such as hazardous materials, into sanitary sewers and storm drains. LAHD maintains compliance with these federal, state, and local laws through a variety of methods, including internal compliance reviews, preparation of regulatory plans, and agency oversight. LAHD has implemented various plans and programs to ensure compliance with these regulations. These regulations must be adhered to during design and construction of Alternative 3. Implementation of increased spill prevention controls, spill release notification requirements, and waste disposal controls associated with these regulations would limit both the frequency and severity of potential releases of hazardous materials.

Construction/demolition activities would be conducted using BMPs in accordance with City guidelines, as detailed in the Development Best Management Practices Handbook (City of Los Angeles, 2002). Applicable BMPs include, but are not limited to, vehicle and equipment fueling and maintenance; material delivery, storage, and use; spill

1 prevention and control; solid and hazardous waste management; and contaminated soil
2 management. Alternative 3 plans and specifications will be reviewed by the LAFD for
3 conformance to the Los Angeles Municipal Fire Code, as a standard practice.
4 Implementation of increased spill prevention controls associated with these BMPs would
5 limit both the frequency and severity of potential releases of hazardous materials.

6 **CEQA Impact Determination**

7 Because Alternative 3 construction/demolition would be completed using standard
8 BMPs and in accordance with LAHD plans and programs, LAFD regulations, and all
9 applicable hazardous waste laws and regulations, impacts relating to compliance with
10 applicable regulations and policies guiding development in the Port would be less
11 than significant under CEQA under criterion **RISK-4**.

12 *Mitigation Measures*

13 No mitigation is required.

14 *Residual Impacts*

15 With no mitigation required, the residual impacts would be less than significant under
16 CEQA.

17 **NEPA Impact Determination**

18 Because Alternative 3 construction would be completed using standard BMPs and in
19 accordance with LAHD plans and programs, LAFD regulations, and all applicable
20 hazardous waste laws and regulations, impacts under NEPA relating to compliance
21 with applicable regulations and policies guiding development in the Port would be
22 less than significant under criterion **RISK-4**.

23 *Mitigation Measures*

24 No mitigation is required.

25 *Residual Impacts*

26 With no mitigation required, the residual impacts would be less than significant.

27 **Impact RISK-5a: Tsunami-induced flooding and seismic events** 28 **would result in fuel releases from demolition/construction equipment** 29 **or hazardous substances releases from containers, which in turn** 30 **would result in risks to persons and/or the environment.**

31 As discussed in Section 3.5, there is the potential for a major or great earthquake or large
32 tsunami to affect the Port. Either event could likely lead to a fuel spill from demolition
33 and/or construction equipment, as well as from containers of petroleum products and
34 hazardous substances used during the demolition/construction period. Unfinished
35 structures are especially vulnerable to damage from earthquakes and tsunamis during the
36 construction period.

37 The Port is subject to diurnal tides, meaning two high tides and two low tides during a
38 24-hour day. The average of the lowest water level during low tide periods each day is
39 typically set as a benchmark of 0 feet and is defined as MLLW. For purposes of this
40 discussion, all Alternative 3 structures and land surfaces are expressed as height above
41 (or below) MLLW. The msl in the Port is +2.8 feet above MLLW (NOAA, 2005). This
42 height reflects the arithmetic mean of hourly heights observed over the National Tidal

1 Datum Epoch (19 years) and, therefore, reflects the mean of both high and low tides in
2 the Port. The recently developed Port Complex model described in Section 3.5.2 predicts
3 tsunami wave heights with respect to msl, rather than MLLW and, therefore, can be
4 considered a reasonable average condition under which a tsunami might occur. The Port
5 msl of +2.8 feet must be considered in comparing projected tsunami run-up (i.e., amount
6 of wharf overtopping and flooding) to proposed wharf height and topographic elevations,
7 which are measured with respect to MLLW.

8 A reasonably foreseeable scenario for generation of a tsunami or seiche in the San Pedro
9 Bay Ports include the recently developed Port Complex model, which predicts tsunami
10 wave heights of 1.3 to 5.3 feet above msl at the Alternative 3 site, under both earthquake
11 and landslide scenarios. Incorporating the Port msl of +2.8 feet, the model predicts
12 tsunami wave heights of 4.1 to 8.1 feet above MLLW at the Alternative 3 site. Because
13 the Alternative 3 site elevation ranges from 10 to 15 feet above MLLW, localized
14 tsunami-induced flooding would not occur.

15 While the analysis above considers the greatest reasonably foreseeable seismic risk based
16 on a maximum seismic event, with respect to msl, a theoretical maximum worst-case
17 wave action from a tsunami would result if the single highest tide predicted over the next
18 40 years at the San Pedro Bay Ports coincided with the seismic event. The single highest
19 tide predicted over the next 40 years is 7.3 feet above MLLW. This condition is expected
20 to occur less than 1 percent of the time over this 40-year period. If that very rare
21 condition were to coincide with a maximum tsunami event, the model predicts tsunami
22 wave heights of 8.6 to 12.6 feet above MLLW at the Alternative 3 site. Because the
23 Alternative 3 site elevation ranges from 10 to 15 feet above MLLW, localized tsunami-
24 induced flooding up to 2.6 feet is possible. To determine the extent of potential impacts
25 due to tsunami-induced flooding, Port structural engineers have determined that Port
26 reinforced concrete or steel structures designed to meet California earthquake protocols
27 incorporated into MOTEMS would be expected to survive complete inundation in the
28 event of a tsunami (pers. comm., Yin, 2006). However, substantial infrastructure damage
29 and/or injury to personnel would occur as a result of complete site inundation.

30 As previously discussed, there is a potential for tsunami-induced flooding under the
31 theoretical maximum worst-case scenario. However, the likelihood of a large tsunami is
32 very low during construction of Alternative 3 and the overall probability of this worst-
33 case scenario is less than 1 in a 100,000-year period.

34 The most likely worst-case tsunami scenario was based partially on a magnitude
35 7.6 earthquake on the offshore Santa Catalina fault. The recurrence interval for a
36 magnitude 7.5 earthquake along an offshore fault in the Southern California Continental
37 Borderland is about 10,000 years. Similarly, the recurrence interval of a magnitude
38 7.0 earthquake is about 5,000 years and the recurrence interval of a magnitude
39 6.0 earthquake is about 500 years. However, there is no certainty that any of these
40 earthquake events would result in a tsunami, since only about 10 percent of earthquakes
41 worldwide result in a tsunami. In addition, available evidence indicates that
42 tsunamigenic landslides would be extremely infrequent and occur less often than large
43 earthquakes. This suggests recurrence intervals for such landslide events would be
44 longer than the 10,000-year recurrence interval estimated for a magnitude 7.5 earthquake
45 (Moffatt and Nichol, 2007). As noted above, the probability of the worst-case
46 combination of a large tsunami and extremely high tides would be less than once in a
47 100,000-year period.

CEQA Impact Determination

Impacts due to major or great earthquakes and seismically induced tsunamis and seiches are typical for the entire California coastline and would not be increased by construction of Alternative 3. However, because the Alternative 3 site elevation is located within 10 to 15 feet above MLLW and projects in the construction phase are especially vulnerable to tsunami damage due to the presence of unfinished structures, there is a substantial risk of coastal flooding due to tsunamis and seiches, which in turn, could result in accidental spills of petroleum products or hazardous substances. Because a major tsunami is not expected during the life of Alternative 3, but could occur (see Section 3.5, Geology, for additional information on the probability of a major tsunami), the probability of a major tsunami occurring is classified as “improbable” (less than once every 10,000 years). The potential consequence of such an event is classified as “moderate,” resulting in a Risk Code of 4, which is “acceptable.” The volume of spilled fuel is also expected to be relatively low. While there will be fuel-containing equipment present during construction, most equipment is equipped with watertight tanks, with the most likely scenario being the infiltration of water into the tank and fuel combustion chambers and 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 or other seismic risk, impacts under CEQA associated with Alternative 3 would be less than significant as they pertain to hazardous materials spills under criterion **RISK-5**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Impacts due to major or great earthquakes and seismically induced tsunamis and seiches are typical for the entire California coastline and would not be increased by construction of Alternative 3. However, because the Project site elevation is located within 10 to 15 feet above MLLW and projects in the construction phase are especially vulnerable to tsunami damage due to the presence of unfinished structures, there is a substantial risk of coastal flooding due to tsunamis and seiches, which in turn, could result in accidental spills of petroleum products or hazardous substances. Because a major tsunami is not expected during the life of Alternative 3, but could occur (see Section 3.5, Geology, for additional information on the probability of a major tsunami), the probability of a major tsunami occurring is classified as “improbable” (less than once every 10,000 years). The potential consequence of such an event is classified as “slight,” resulting in a Risk Code of 4, which is “acceptable.” In light of such a low probability and acceptable risk of a large tsunami or other seismic risk, impacts under NEPA associated with Alternative 3 would be less than significant under criterion **RISK-5**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-6a: A potential terrorist attack would result in adverse consequences to areas near the Alternative 3 site during the construction period.

Risk of Terrorist Actions during Construction

The probability of a terrorist attack on Alternative 3 facilities is not likely to appreciably change during construction compared to baseline conditions. It is possible that the increase in construction vessel traffic in the vicinity of the Berth 97-109 terminal could lead to a greater opportunity of a successful terrorist attack; however, existing Port security measures would counter this potential increase in unauthorized access to the terminal. The Berth 97-109 terminal would be operational during the construction period; therefore, risks associated with terrorism during operations will also apply to the terminal during this period.

Consequences of Terrorist Attack during Construction

During construction, a terrorist action could block key road access points and 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. Container ships typically carry up to 5,000 barrels of fuel oil but would not be full when arriving at the port. These impacts would be limited to the area surrounding the point of attack and would be contained by the relevant oil spill response contractor. A potential fire associated with a terrorist attack could result in short-term impacts to local air quality.

CEQA Impact Determination

Access to the terminal site during construction could occur by land, water, and/or air. However, existing Port security measures would counter any potential increase in unauthorized access to the terminal site through the use of vehicles or vessels. The potential for a terrorist attack that would result in adverse consequences to areas near the proposed terminal site during the construction period is considered improbable and the consequences could be moderate. This combination would result in a Risk Code of 4 that is “acceptable,” and impacts would be less than significant under criterion **RISK-6**.

Mitigation Measures

Because terrorism impacts are less than significant, no mitigation is required.

Residual Impacts

With no mitigation required, residual impacts would be less than significant.

NEPA Impact Determination

Impacts under NEPA would be less than significant as defined in the CEQA determination for Alternative 3 above.

Mitigation Measures

Because terrorism impacts are less than significant, no mitigation is required.

Residual Impacts

With no mitigation required, residual impacts would be less than significant.

3.8.4.3.2.3.2 Operational Impacts

Impact RISK-1b: Berth 97-109 terminal operations would not increase the probable frequency and severity of consequences to people or property as a result of accidental release or explosion of a hazardous substance.

As of 2001 (CEQA baseline), Berth 97-109 terminal handled approximately 45,135 TEUs per year. Berth 97-109 terminal operations under Alternative 3 could handle approximately 936,000 TEUs per year when optimized and functioning at maximum capacity (in 2025). Throughput of 936,000 TEUs per year in association with Alternative 3, when functioning at maximum capacity, would equate to just over a 20-fold increase in throughput capacity compared to the CEQA baseline.

Terminal operations would be subject to safety regulations that govern the shipping, transport, storage and handling of hazardous materials, which would limit the severity and frequency of potential releases of hazardous materials resulting in increased exposure of people to health hazards (i.e., Port RMP, USCG and LAFD regulations and requirements, and DOT regulations). For example, as discussed in Section 3.8.3.1, List of Regulations, and summarized below, the USCG maintains a HMSD, under the jurisdiction of the federal Department of Homeland Security (33 CFR 126), which develops standards and industry guidance to promote the safety of life and protection of property and the environment during marine transportation of hazardous materials. In addition, the DOT Hazardous Materials Regulations (Title 49 CFR Parts 100-185) regulate almost all aspects of terminal operations. Parts 172 (Emergency Response), 173 (Packaging Requirements), 174 (Rail Transportation), 176 (Vessel Transportation), 177 (Highway Transportation), 178 (Packaging Specifications) and 180 (Packaging Maintenance) would all apply to Alternative 3 activities.

Terminal cargo operations involving hazardous materials are also governed by the LAFD in accordance with regulations of state and federal departments of transportation (49 CFR 176). The transport of hazardous materials in containers on the street and highway system is regulated by Caltrans procedures and the Standardized Emergency Management System prescribed under Section 8607 of the California Government Code. These safety regulations strictly govern the storage of hazardous materials in containers (i.e., types of materials and size of packages containing hazardous materials). Implementation of increased hazardous materials inventory control and spill prevention controls associated with these regulations would limit both the frequency and severity of potential releases of hazardous materials.

Terminal maintenance activities would involve the use of hazardous materials such as petroleum products, solvents, paints, and cleaners. Quantities of hazardous materials that exceed the thresholds provided in Chapter 6.95 of the California Health and Safety Code would be subject to as RRP and HMI. Implementation of increased inventory accountability and spill prevention controls associated with this RRP and HMI would limit both the frequency and severity of potential releases of hazardous materials. Based on the limited volumes that could potentially spill, quantities of hazardous materials used at Berths 97-109 that are below the thresholds of Chapter 6.95 would not likely result in a substantial release into the environment.

CEQA Impact Determination

Because projected terminal operations under Alternative 3 would accommodate approximately a 20-fold increase in containerized cargo compared to the CEQA baseline, the potential for an accidental release or explosion of hazardous materials would also be expected to increase proportionally.

During the period 1997-2004 there were 40 hazardous material spills directly associated with container terminals in the Ports of Los Angeles and Long Beach. This equates to approximately five spills per year for the entire port complex. During this period, the total throughput of the container terminals was 76,874,841 TEU. Therefore, the probability of a spill at a container terminal can be estimated at 5.2×10^{-7} per TEU (40 spills divided by 76,874,841 TEU). This spill probability conservatively represents the baseline hazardous material spill probability since it include materials that would not be considered a risk to public safety (e.g., perfume spills), but would still be considered an environmental hazard. The probability of spills associated with future operations would be based on the spill probability per TEU times the increase in TEUs under Alternative 3.

It should be noted, with respect to hazardous material spills, that during this period there were no reported impacts to the public (injuries, fatalities and evacuations), with potential consequences limited to port workers (two worker injuries that were treated at the scene and 20 workers evaluated as a precaution).

Based on the accident history at the Port of containers containing hazardous materials, which includes 40 incidents over an 8-year period in the entire Port complex (Ports of Los Angeles and Long Beach), the frequency of Project-related spills can be estimated as shown in Table 3.8-11.

Table 3.8-11. Alternative 3: Existing and Projected Cargo Throughput Volumes at Berths 97-109

Operations	Overall Throughput (TEUs)	Increase in TEUs over CEQA Baseline (times or multiples)	Potential Spills (per year)
Port-Wide (2005)	7,484,624	NA	3.9
CEQA Project Baseline (2001)	45,135	NA	0.02
Alternative 3 (2030)	936,000	20.7 times	0.49

Note:
TEU = twenty-foot equivalent unit

Based on the projected increase in TEUs, the frequency of potential spills related to Alternative 2 would increase from 0.02 to 0.49 spills per year, or about 1 spill per year. This spill frequency would be classified as “periodic” (between once a year and once in 10 years). Because, based on history, a slight possibility exists for injury and or property damage to occur during one of these frequent accidents, the consequence of such accidents is classified as “slight,” resulting in a Risk Code of 4, which is “acceptable.” It should be noted that there were no impacts to the public from any of the hazardous materials spills that were reported during the 1997-2004 period. Compliance with applicable federal, state, and local laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills, as described above, would minimize the potentials for adverse public health

1 impacts. Therefore, under CEQA, Alternative 3 operations would not substantially
 2 increase the probable frequency and severity of consequences to people or property
 3 as a result of an accidental release or explosion of a hazardous substance. Impacts
 4 under CEQA would be less than significant under criterion **RISK-1**.

5 *Mitigation Measures*

6 No mitigation is required.

7 *Residual Impacts*

8 With no mitigation required, the residual impacts would be less than significant.

9 **NEPA Impact Determination**

10 Because Alternative 3 would result in greater container throughput compared to the
 11 NEPA baseline, operational impacts would correspondingly be greater. An overall
 12 increase in TEUs would result in proportionally greater hazardous materials containers
 13 subject to accidental release or explosion as illustrated in Table 3.8-12.

Table 3.8-12. Alternative 3: Existing and Projected Cargo Throughput Volumes at Berths 97-109

Operations	Overall Throughput (TEUs)	Increase in TEUs (%)	Potential Spills (per year)
Port Baseline (2005)	7,484,624	NA	3.9
NEPA Project Baseline (2030)	632,500	NA	0.33
Alternative 3 (2030)	936,000	48%	0.49

Note:
TEU = twenty-foot equivalent unit

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 15 Based on the projected increase in TEUs, the frequency of Alternative 3-related spills
 16 would increase from 0.33 to 0.49 spills per year, or remain about one spill per year.
 17 This spill frequency would be classified as “frequent” (more than once a year).
 18 Because, based on history, a slight possibility exists for injury and or property
 19 damage to occur during one of these frequent accidents, the potential consequence of
 20 such accidents is classified as “slight,” resulting in a Risk Code of 4, which is
 21 “acceptable.” It should be noted that there were no impacts to the public from any of
 22 the hazardous materials spills that were reported during the 1997-2004 period.
 23 Compliance with applicable federal, state, and local laws and regulations governing
 24 the transport of hazardous materials and emergency response to hazardous material
 25 spills, as described above, would minimize the potentials for adverse public health
 26 impacts. Therefore, under NEPA, Alternative 3 operations would not substantially
 27 increase the probable frequency and severity of consequences to people or property
 28 as a result of a potential accidental release or explosion of a hazardous substance.
 29 Impacts under NEPA would be less than significant under criterion **RISK-1**.

1 *Mitigation Measures*

2 No mitigation is required.

3 *Residual Impacts*

4 With no mitigation required, the residual impacts would be less than significant.

5 **Impact RISK-2b: Alternative 3 operations would not substantially**
6 **increase the probable frequency and severity of consequences to**
7 **people or property from exposure to health hazards.**

8 Alternative 3 would include siting facilities that would potentially handle hazardous
9 materials and increase other hazards to the public. The handling and storing of increased
10 quantities of hazardous materials (in containers) would increase the probability of a local
11 accident involving a release, spill, fire or explosion, which is proportional to the size of
12 the terminal and its throughput as was addressed in **Impact RISK 1b**.

13 Because projected terminal operations at Berths 97-109 would accommodate over a
14 20-fold increase in containerized cargo compared to the CEQA baseline, the potential for
15 increased truck transportation-related accidents would also occur. Potential alternative-
16 related increases in truck trips could result in an increase in vehicular accidents, injuries,
17 and fatalities. Therefore, the potential impact of increased truck traffic on regional injury
18 and fatality rates are evaluated.

19 According to an FMCSA detailed analysis (FMCSA, 2001), the estimated nonhazardous
20 materials truck accident rate is more than twice the hazardous materials truck accident
21 rate. The nonhazardous materials truck accident rate was estimated to be 0.73 accidents
22 per million vehicle miles and the average hazardous materials truck accident rate was
23 estimated to be 0.32 accidents per million vehicle miles. The hazardous materials truck
24 accident rate is not directly applicable to the alternative Project container trucks since
25 they are generally limited to bulk hazardous material carriers. Therefore, for this analysis,
26 the higher accident rate associated with nonhazardous materials trucks was used.

27 Based on the NHTSA (DOT, 2003), of the estimated 457,000 truck crashes in 2000
28 (causing fatalities, injuries, or property damage), an estimated 1 percent produced
29 fatalities and 22 percent produced injuries. The FARS and the TIFA survey were the
30 sources of data for this analysis, which primarily examined fatalities associated with
31 vehicle impact and trauma.

32 Based on these statistics and the projected truck trips for the existing facilities and
33 Alternative 3, the potential rate of truck accidents, injuries, and fatalities can be estimated
34 and evaluated.

35 **CEQA Impact Determination**

36 Potential alternative-related truck accident rates can be estimated based on national
37 average accident rates and the average number of miles per cargo truck trip. Based
38 on the air pollutant emission inventory of the Port, it was determined that the average
39 truck trip was approximately 49 miles (Starcrest Consulting Group, 2003). Given the
40 annual number of truck trips, the average distance of each trip, and the published
41 accident, injury and fatality rates, probabilities were estimated as shown in
42 Table 3.8-13.

Table 3.8-13. Alternative 3: Existing and Projected Truck Trips at Berths 97-109

Operations	Annual Truck Trips	Increase over CEQA Baseline (%)	Accident Rate (per year)	Injury Probability (per year)	Fatality Probability (per year)
CEQA Baseline (2001)	0	NA	0.0	0.0	0.0
Alternative 3 (2030)	946,819	NA	33.8	7.4	0.3

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Because the occurrence of truck accidents associated with Berths 97-109 occur at a frequency greater than one per year, truck accidents are considered a “frequent” event. Because the possibility exists for injury and/or fatality to occur during one of these frequent accidents as noted in Table 3.8-13, the consequence of such accidents is classified as “severe,” resulting in a Risk Code of 2. An impact with a Risk Code of 2 is classed as significant and requires additional engineering or administrative controls to mitigate the potentially significant adverse impacts.

The Port is currently developing a Port-wide TMP for roadways in and around its facilities. Present and future traffic improvement needs are being determined based on existing and projected traffic volumes. The results will be a TMP providing ideas on what to expect and how to prepare for future traffic volumes. Some of the transportation improvements already under consideration include: I-110/SR-47/ Harbor Boulevard interchange improvements; Navy Way connector (grade separation) to westbound Seaside Avenue; south Wilmington grade separations; and additional traffic capacity analysis for the Vincent Thomas Bridge. In addition, the Port is working on several strategies to increase rail transport, which will reduce reliance on trucks. These projects would serve to reduce the frequency of truck accidents.

The Port is also currently phasing out older trucks as part of its Clean Truck Program, and the TWIC program will help identify and exclude truck drivers that lack the proper licensing and training. The phasing out of older trucks would reduce the probability of accidents that occur as a result of mechanical failure by approximately 10 percent (ADL, 1990). Proper driver training, or more specifically, the reduction in the number of drivers that do not meet minimum training specifications, would further reduce potential accidents by approximately 30 percent. The potential number of injuries would be reduced to approximately 4.7, which would reduce the consequence classification to “moderate” and a Risk Code to 3 or less. Therefore, Alternative 3 operations would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards, and potential impacts under CEQA would be considered less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant under CEQA.

NEPA Impact Determination

Alternative 3 would result in construction of new wharves, dikes, and backland areas, which would result in an increase in TEUs and truck trips, in comparison to the NEPA baseline, as described under the NEPA Impact Determination for **Impact RISK 1b**. Given the annual number of truck trips, the average distance of each trip, and the published accident, injury and fatality rates, probabilities were estimated as shown in Table 3.8-14.

Table 3.8-14. Alternative 3: Existing and Projected Truck Trips at Berths 97-109

Operations	Annual Truck Trips	Increase over NEPA Baseline (%)	Accident Rate (per year)	Injury Probability (per year)	Fatality Probability (per year)
NEPA Baseline (2030)	0	NA	0.0	0.0	0.0
Alternative 3 (2030)	946,819	NA	33.8	7.4	0.3

Because the occurrence of truck accidents associated with Berths 97-109 occur at a frequency greater than one per year, truck accidents are considered a “frequent” event. Because the possibility exists for injury and/or fatality to occur during one of these frequent accidents as noted in Table 3.8-14, the consequence of such accidents is classified as “severe,” resulting in a Risk Code of 2. An impact with a Risk Code of 2 is classed as significant and requires additional engineering or administrative controls to mitigate the potentially significant adverse impacts.

The Port is currently developing a port-wide TMP for roadways in and around its facilities. Present and future traffic improvement needs are being determined based on existing and projected traffic volumes. The results will be a TMP providing ideas on what to expect and how to prepare for future traffic volumes. Some of the transportation improvements already under consideration include: I-110/SR-47/ Harbor Boulevard interchange improvements; Navy Way connector (grade separation) to westbound Seaside Avenue; south Wilmington grade separations; and additional traffic capacity analysis for the Vincent Thomas Bridge. In addition, the Port is working on several strategies to increase rail transport, which will reduce reliance on trucks. These projects would serve to reduce the frequency of truck accidents.

The Port is currently phasing out older trucks as part of its Clean Truck Program, and the TWIC program will help identify and exclude truck drivers that lack the proper licensing and training. The phasing out of older trucks would reduce the probability of accidents that occur as a result of mechanical failure by approximately 10 percent (ADL, 1990). The proper driver training, or more specifically, the reduction in the number of drivers that do not meet minimum training specifications, would further reduce potential accidents by approximately 30 percent. The potential number of injuries would be reduced to approximately 4.7, which would reduce the consequence classification to “moderate” and a Risk Code to 3 or less. Therefore, Alternative 3 operations would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards and potential impacts under NEPA would be considered less than significant

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant under NEPA.

Impact RISK-3b: Alternative 3 operations would not substantially interfere with any existing emergency response plans or emergency evacuation plans.

Alternative 3 would optimize terminal operations by increasing backland capacity and constructing new wharves and dikes to accommodate modern container terminal ships. The Berth 97-109 terminal would operate as a container terminal similar to other terminal facilities in the West Basin; therefore, proposed terminal operations would not interfere with any existing contingency plans, since the current activities are consistent with the contingency plans and the alternative Project would not add any additional activities that would be inconsistent with these plans. In addition, existing oil spill contingency and emergency response plans for the site would be revised to incorporate proposed facility and operation changes. Because existing management plans are commonly revised to incorporate terminal operation changes, conflicts with existing contingency and emergency response plans are not anticipated.

Berth 97-109 facilities personnel, including dock laborers and equipment operators, would be trained in emergency response and evacuation procedures. The site would be secured, with access allowed only to authorized personnel. The LAFD and Port Police would be able to provide adequate emergency response services to the site. Additionally, Alternative 3 operations would also be subject to emergency response and evacuation systems implemented by the LAFD, which would review all plans to ensure that adequate access in the Project vicinity is maintained. All Alternative 3 contractors would be required to adhere to plan requirements.

CEQA Impact Determination

Alternative 3 would operate as a container terminal similar to other terminal operations in the West Basin area, and Alternative 3 operations would be subject to emergency response and evacuation systems implemented by the LAFD. Thus, Alternative 3 operations would not interfere with any existing emergency response or emergency evacuation plans or increase the risk of injury or death. Therefore, impacts would be less than significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant under CEQA.

NEPA Impact Determination

Alternative 3 would operate as a container terminal and Alternative 3 operations would be subject to emergency response and evacuation systems implemented by the LAFD. Thus, Alternative 3 operations would not interfere with any existing emergency response or emergency evacuation plans or increase the risk of injury or death. Therefore, impacts would be less than significant under NEPA.

1 *Mitigation Measures*

2 No mitigation is required.

3 *Residual Impacts*

4 With no mitigation required, the residual impacts would be less than significant under
5 NEPA.

6 **Impact RISK-4b: Alternative 3 operations would comply with
7 applicable regulations and policies guiding development in the Port.**

8 Alternative 3 operations would be subject to numerous regulations for operation of the
9 proposed facilities. LAHD has implemented various plans and programs to ensure
10 compliance with these regulations, which must be adhered to during operation of this
11 alternative. For example, as discussed in Section 3.8.3.1, List of Regulations, the USCG
12 maintains a HMSD, under the jurisdiction of the federal Department of Homeland
13 Security (33 CFR 126), which develops standards and industry guidance to promote the
14 safety of life and protection of property and the environment during marine transportation
15 of hazardous materials.

16 Among other requirements, Alternative 3 operations would conform to the USCG
17 requirement to provide a segregated cargo area for containerized hazardous materials.
18 Terminal cargo operations involving hazardous materials are also governed by the LAFD
19 in accordance with regulations of state and federal departments of transportation
20 (49 CFR 176). The transport of hazardous materials in containers on the street and
21 highway system is regulated by Caltrans procedures and the Standardized Emergency
22 Management System prescribed under Section 8607 of the California Government Code.
23 These safety regulations strictly govern the storage of hazardous materials in containers
24 (i.e., types of materials and size of packages containing hazardous materials). In addition,
25 any facility constructed at the site, identified as either a hazardous cargo facility or a
26 vulnerable resource, would be required to conform to the RMP, which includes
27 packaging constraints and the provision of a separate storage area for hazardous cargo.

28 LAHD maintains compliance with these state and federal laws through a variety of
29 methods, including internal compliance reviews, preparation of regulatory plans, and
30 agency oversight. Most notably, the Port RMP implements development guidelines in an
31 effort to minimize the danger of accidents to vulnerable resources. This would be
32 achieved mainly through physical separation as well as through facility design features,
33 fire protection, and other risk management methods. There are two primary categories of
34 vulnerable resources, people, and facilities. People are further divided into subgroups.
35 The first subgroup is comprised of residences, recreational users, and visitors. Within the
36 Port setting, residences and recreational users are considered vulnerable resources. The
37 second subgroup is comprised of workers in high density (i.e., generally more than
38 10 people per acre, per employer).

39 Facilities that are vulnerable resources include Critical Regional Activities/Facilities and
40 High Value Facilities. Critical Regional Activities/Facilities are facilities in the Port that
41 are important to the local or regional economy, the national defense, or some major
42 aspect of commerce. These facilities typically have a large quantity of unique equipment,
43 a very large working population, and are critical to both the economy and to national
44 defense. Such facilities in the Port have been generally defined in the Port RMP as the
45 former Todd Shipyard, Fish Harbor, Badger Avenue Bridge, and Vincent Thomas Bridge.

1 High Value Facilities are nonhazardous facilities, in and near the Ports, which have very
2 high economic value. These facilities include both facility improvements and cargo
3 in-place, such as container storage areas. However, the determination of a vulnerable
4 resource is made by the Port and LAFD on a case-by-case basis. Although the Port
5 generally considers container terminals to be High Value Facilities, these types of
6 facilities have never been considered vulnerable resources in risk analyses completed by
7 the Port and LAFD (pers. comm., Knott, 2007). Because container terminals are not
8 considered vulnerable resources, this Alternative would not conflict with the RMP.

9 Alternative 3 plans and specifications will be reviewed by the LAFD for conformance to
10 the Los Angeles Municipal Fire Code, as a standard practice. Buildings will be equipped
11 with fire protection equipment as required by the Los Angeles Municipal Fire Code.
12 Access to all buildings and adequacy of road and fire lanes will be reviewed by the
13 LAFD to ensure that adequate access and firefighting features are provided. Plans would
14 include an internal circulation system, code-required features, and other firefighting
15 design elements, as approved by the LAFD.

16 Operation of Alternative 3 would be required to comply with all existing hazardous waste
17 laws and regulations, including the federal RCRA and CERCLA, and CCR Title 22 and
18 Title 26. Alternative 3 operations would comply with these laws and regulations, which
19 would ensure that potential hazardous materials handling would occur in an acceptable
20 manner.

21 **CEQA Impact Determination**

22 Alternative 3 operations would not conflict with RMP guidelines. Alternative 3 plans
23 and specifications will be reviewed by the LAFD for conformance to the Los Angeles
24 Municipal Fire Code, and operation of Alternative 3 would be required to comply
25 with all applicable existing hazardous waste laws and regulations. Therefore, under
26 CEQA, Alternative 3 operations would comply with applicable regulations and
27 policies guiding development in the Port. Impacts under CEQA would be less than
28 significant.

29 *Mitigation Measures*

30 No mitigation is required.

31 *Residual Impacts*

32 With no mitigation required, the residual impacts would be less than significant.

33 **NEPA Impact Determination**

34 Alternative 3 operations would not conflict with RMP guidelines. Alternative 3 plans
35 and specifications will be reviewed by the LAFD for conformance to the Los Angeles
36 Municipal Fire Code, and operation of Alternative 3 would be required to comply
37 with all applicable existing hazardous waste laws and regulations. Therefore, under
38 NEPA, Alternative 3 operations would comply with applicable regulations and
39 policies guiding development in the Port. Impacts under NEPA would be less than
40 significant.

41 *Mitigation Measures*

42 No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-5b: Tsunami-induced flooding and seismic events would result in fuel releases from ships or hazardous substances releases from containers, which in turn would result in risks to persons and/or the environment.

As discussed in Section 3.5, there is the potential for a large tsunami to impact the Port. A large tsunami would likely lead to a fuel spill if a moored vessel is present. Although crude oil tankers would not moor at Berths 97-109, each ship contains large quantities of fuel oil. While in transit, the hazards posed to tankers are insignificant, and in most cases, imperceptible. However, while docked, a tsunami striking the Port could cause significant ship movement and even a hull breach if the ship is pushed against the wharf.

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 feet and is defined as MLLW. For purposes of this discussion, all proposed Project structures and land surfaces are expressed as height above (or below) MLLW. The msl in the Port is +2.8 feet above MLLW (NOAA, 2005). 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 described in Section 3.5.2 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 +2.8 feet must be considered in comparing projected tsunami run-up (i.e., amount of wharf overtopping and flooding) to proposed wharf height and topographic elevations, which are measured with respect to MLLW.

A reasonably foreseeable scenario for generation of a tsunami or seiche in the San Pedro Bay Ports include the recently developed Port Complex model, which predicts tsunami wave heights of 1.3 to 5.3 feet above msl at the proposed Project site, under both earthquake and landslide scenarios. Incorporating the Port msl of +2.8 feet, the model predicts tsunami wave heights of 4.1 to 8.1 feet above MLLW at the proposed Project site. Because the proposed Project site elevation ranges from 10 to 15 feet above MLLW, localized tsunami-induced flooding would not occur.

While the analysis above considers the greatest reasonably foreseeable seismic risk 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 coincided with the seismic event. The single highest tide predicted over the next 40 years is 7.3 feet above MLLW. This condition is expected to occur less than 1 percent of the time over this 40-year period. If that very rare condition were to coincide with a maximum tsunami event, the model predicts tsunami wave heights of 8.6 to 12.6 feet above MLLW at the proposed Project site. Because the proposed Project site elevation ranges from 10 to 15 feet above MLLW, localized tsunami-induced flooding up to 2.6 feet is possible. To determine the extent of potential impacts due to tsunami-induced flooding, Port structural engineers have determined that Port reinforced concrete or steel structures designed to meet California earthquake protocols incorporated into MOTEMS would be expected to survive complete inundation in the event of a tsunami (pers. comm., Yin, 2006). However, substantial infrastructure damage and/or injury to personnel would occur as a result of complete site inundation.

1 As previously discussed, there is a potential for tsunami-induced flooding under the
2 theoretical maximum worst-case scenario. However, the likelihood of a large tsunami is
3 very low during operation of the proposed Project and the overall probability of this
4 worst-case scenario is less than 1 in a 100,000-year period.

5 The most likely worst-case tsunami scenario was based partially on a magnitude
6 7.6 earthquake on the offshore Santa Catalina fault. The recurrence interval for a
7 magnitude 7.5 earthquake along an offshore fault in the Southern California Continental
8 Borderland is about 10,000 years. Similarly, the recurrence interval of a magnitude
9 7.0 earthquake is about 5,000 years and the recurrence interval of a magnitude
10 6.0 earthquake is about 500 years. However, there is no certainty that any of these
11 earthquake events would result in a tsunami, since only about 10 percent of earthquakes
12 worldwide result in a tsunami. In addition, available evidence indicates that
13 tsunamigenic landslides would be extremely infrequent and occur less often than large
14 earthquakes. This suggests recurrence intervals for such landslide events would be
15 longer than the 10,000-year recurrence interval estimated for a magnitude 7.5 earthquake
16 (Moffatt and Nichol, 2007). As noted above, the probability of the worst-case
17 combination of a large tsunami and extremely high tides would be less than once in a
18 100,000-year period.

19 Containers of hazardous substances on ships or on berths could similarly be damaged as a
20 result of a large tsunami. Such damage would result in releases of both hazardous and
21 nonhazardous cargo to the environment, adversely affecting persons and/or the marine
22 waters. However, containers carrying hazardous cargo would not necessarily release
23 their contents in the event of a large tsunami. The DOT regulations (49 CFR
24 Parts 172-180) covering hazardous material packaging and transportation would
25 minimize potential release volumes since packages must meet minimum integrity
26 specifications and size limitations.

27 The owner or operators of tanker vessels are required to have an approved Tank Vessel
28 Response Plan on board and a qualified individual in the U.S. with full authority to
29 implement removal actions in the event of an oil spill incident, and to contract with the
30 spill response organizations to carry out cleanup activities in case of a spill. The existing
31 oil spill response capabilities in the Port are sufficient to isolate spills with containment
32 booms and recover the maximum possible spill from an oil tanker.

33 Various studies have shown that double-hull tank vessels have lower probability of
34 releases when tanker vessels are involved in accidents. Because of these studies, the
35 USCG issued regulations addressing double-hull requirements for tanker vessels. The
36 regulations establish a timeline for eliminating single-hull vessels from operating in the
37 navigable waters or the EEZ of the U.S. after January 1, 2010, and double-bottom or
38 double-sided vessels by January 1, 2015. Only vessels equipped with a double hull, or
39 with an approved double containment system will be allowed to operate after those times.
40 It is unlikely that single-hull vessels will use the Alternative 3 terminal facilities given the
41 current schedule and the planned phase-out of these vessels.

42 **CEQA Impact Determination**

43 Designing new facilities based on existing building codes may not prevent substantial
44 damage to structures from coastal flooding as a result of tsunamis or seiches.
45 Impacts due to seismically induced tsunamis and seiches are typical for the entire
46 California coastline and would not be increased by construction of Alternative 3.
47 However, because the Alternative 3 elevation is located in 10 to 15 feet above

1 MLLW and projects in the construction phase are especially vulnerable to tsunami
2 damage due to the presence of unfinished structures, there is a substantial risk of
3 coastal flooding due to tsunamis and seiches, which in turn, could result in accidental
4 spills of petroleum products or hazardous substances. Because a major tsunami is not
5 expected during the life of Alternative 3, but could occur (see Section 3.5, Geology,
6 for additional information on the probability of a major tsunami), the probability of a
7 major tsunami occurring is classified as “improbable” (less than once every
8 10,000 years). The potential consequence of such an event is classified as
9 “moderate,” resulting in a Risk Code of 4, which is “acceptable.” The volume of
10 spilled fuel is also expected to be relatively low. While there will be fuel containing
11 equipment present during construction, most equipment is equipped with watertight
12 tanks, with the main problem being the infiltration of water into the tank and fuel
13 combustion chambers. Thus, the volume spilled in the event of a tsunami would be
14 less than 10,000 gallons, which is considered minor. In light of such a low
15 probability and acceptable risk of a large tsunami or other seismic risk, impacts under
16 CEQA associated with Alternative 3 would be less than significant as they pertain to
17 hazardous materials spills under criterion **RISK-5**.

18 *Mitigation Measures*

19 No mitigation is required.

20 *Residual Impacts*

21 With no mitigation required, the residual impacts would be less than significant.

22 **NEPA Impact Determination**

23 Designing new facilities based on existing building codes may not prevent substantial
24 damage to structures from coastal flooding as a result of tsunamis or seiches.
25 Impacts due to seismically induced tsunamis and seiches are typical for the entire
26 California coastline and would not be increased by construction of Alternative 3.
27 However, because Alternative 3 elevations are located within 10 to 15 feet above
28 MLLW and projects in the construction phase are especially vulnerable to tsunami
29 damage due to the presence of unfinished structures, there is a substantial risk of
30 coastal flooding due to tsunamis and seiches, which in turn, could result in accidental
31 spills of petroleum products or hazardous substances. Because a major tsunami is not
32 expected during the life of Alternative 3, but could occur (see Section 3.5, Geology,
33 for additional information on the probability of a major tsunami), the probability of a
34 major tsunami occurring is classified as “improbable” (less than once every
35 10,000 years). The potential consequence of such an event is classified as
36 “moderate,” resulting in a Risk Code of 4, which is “acceptable.” In light of such a
37 low probability and acceptable risk of a large tsunami or other seismic risk, impacts
38 under NEPA associated with Alternative 3 would be less than significant under
39 criterion **RISK-5**.

40 *Mitigation Measures*

41 No mitigation is required.

42 *Residual Impacts*

43 With no mitigation required, the residual impacts would be less than significant.

1 **Impact RISK-6b: A potential terrorist attack would result in adverse**
2 **consequences to areas near the Alternative 3 site during the**
3 **operations period.**

4 **Risk of Terrorist Actions Associated with Operations**

5 The probability of a terrorist attack on the alternative Project facilities is not likely to
6 appreciably change over current conditions. It is possible that the increase in vessel
7 traffic in the vicinity of the Berth 97-109 terminal could lead to a greater opportunity of a
8 successful terrorist attack; however, existing Port security measures would counter this
9 potential increase in unauthorized access to the terminal.

10 **Consequences of Terrorist Attack**

11 The risks associated with terrorism discussed in Section 3.8.2.4 would apply to the
12 terminal during operations. The potential consequences of a terrorist action on a
13 container terminal would be mainly environmental and economic. A terrorist action
14 involving a container vessel while at berth may result in a fuel and/or commodity spill
15 and its associated environmental damage. Within the Port, a terrorist action could block
16 key waterways and result in economic disruption. Potential environmental damage
17 would include fuel and/or commodity spills into the marine environment, with associated
18 degradation of water quality and damage to marine biological resources. Container ships
19 typically carry up to 5,000 barrels of fuel oil but would not be full when arriving at the port.
20 These impacts would be limited to the area surrounding the point of attack and would be
21 contained by the relevant oil spill response contractor. A potential fire associated with a
22 terrorist attack could result in short-term impacts to local air quality. Such potential
23 impacts to the environment are addressed in specific resource sections including air
24 quality (Section 3.2), biology (Section 3.3), and water quality (Section 3.14).

25 The consequences associated with the smuggling of WMDs would be substantial in terms
26 of impacts to the environment and public health and safety. However, the consequences
27 of a WMD attack would not be affected by the alternative. Furthermore, the likelihood of
28 such an event would not be affected by alternative-related infrastructure or throughput
29 increases, but would depend on the terrorist's desired outcome and the ability of
30 safeguards, unaffected by the alternative, to thwart it. Cargo containers represent only
31 one of many potential methods to smuggle WMDs, and with current security initiatives
32 (see Section 3.8.2.5) may be less plausible than other established smuggling routes (e.g.,
33 land-based ports of entry, cross border tunnels, and illegal vessel transportation).

34 **CEQA Impact Determination**

35 Potential public safety consequences of a terrorist attack on the Berth 97-109
36 terminal for the alternative Project are considered negligible since, in the event of a
37 successful attack, the potential for a small number of offsite injuries are possible
38 mainly due to fire, which in turn would be a result of fuel spilled into Port waters.
39 Potential thermal radiation and explosion overpressure levels would be limited to the
40 immediate vicinity of the attack and would not overlap existing, planned, or
41 permitted vulnerable resources including bulk oil and petroleum facilities located in
42 the West Basin. However, the potential for limited public exposure along Port
43 waterways is possible.

44 Any increase in the volume of container vessels visiting the Alternative 3 terminal
45 would not change the probability or consequences of a terrorist attack on the

Berth 97-109 terminal since the terminal is already considered a potential economic target, as well as a potential mode to smuggle a weapon into the United States. In addition, the measures outlined in Section 3.8.2.5 would serve to reduce the potential for a successful terrorist attack on the Berth 97-109 facility compared to Project baseline conditions (under which many of these measures had not yet been implemented). These measures have since improved both terminal and cargo security, and have resulted in enhanced cargo screening. Therefore, potential impacts under CEQA associated with a potential terrorist attack on the Berth 97-109 facility are considered less than significant.

Mitigation Measures

Because terrorism impacts are less than significant, no mitigation is required.

Residual Impacts

With no mitigation required, residual impacts would be less than significant.

NEPA Impact Determination

Potential impacts under NEPA would be that same as under CEQA and are considered less than significant.

Mitigation Measures

Because terrorism impacts are less than significant, no mitigation is required.

Residual Impacts

With no mitigation required, residual impacts would be less than significant

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

As part of Phase I construction, 1,200 feet of wharf at Berth 100 was constructed in 2002–2003 and placed in operation in June of 2004. Under Alternative 4, a 925-foot-long wharf extension would be added to Berth 102 during Phase II of construction. The 375-foot southern extension of the wharf at Berth 100 would not be constructed under this alternative. The construction of the 925-foot wharf extension would involve in-water activities. Alternative 4 would not require the temporary relocation of the Catalina Express Terminal and would use 130 acres of backlands.

3.8.4.3.2.4.1 Construction Impacts

Impact RISK-1a: Construction/demolition activities would not substantially increase the probable frequency and severity of consequences to people or property as a result of accidental release or explosion of a hazardous substance.

Construction activities from the Reduced Fill alternative (Alternative 4) would include creation of additional backlands bringing the total to 130 acres and construction of a 925-foot wharf extension at Berth 102. Construction equipment could spill oil, gas, or fluids during normal usage or during refueling, resulting in potential health and safety impacts to not only construction personnel, but to people and property occupying operational portions of the Project area, as the Berth 97-109 terminal would be operating during Phase III construction activities. BMPs and Los Angeles Municipal Code regulations (Chapter 5, Section 57, Division 4 and 5; Chapter 6, Article 4) would govern

1 Phase III construction activities. Federal and state regulations that govern the storage of
2 hazardous materials in containers (i.e., the types of materials and the size of packages
3 containing hazardous materials) and the separation of containers holding hazardous
4 materials, would limit the potential adverse impacts of contamination to a relatively small
5 area. In addition, standard BMPs would be used during construction and demolition
6 activities to minimize runoff of contaminants, in compliance with the State General
7 Permit for Storm Water Discharges Associated with Construction Activity (Water
8 Quality Order 99-08-DWQ) and Project-specific SWPPP (see Section 3.14, Water
9 Quality, Sediments, and Oceanography, for more information).

10 **CEQA Impact Determination**

11 Implementation of construction standards, including BMPs, would minimize the
12 potential for an accidental release of petroleum products and/or hazardous materials
13 and/or explosion during construction activities at Berths 97-109. Because
14 construction-related spills are not uncommon, the probability of a spill occurring is
15 classified as “frequent” (more than once a year). However, because such spills are
16 typically short-term and localized, mainly due to the fact that the volume in any
17 single vehicle is generally less than 50 gallons and fuel trucks are limited to
18 10,000 gallons or less, the potential consequence of such accidents is classified as
19 “slight” resulting in a Risk Code of 4, which is “acceptable.” Therefore, under
20 CEQA, construction activities associated with Alternative 4 would not substantially
21 increase the probable frequency and severity of consequences to people or property
22 as a result of an accidental release or explosion of a hazardous substance. Based on
23 criterion **RISK-1**, impacts under CEQA would be less than significant.

24 *Mitigation Measures*

25 No mitigation is required.

26 *Residual Impacts*

27 With no mitigation required, the residual impacts would be less than significant.

28 **NEPA Impact Determination**

29 Under Alternative 4 in-water construction impacts would be similar to, but slightly
30 less than those described for the proposed Project, because the Berth 100 wharf
31 extension would not occur under this alternative. Alternative 4 would include
32 construction of new wharves, dikes, and backland areas, which would result in
33 increased susceptibility to hazardous materials spills during construction.
34 Implementation of construction standards, including BMPs, would minimize the
35 potential for an accidental release of hazardous materials and/or explosion during
36 in-water and upland construction activities at Berths 97-109. Because construction-
37 related spills are not uncommon, the probability of a spill occurring is classified as
38 “frequent” (more than once a year). However, because such spills are typically short-
39 term and localized, the potential consequence of such accidents is classified as
40 “slight” resulting in a Risk Code of 4, which is “acceptable.” Therefore, under
41 NEPA, construction activities associated with Alternative 4 would not substantially
42 increase the probable frequency and severity of consequences to people or property
43 as a result of an accidental release or explosion of a hazardous substance. Based on
44 risk criterion **RISK-1**, impacts under NEPA would be less than significant.

1 *Mitigation Measures*

2 No mitigation is required.

3 *Residual Impacts*

4 With no mitigation required, the residual impacts would be less than significant.

5 **Impact RISK-2a: Construction/demolition activities would not**
6 **substantially increase the probable frequency and severity of**
7 **consequences to people from exposure to health hazards.**

8 Risk of upset impacts during construction would remain basically the same, but slightly
9 reduced compared to those described for the proposed Project. Under this alternative, the
10 proposed extension to Berth 102 would be constructed. Consequently, the potential for
11 construction equipment to spill oil, gas, or fluids during normal usage or during refueling
12 would be reduced. Therefore, this alternative would reduce the potential for an accidental
13 release of hazardous materials and/or contamination of soil or water and would reduce the
14 potential for an accidental release from a fire or explosion during construction activities.

15 Construction activities would be conducted using BMPs and in accordance with the
16 Los Angeles Municipal Code (Chapter 5, Section 57, Division 4 and 5; Chapter 6,
17 Article 4). Quantities of hazardous materials that exceed the thresholds provided in
18 Chapter 6.95 of the California Health and Safety Code would be subject to an RRP and
19 HMI. Implementation of increased inventory accountability and spill prevention controls
20 associated with this RRP and HMI, such as limiting the types of materials stored and size
21 of packages containing hazardous materials, would limit both the frequency and severity
22 of potential releases of hazardous materials, thus minimizing potential health hazards
23 and/or contamination of soil or water during construction activities. These measures
24 reduce the frequency and consequences of spills by requiring proper packaging for the
25 material being shipped, limits on package size, and thus potential spill size, as well as
26 proper response measures for the materials being handled. Impacts from contamination
27 of soil or water during construction activities would apply to not only construction
28 personnel, but to people and property occupying operational portions of the Project area,
29 as Berth 97-109 terminal would be operating during construction activities.

30 **CEQA Impact Determination**

31 Several standard policies regulate the storage of hazardous materials including the
32 types of materials, size of packages containing hazardous materials, and the
33 separation of containers containing hazardous materials. These measures reduce the
34 frequency and consequences of spills by requiring proper packaging for the material
35 being shipped, limits on package size, and thus potential spill size, as well as proper
36 response measures for the materials being handled. Implementation of these
37 preventative measures would minimize the potential for spills to affect members of
38 the public and limit the adverse impacts of contamination to a relatively small area.
39 Because construction-related spills are not uncommon, the probability of a spill
40 occurring is classified as “frequent” (more than once a year). However, because such
41 spills are typically short term and localized, the potential consequence of such
42 accidents is classified as “slight” resulting in a Risk Code of 4, which is “acceptable.”
43 Therefore, under CEQA, construction activities at Berths 97-109 would not
44 substantially increase the probable frequency and severity of consequences to people
45 from exposure to health hazards. Based on risk criterion **RISK-2**, impacts under
46 CEQA from Alternative 4 would be less than significant.

1 *Mitigation Measures*

2 No mitigation is required.

3 *Residual Impacts*

4 With no mitigation required, the residual impacts would be less than significant.

5 **NEPA Impact Determination**

6 Under Alternative 4, in-water and upland construction impacts would be similar to,
7 but slightly less than those described for the proposed Project. Reduced impacts
8 include reduced potential for accidental releases or explosion of petroleum products or
9 a hazardous substance and reduced potential for exposure of personnel to health
10 hazards.

11 Alternative 4 would include construction of new wharves, dikes, and backland areas,
12 which would result in increased susceptibility to hazardous materials spills during
13 construction. Several standard policies regulate the storage of hazardous materials
14 including the types of materials, size of packages containing hazardous materials, and
15 the separation of containers containing hazardous materials. These measures reduce
16 the frequency and consequences of spills by requiring proper packaging for the
17 material being shipped, limits on package size, and thus potential spill size, as well as
18 proper response measures for the materials being handled. Implementation of these
19 preventative measures would minimize the potential for spills to affect members of
20 the public and limit the potential adverse impacts of contamination to a relatively
21 small area. Therefore, under NEPA, construction activities at Berths 97-109 would
22 not substantially increase the probable frequency and severity of consequences to
23 people from exposure to health hazards. Impacts under NEPA from Alternative 4
24 would be less than significant.

25 *Mitigation Measures*

26 No mitigation is required.

27 *Residual Impacts*

28 With no mitigation required, the residual impacts would be less than significant.

29 **Impact RISK-3a: Construction/demolition activities would not**
30 **substantially interfere with an existing emergency response or**
31 **evacuation plan or increase the risk of injury or death.**

32 Emergency response and evacuation planning is the responsibility of the LAPD, LAFD,
33 Port Police, and USCG. Construction activities would be subject to emergency response
34 and evacuation systems implemented by LAFD. During construction activities, the
35 LAFD would require that adequate vehicular access to the site be provided and
36 maintained. Prior to commencement of construction activities, all plans would be
37 reviewed by the LAFD to ensure adequate access is maintained throughout
38 construction/demolition.

39 **CEQA Impact Determination**

40 Alternative 4 contractors would be required to adhere to all LAFD emergency
41 response and evacuation regulations, ensuring compliance with existing emergency
42 response plans. Therefore, under CEQA, construction activities associated with

1 Alternative 4 would not substantially interfere with an existing emergency response
2 or evacuation plan or increase risk of injury or death. Based on risk criterion **RISK-3**,
3 impacts under CEQA would be less than significant.

4 *Mitigation Measures*

5 No mitigation is required.

6 *Residual Impacts*

7 With no mitigation required, the residual impacts would be less than significant.

8 **NEPA Impact Determination**

9 Alternative 4 contractors would be required to adhere to all LAFD emergency
10 response and evacuation regulations, ensuring compliance with existing emergency
11 response plans. Therefore, under NEPA, construction activities associated with
12 Alternative 4 would not substantially interfere with an existing emergency response
13 or evacuation plan or increase the risk of injury or death. Based on risk criterion
14 **RISK-3**, impacts under NEPA would be less than significant.

15 *Mitigation Measures*

16 No mitigation is required.

17 *Residual Impacts*

18 With no mitigation required, the residual impacts would be less than significant.

19 **Impact RISK-4a: Alternative 4 construction/demolition would comply** 20 **with applicable regulations and policies guiding development in the** 21 **Port.**

22 As described in Section 3.8.3.1, List of Regulations, Alternative 4 would be subject to
23 numerous regulations for development and operation of the proposed facilities. For
24 example, construction and demolition would be completed in accordance with RCRA,
25 HSWA, CERCLA, CCR Title 22 and Title 26, and the California Hazardous Waste
26 Control Law, which would govern proper containment, spill control, and disposal of
27 hazardous waste generated during demolition and construction activities. Implementation
28 of increased inventory accountability, spill prevention controls, and waste disposal
29 controls associated with these regulations would limit both the frequency and severity of
30 potential releases of hazardous materials.

31 Potential releases of hazardous substances during demolition and/or construction would
32 be addressed through the federal Emergency Planning and Right-to-Know Act, which is
33 administered in California by the SERC, and the Hazardous Material Release Response
34 Plans and Inventory Law. In addition, demolition and construction would be completed
35 in accordance with the Los Angeles Municipal Fire Code, which regulates the
36 construction of buildings and other structures used to store flammable hazardous
37 materials, and the Los Angeles Municipal Public Property Code, which regulates the
38 discharge of materials into the sanitary sewer and storm drain. The latter requires the
39 construction of spill-containment structures to prevent the entry of forbidden materials,
40 such as hazardous materials, into sanitary sewers and storm drains. LAHD maintains
41 compliance with these federal, state, and local laws through a variety of methods,
42 including internal compliance reviews, preparation of regulatory plans, and agency
43 oversight. LAHD has implemented various plans and programs to ensure compliance

1 with these regulations. These regulations must be adhered to during design and
2 construction of Alternative 4. Implementation of increased spill prevention controls, spill
3 release notification requirements, and waste disposal controls associated with these
4 regulations would limit both the frequency and severity of potential releases of hazardous
5 materials.

6 Construction/demolition activities would be conducted using BMPs in accordance with
7 City guidelines, as detailed in the Development Best Management Practices Handbook
8 (City of Los Angeles, 2002). Applicable BMPs include, but are not limited to, vehicle
9 and equipment fueling and maintenance; material delivery, storage, and use; spill
10 prevention and control; solid and hazardous waste management; and contaminated soil
11 management. Alternative 4 plans and specifications will be reviewed by the LAFD for
12 conformance to the Los Angeles Municipal Fire Code, as a standard practice.
13 Implementation of increased spill prevention controls associated with these BMPs would
14 limit both the frequency and severity of potential releases of hazardous materials.

15 **CEQA Impact Determination**

16 Because Alternative 4 construction would be completed using standard BMPs and in
17 accordance with LAHD plans and programs, LAFD regulations, and all hazardous
18 waste laws and regulations, impacts relating to compliance with applicable
19 regulations and policies guiding development in the Port would be less than
20 significant under CEQA under criterion **RISK-4**.

21 *Mitigation Measures*

22 No mitigation is required.

23 *Residual Impacts*

24 With no mitigation required, the residual impacts would be less than significant under
25 CEQA.

26 **NEPA Impact Determination**

27 Because Alternative 4 construction would be completed using standard BMPs and in
28 accordance with LAHD plans and programs, LAFD regulations, and all hazardous
29 waste laws and regulations, impacts under NEPA relating to compliance with
30 applicable regulations and policies guiding development in the Port would be less
31 than significant under criterion **RISK-4**.

32 *Mitigation Measures*

33 No mitigation is required.

34 *Residual Impacts*

35 With no mitigation required, the residual impacts would be less than significant.

36 **Impact RISK-5a: Tsunami-induced flooding and seismic events** 37 **would result in fuel releases from demolition/construction equipment** 38 **or hazardous substances releases from containers, which in turn** 39 **would result in risks to persons and/or the environment.**

40 As discussed in Section 3.5, there is the potential for a major or great earthquake or large
41 tsunami to affect the Port. Either event would likely lead to a fuel spill from demolition

1 and/or construction equipment, as well as from containers of petroleum products and
2 hazardous substances used during the demolition/construction period. Unfinished
3 structures are especially vulnerable to damage from earthquakes and tsunamis during the
4 construction period.

5 The Port is subject to diurnal tides, meaning two high tides and two low tides during a
6 24-hour day. The average of the lowest water level during low tide periods each day is
7 typically set as a benchmark of 0 feet and is defined as MLLW. For purposes of this
8 discussion, all Alternative 4 structures and land surfaces are expressed as height above
9 (or below) MLLW. The msl in the Port is +2.8 feet above MLLW (NOAA, 2005). This
10 height reflects the arithmetic mean of hourly heights observed over the National Tidal
11 Datum Epoch (19 years) and, therefore, reflects the mean of both high and low tides in
12 the Port. The recently developed Port Complex model described in Section 3.5.2 predicts
13 tsunami wave heights with respect to msl, rather than MLLW and, therefore, can be
14 considered a reasonable average condition under which a tsunami might occur. The Port
15 msl of +2.8 feet must be considered in comparing projected tsunami run-up (i.e., amount
16 of wharf overtopping and flooding) to proposed wharf height and topographic elevations,
17 which are measured with respect to MLLW.

18 A reasonably foreseeable scenario for generation of a tsunami or seiche in the San Pedro
19 Bay Ports include the recently developed Port Complex model, which predicts tsunami
20 wave heights of 1.3 to 5.3 feet above msl at the Alternative 2 site, under both earthquake
21 and landslide scenarios. Incorporating the Port msl of +2.8 feet, the model predicts
22 tsunami wave heights of 4.1 to 8.1 feet above MLLW at the Alternative 4 site. Because
23 the Alternative 4 site elevation ranges from 10 to 15 feet above MLLW, localized
24 tsunami-induced flooding would not occur.

25 While the analysis above considers the greatest reasonably foreseeable seismic risk based
26 on a maximum seismic event, with respect to msl, a theoretical maximum worst-case
27 wave action from a tsunami would result if the single highest tide predicted over the next
28 40 years at the San Pedro Bay Ports coincided with the seismic event. The single highest
29 tide predicted over the next 40 years is 7.3 feet above MLLW. This condition is expected
30 to occur less than 1 percent of the time over this 40-year period. If that very rare
31 condition were to coincide with a maximum tsunami event, the model predicts tsunami
32 wave heights of 8.6 to 12.6 feet above MLLW at the Alternative 4 site. Because the
33 Alternative 4 site elevation ranges from 10 to 15 feet above MLLW, localized tsunami-
34 induced flooding up to 2.6 feet is possible. To determine the extent of potential impacts
35 due to tsunami-induced flooding, Port structural engineers have determined that Port
36 reinforced concrete or steel structures designed to meet California earthquake protocols
37 incorporated into MOTEMS would be expected to survive complete inundation in the
38 event of a tsunami (pers. comm., Yin, 2006). However, substantial infrastructure damage
39 and/or injury to personnel would occur as a result of complete site inundation.

40 As previously discussed, there is a potential for tsunami-induced flooding under the
41 theoretical maximum worst-case scenario. However, the likelihood of a large tsunami is
42 very low during construction of Alternative 4 and the overall probability of this worst-
43 case scenario is less than 1 in a 100,000-year period.

44 The most likely worst-case tsunami scenario was based partially on a magnitude
45 7.6 earthquake on the offshore Santa Catalina fault. The recurrence interval for a
46 magnitude 7.5 earthquake along an offshore fault in the Southern California Continental
47 Borderland is about 10,000 years. Similarly, the recurrence interval of a magnitude
48 7.0 earthquake is about 5,000 years and the recurrence interval of a magnitude

1 6.0 earthquake is about 500 years. However, there is no certainty that any of these
2 earthquake events would result in a tsunami, since only about 10 percent of earthquakes
3 worldwide result in a tsunami. In addition, available evidence indicates that
4 tsunamigenic landslides would be extremely infrequent and occur less often than large
5 earthquakes. This suggests recurrence intervals for such landslide events would be
6 longer than the 10,000-year recurrence interval estimated for a magnitude 7.5 earthquake
7 (Moffatt and Nichol, 2007). As noted above, the probability of the worst-case
8 combination of a large tsunami and extremely high tides would be less than once in a
9 100,000-year period.

10 **CEQA Impact Determination**

11 Impacts due to major or great earthquakes and seismically induced tsunamis and
12 seiches are typical for the entire California coastline and would not be increased by
13 construction of Alternative 4. However, because the Alternative 4 site elevation is
14 located within 10 to 15 feet above MLLW and projects in the construction phase are
15 especially vulnerable to tsunami damage due to the presence of unfinished structures,
16 there is a substantial risk of coastal flooding due to tsunamis and seiches, which in
17 turn, could result in accidental spills of petroleum products or hazardous substances.
18 Because a major tsunami is not expected during the life of Alternative 4, but could
19 occur (see Section 3.5, Geology, for additional information on the probability of a
20 major tsunami), the probability of a major tsunami occurring is classified as
21 “improbable” (less than once every 10,000 years). The potential consequence of
22 such an event is classified as “moderate,” resulting in a Risk Code of 4, which is
23 “acceptable.” The volume of spilled fuel is also expected to be relatively low. While
24 there will be fuel-containing equipment present during construction, most equipment
25 is equipped with watertight tanks, with the most likely scenario being the infiltration
26 of water into the tank and fuel combustion chambers and very little fuel spilled. Thus,
27 the volume spilled in the event of a tsunami would be less than 10,000 gallons, which
28 is considered “slight.” In light of such a low probability and acceptable risk of a
29 large tsunami or other seismic risk, impacts under CEQA associated with
30 Alternative 4 would be less than significant as they pertain to hazardous materials
31 spills under criterion **RISK-5**.

32 *Mitigation Measures*

33 No mitigation is required.

34 *Residual Impacts*

35 With no mitigation required, the residual impacts would be less than significant.

36 **NEPA Impact Determination**

37 Impacts due to major or great earthquakes and seismically induced tsunamis and
38 seiches are typical for the entire California coastline and would not be increased by
39 construction of Alternative 4. However, because the Project site elevation is located
40 within 10 to 15 feet above MLLW and projects in the construction phase are
41 especially vulnerable to tsunami damage due to the presence of unfinished structures,
42 there is a substantial risk of coastal flooding due to tsunamis and seiches, which in
43 turn, could result in accidental spills of petroleum products or hazardous substances.
44 Because a major tsunami is not expected during the life of Alternative 4, but could
45 occur (see Section 3.5, Geology, for additional information on the probability of a
46 major tsunami), the probability of a major tsunami occurring is classified as

1 “improbable” (less than once every 10,000 years). The potential consequence of
2 such an event is classified as “slight,” resulting in a Risk Code of 4, which is
3 “acceptable.” In light of such a low probability and acceptable risk of a large
4 tsunami or other seismic risk, impacts under NEPA associated with Alternative 4
5 would be less than significant under criterion **RISK-5**.

6 *Mitigation Measures*

7 No mitigation is required.

8 *Residual Impacts*

9 With no mitigation required, the residual impacts would be less than significant.

10 **Impact RISK-6a: A potential terrorist attack would result in adverse** 11 **consequences to areas near the Alternative 4 site during the** 12 **construction period.**

13 **Risk of Terrorist Actions during Construction**

14 The probability of a terrorist attack on Alternative 4 facilities is not likely to appreciably
15 change during construction compared to baseline conditions. It is possible that the
16 increase in construction vessel traffic in the vicinity of the Berth 97-109 terminal could
17 lead to a greater opportunity of a successful terrorist attack; however, existing Port
18 security measures would counter this potential increase in unauthorized access to the
19 terminal. The Berth 97-109 terminal would be operational during the construction period;
20 therefore, risks associated with terrorism during operations will also apply to the terminal
21 during the construction period.

22 **Consequences of Terrorist Attack during Construction**

23 During construction, a terrorist action could block key road access points and waterways
24 and result in economic disruption. Potential environmental damage would include fuel
25 and/or commodity spills into the marine environment, with associated degradation of
26 water quality and damage to marine biological resources. Container ships typically carry
27 up to 5,000 barrels of fuel oil but would not be full when arriving at the port. These
28 impacts would be limited to the area surrounding the point of attack and would be
29 contained by the relevant oil spill response contractor. A potential fire associated with a
30 terrorist attack could result in short-term impacts to local air quality.

31 **CEQA Impact Determination**

32 Access to the terminal site during construction could occur by land, water, and/or air.
33 However, existing Port security measures would counter any potential increase in
34 unauthorized access to the terminal site through the use of vehicles or vessels. The
35 potential for a terrorist attack that would result in adverse consequences to areas near
36 the proposed terminal site during the construction period is considered improbable
37 and the consequences could be moderate. This combination would result in a Risk
38 Code of 4 that is “acceptable,” and impacts would be less than significant under
39 criterion **RISK-6**.

1 *Mitigation Measures*
2 Because terrorism impacts are less than significant, no mitigation is required.

3 *Residual Impacts*
4 With no mitigation required, residual impacts would be less than significant.

5 **NEPA Impact Determination**

6 Impacts under NEPA would be less than significant as defined in the CEQA
7 determination for Alternative 4 above.

8 *Mitigation Measures*
9 Because terrorism impacts are less than significant, no mitigation is required.

10 *Residual Impacts*
11 With no mitigation required, residual impacts would be less than significant.

12 **3.8.4.3.2.4.2 Operational Impacts**

13 **Impact RISK-1b: Berth 97-109 terminal operations would not**
14 **increase the probable frequency and severity of consequences to**
15 **people or property as a result of accidental release or explosion of a**
16 **hazardous substance.**

17 As of 2001 (CEQA baseline), the Berth 97-109 terminal handled approximately
18 45,135 TEUs per year. Berth 97-109 terminal operations under Alternative 4 could
19 handle approximately 1,392,000 TEUs per year when optimized and functioning at
20 maximum capacity (in 2025).

21 Throughput of 1,392,000 TEUs per year in association with Alternative 4, when
22 functioning at maximum capacity, would equate to just over a 30-fold increase in
23 throughput capacity over CEQA baseline. Terminal operations would be subject to
24 safety regulations that govern the shipping, transport, storage and handling of hazardous
25 materials, which would limit the severity and frequency of potential releases of hazardous
26 materials resulting in increased exposure of people to health hazards (i.e., Port RMP,
27 USCG, and LAFD regulations and requirements, and DOT regulations). For example, as
28 discussed in Section 3.8.3.1, List of Regulations, and summarized below, the USCG
29 maintains a HMSD, under the jurisdiction of the federal Department of Homeland
30 Security (33 CFR 126), which develops standards and industry guidance to promote the
31 safety of life and protection of property and the environment during marine transportation
32 of hazardous materials. In addition, the DOT Hazardous Materials Regulations (Title 49
33 CFR Parts 100-185) regulate almost all aspects of terminal operations. Parts 172
34 (Emergency Response), 173 (Packaging Requirements), 174 (Rail Transportation),
35 176 (Vessel Transportation), 177 (Highway Transportation), 178 (Packaging
36 Specifications), and 180 (Packaging Maintenance) would all apply to Alternative 4
37 activities.

1 Terminal maintenance activities would involve the use of hazardous materials such as
2 petroleum products, solvents, paints, and cleaners. Quantities of hazardous materials that
3 exceed the thresholds provided in Chapter 6.95 of the California Health and Safety Code
4 would be subject to as RRP and HMI. Implementation of increased inventory
5 accountability and spill prevention controls associated with this RRP and HMI would
6 limit both the frequency and severity of potential releases of hazardous materials. Based
7 on the limited volumes that could potentially spill, quantities of hazardous materials used
8 at Berths 97-109 that are below the thresholds of Chapter 6.95 would not likely result in a
9 substantial release into the environment.

10 Terminal cargo operations involving hazardous materials are also governed by the LAFD
11 in accordance with regulations of state and federal departments of transportation
12 (49 CFR 176). The transport of hazardous materials in containers on the street and
13 highway system is regulated by Caltrans procedures and the Standardized Emergency
14 Management System prescribed under Section 8607 of the California Government Code.
15 These safety regulations strictly govern the storage of hazardous materials in containers
16 (i.e., types of materials and size of packages containing hazardous materials).
17 Implementation of increased hazardous materials inventory control and spill prevention
18 controls associated with these regulations would limit both the frequency and severity of
19 potential releases of hazardous materials.

20 **CEQA Impact Determination**

21 Because projected terminal operations under Alternative 4 would accommodate
22 approximately a 30-fold increase in containerized cargo compared to the CEQA
23 baseline, the potential for an accidental release or explosion of hazardous materials
24 would also be expected to increase proportionally. During the period 1997-2004
25 there were 40 hazardous material spills directly associated with container terminals in
26 the Ports of Los Angeles and Long Beach. This equates to approximately five spills
27 per year for the entire port complex. During this period, the total throughput of the
28 container terminals was 76,874,841 TEU. Therefore, the probability of a spill at a
29 container terminal can be estimated at 5.2×10^{-7} per TEU (40 spills divided by
30 76,874,841 TEU). This spill probability conservatively represents the baseline
31 hazardous material spill probability since it include materials that would not be
32 considered a risk to public safety (e.g., perfume spills), but would still be considered
33 an environmental hazard. The probability of spills associated with future operations
34 would be based on the spill probability per TEU times the increase in TEUs under
35 Alternative 4.

36 It should be noted, with respect to hazardous material spills, that during this period
37 there were no reported impacts to the public (injuries, fatalities and evacuations),
38 with potential consequences limited to port workers (two worker injuries that were
39 treated at the scene and 20 workers evaluated as a precaution).

40 Based on the accident history at the Port of containers containing hazardous materials,
41 which includes 40 incidents over an 8-year period in the entire port complex (Ports of
42 Los Angeles and Long Beach), the frequency of Project-related spills can be
43 estimated as shown in Table 3.8-15.

Table 3.8-15. Alternative 4: Existing and Projected Cargo Throughput Volumes at Berths 97-109

Operations	Overall Throughput (TEUs)	Increase in TEUs over CEQA Baseline (times or multiples)	Potential Spills (per year)
Port Baseline (2005)	7,484,624	NA	3.9
CEQA Project Baseline (2001)	45,135	NA	0.02
Alternative 4 (2030)	1,392,000	30.8 times	0.72

Note:
TEU = twenty-foot equivalent unit

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Based on the projected increase in TEUs, the frequency of potential Alternative 4-related spills would increase from 0.02 to 0.72 spills per year, or about one spill per year. This spill frequency would be classified as “periodic” (between once per year and once in 10 years). Because, based on history, a slight possibility exists for injury and or property damage to occur during one of these frequent accidents, the consequence of such accidents is classified as “slight,” resulting in a Risk Code of 4, which is “acceptable.” It should be noted that there were no impacts to the public from any of the hazardous materials spills that were reported during the 1997-2004 period. Compliance with applicable federal, state, and local laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills, as described above, would minimize the potentials for adverse public health impacts. Therefore, under CEQA, Alternative 4 operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of an accidental release or explosion of a hazardous substance. Impacts under CEQA would be less than significant under criterion **RISK-1**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Because Alternative 4 would result in greater container throughput compared to the NEPA baseline, operational impacts would correspondingly be greater. An overall increase in TEUs would result in proportionally greater hazardous materials containers subject to accidental release or explosion as shown in Table 3.8-16.

Table 3.8-16. Alternative 4: Existing and Projected Cargo Throughput Volumes at Berths 97-109

Operations	Overall Throughput (TEUs)	Increase in TEUs over NEPA Baseline (percent)	Potential Spills (per year)
Port Baseline (2005)	7,484,624	NA	3.9
NEPA Project Baseline (2030)	632,500	NA	0.33
Alternative 4 (2030)	1,392,000	120%	0.72

Note:
TEU = twenty-foot equivalent unit

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Based on the projected increase in TEUs, the frequency of Alternative 4-related spills would increase from 0.33 to 0.73 spills per year, or remain about one spill per year. This spill frequency would be classified as “frequent” (more than once a year). Because, based on history, a slight possibility exists for injury and or property damage to occur during one of these frequent accidents, the potential consequence of such accidents is classified as “slight,” resulting in a Risk Code of 4, which is “acceptable.” It should be noted that there were no impacts to the public from any of the hazardous materials spills that were reported during the 1997-2004 period. Compliance with applicable federal, state, and local laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills, as described above, would minimize the potentials for adverse public health impacts. Therefore, under NEPA, Alternative 4 operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of a potential accidental release or explosion of a hazardous substance. Impacts under NEPA would be less than significant under criterion **RISK-1**.

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Mitigation Measures

18

No mitigation is required.

19

Residual Impacts

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With no mitigation required, the residual impacts would be less than significant.

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Impact RISK-2b: Alternative 4 operations would not substantially increase the probable frequency and severity of consequences to people or property from exposure to health hazards.

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Alternative 4 would include siting facilities that would potentially handle hazardous materials and increase other hazards to the public. The handling and storing of increased quantities of hazardous materials would increase the probability of a local accident involving a release, spill, fire or explosion, which is proportional to the size of the terminal and its throughput as was addressed in Impact Risk 1b.

1 Because projected terminal operations at Berths 97-109 would accommodate
 2 approximately a 30-fold increase in containerized cargo compared to the CEQA baseline,
 3 the potential for increased truck transportation-related accidents would also occur.
 4 Potential alternative-related increases in truck trips could result in an increase in
 5 vehicular accidents, injuries, and fatalities. Therefore, the potential impact of increased
 6 truck traffic on regional injury and fatality rates have been evaluated.

7 According to an FMCSA detailed analysis (FMCSA, 2001), the estimated nonhazardous
 8 materials truck accident rate is more than twice the hazardous materials truck accident
 9 rate. The nonhazardous materials truck accident rate was estimated to be 0.73 accidents
 10 per million vehicle miles and the average hazardous materials truck accident rate was
 11 estimated to be 0.32 accidents per million vehicle miles. The hazardous materials truck
 12 accident rate is not directly applicable to the alternative Project container trucks since
 13 they are generally limited to bulk hazardous materials carriers. Therefore, for this
 14 analysis, the higher accident rate associated with nonhazardous materials trucks was used.

15 Based on the NHTSA (DOT, 2003), of the estimated 457,000 truck crashes in 2000
 16 (causing fatalities, injuries, or property damage), an estimated 1 percent produced
 17 fatalities and 22 percent produced injuries. The FARS and the TIFA survey were the
 18 sources of data for this analysis, which primarily examined fatalities associated with
 19 vehicle impact and trauma.

20 Based on these statistics and the projected truck trips for the existing facilities and
 21 Alternative 4, the potential rate of truck accidents, injuries, and fatalities can be estimated
 22 and evaluated.

23 **CEQA Impact Determination**

24 Potential alternative-related truck accident rates can be estimated based on national
 25 average accident rates and the average number of miles per cargo truck trip. Based on
 26 the air pollutant emission inventory of the Port, it was determined that the average truck
 27 trip was approximately 49 miles (Starcrest Consulting Group, 2003). Given the annual
 28 number of truck trips, the average distance of each trip, and the published accident,
 29 injury and fatality rates, probabilities were estimated as shown in Table 3.8-17.

Table 3.8-17. Alternative 4: Existing and Projected Truck Trips at Berths 97-109

Operations	Annual Truck Trips	Increase over CEQA Baseline (%)	Accident Rate (per year)	Injury Probability (per year)	Fatality Probability (per year)
CEQA Baseline (2001)	0	NA	0.0	0.0	0.0
Alternative 4 (2030)	1,218,722	NA	43.6	9.6	0.4

30
 31 Because the occurrence of truck accidents associated with Berths 97-109 occur at a
 32 frequency greater than one per year, truck accidents are considered a “frequent” event.
 33 Because the possibility exists for injury and/or fatality to occur during one of these
 34 frequent accidents as noted in Table 3.8-17, the consequence of such accidents is
 35 classified as “severe,” resulting in a Risk Code of 2. An impact with a Risk Code
 36 of 2 is classed as significant and requires additional engineering or administrative
 37 controls to mitigate the potentially significant adverse impacts.

1 The Port is currently developing a port-wide TMP for roadways in and around its
 2 facilities. Present and future traffic improvement needs are being determined based
 3 on existing and projected traffic volumes. The results will be a TMP providing ideas
 4 on what to expect and how to prepare for future traffic volumes. Some of the
 5 transportation improvements already under consideration include: I-110/SR-47/
 6 Harbor Boulevard interchange improvements; Navy Way connector (grade separation)
 7 to westbound Seaside Avenue; south Wilmington grade separations; and additional
 8 traffic capacity analysis for the Vincent Thomas Bridge. In addition, the Port is
 9 working on several strategies to increase rail transport, which will reduce reliance on
 10 trucks. These projects would serve to reduce the frequency of truck accidents.

11 The Port also is currently phasing out older trucks as part of its Clean Truck Program,
 12 and the TWIC program will help identify and exclude truck drivers that lack the
 13 proper licensing and training. The phasing out of older trucks would reduce the
 14 probability of accidents that occur as a result of mechanical failure by approximately
 15 10 percent (ADL, 1990). In addition, proper driver training, or more specifically, the
 16 reduction in the number of drivers that do not meet minimum training specifications,
 17 would further reduce potential accidents by approximately 30 percent. The potential
 18 number of injuries would be reduced to approximately 6.0, which would reduce the
 19 consequence classification to “moderate” and a Risk Code to 3 or less. Therefore,
 20 Alternative 4 operations would not substantially increase the probable frequency and
 21 severity of consequences to people from exposure to health hazards and potential
 22 impacts under CEQA would be considered less than significant

23 *Mitigation Measures*

24 No mitigation is required.

25 *Residual Impacts*

26 With no mitigation required, the residual impacts would be less than significant under
 27 CEQA

28 **NEPA Impact Determination**

29 Alternative 4 would result in construction of new wharves, dikes, and backland areas,
 30 which would result in an increase in TEUs and truck trips, in comparison to the
 31 NEPA baseline, as described under the NEPA Impact Determination for **Impact**
 32 **RISK 1b**. Given the annual number of truck trips, the average distance of each trip,
 33 and the published accident, injury and fatality rates, probabilities were estimated as
 34 shown in Table 3.8-18.

Table 3.8-18. Alternative 4: Existing and Projected Truck Trips at Berths 97-109

Operations	Annual Truck Trips	Increase over NEPA Baseline (%)	Accident Rate (per year)	Injury Probability (per year)	Fatality Probability (per year)
NEPA Baseline (2030)	0	NA	0.0	0.0	0.0
Alternative 4 (2030)	1,218,722	NA	43.6	9.6	0.5

35
 36 Because the occurrence of truck accidents associated with Berths 97-109 occur at a
 37 frequency greater than one per year, truck accidents are considered a “frequent” event.

1 Because the possibility exists for injury and/or fatality to occur during one of these
2 frequent accidents as noted in Table 3.8-18, the consequence of such accidents is
3 classified as “severe,” resulting in a Risk Code of 2. An impact with a Risk Code
4 of 2 is classed as significant and requires additional engineering or administrative
5 controls to mitigate the potentially significant adverse impacts.

6 The Port is currently developing a port-wide TMP for roadways in and around its
7 facilities. Present and future traffic improvement needs are being determined based
8 on existing and projected traffic volumes. The results will be a TMP providing ideas
9 on what to expect and how to prepare for future traffic volumes. Some of the
10 transportation improvements already under consideration include: I-110/SR-47/
11 Harbor Boulevard interchange improvements; Navy Way connector (grade separation)
12 to westbound Seaside Avenue; south Wilmington grade separations; and additional
13 traffic capacity analysis for the Vincent Thomas Bridge. In addition, the Port is
14 working on several strategies to increase rail transport, which will reduce reliance on
15 trucks. These projects would serve to reduce the frequency of truck accidents.

16 The Port also is currently phasing out older trucks as part of its Clean Truck Program,
17 and the TWIC program will help identify and exclude truck drivers that lack the
18 proper licensing and training. The phasing out of older trucks would reduce the
19 probability of accidents that occur as a result of mechanical failure by approximately
20 10 percent (ADL, 1990). Proper driver training, or more specifically, the reduction in
21 the number of drivers that do not meet minimum training specifications, would
22 further reduce potential accidents by approximately 30 percent. The potential
23 number of injuries would be reduced to approximately 6.0, which would reduce the
24 consequence classification to “moderate” and a Risk Code to 3 or less. Therefore,
25 Alternative 4 operations would not substantially increase the probable frequency and
26 severity of consequences to people from exposure to health hazards and potential
27 impacts under NEPA would be considered less than significant

28 *Mitigation Measures*

29 No mitigation is required.

30 *Residual Impacts*

31 With no mitigation required, the residual impacts would be less than significant under
32 CEQA.

33 **Impact RISK-3b: Alternative 4 operations would not substantially** 34 **interfere with any existing emergency response plans or emergency** 35 **evacuation plans.**

36 Alternative 4 would optimize terminal operations by increasing backland capacity and
37 constructing new wharves and dikes to accommodate modern container terminal ships.
38 The Berth 97-109 terminal would continue to operate as a container terminal; therefore,
39 proposed terminal operations would not interfere with any existing contingency plans,
40 since the current activities are consistent with the contingency plans and the alternative
41 Project would not add any additional activities that would be inconsistent with these
42 plans. In addition, existing oil spill contingency and emergency response plans for the
43 site would be revised to incorporate proposed facility and operation changes. Because
44 existing management plans are commonly revised to incorporate terminal operation
45 changes, conflicts with existing contingency and emergency response plans are not
46 anticipated.

1 Berth 97-109 facilities personnel, including dock laborers and equipment operators,
2 would be trained in emergency response and evacuation procedures. The site would be
3 secured, with access allowed only to authorized personnel. The LAFD and Port Police
4 would be able to provide adequate emergency response services to the site. Additionally,
5 Alternative 4 operations would also be subject to emergency response and evacuation
6 systems implemented by the LAFD, which would review all plans to ensure that adequate
7 access in the Project vicinity is maintained. All Alternative 4 contractors would be
8 required to adhere to plan requirements.

9 **CEQA Impact Determination**

10 Alternative 4 operations would be operated as a container terminal similar to other
11 terminal facilities in the West Basin, and would be subject to emergency response
12 and evacuation systems implemented by the LAFD. Thus, Alternative 4 operations
13 would not interfere with any existing emergency response or emergency evacuation
14 plans or increase the risk of injury or death. Therefore, impacts would be less than
15 significant under CEQA.

16 *Mitigation Measures*

17 No mitigation is required.

18 *Residual Impacts*

19 With no mitigation required, the residual impacts would be less than significant under
20 CEQA.

21 **NEPA Impact Determination**

22 Alternative 4 operations would continue to be operated as a container terminal and
23 operations would be subject to emergency response and evacuation systems
24 implemented by the LAFD. Thus, Alternative 4 operations would not interfere with
25 any existing emergency response or emergency evacuation plans or increase the risk
26 of injury or death. Therefore, impacts would be less than significant under NEPA.

27 *Mitigation Measures*

28 No mitigation is required.

29 *Residual Impacts*

30 With no mitigation required, the residual impacts would be less than significant under
31 NEPA.

32 **Impact RISK-4b: Alternative 4 operations would comply with** 33 **applicable regulations and policies guiding development in the Port.**

34 Alternative 4 operations would be subject to numerous regulations for operation of the
35 proposed facilities. LAHD has implemented various plans and programs to ensure
36 compliance with these regulations, which must be adhered to during operation of this
37 alternative. For example, as discussed in Section 3.8.3.1, List of Regulations, the USCG
38 maintains a HMSD, under the jurisdiction of the federal Department of Homeland
39 Security (33 CFR 126), which develops standards and industry guidance to promote the
40 safety of life and protection of property and the environment during marine transportation
41 of hazardous materials.

1 Among other requirements, Alternative 4 operations would conform to the USCG
2 requirement to provide a segregated cargo area for containerized hazardous materials.
3 Terminal cargo operations involving hazardous materials are also governed by the LAFD
4 in accordance with regulations of state and federal departments of transportation
5 (49 CFR 176). The transport of hazardous materials in containers on the street and
6 highway system is regulated by Caltrans procedures and the Standardized Emergency
7 Management System prescribed under Section 8607 of the California Government Code.
8 These safety regulations strictly govern the storage of hazardous materials in containers
9 (i.e., types of materials and size of packages containing hazardous materials). In addition,
10 any facility constructed at the site, identified as either a hazardous cargo facility or a
11 vulnerable resource, would be required to conform to the RMP, which includes
12 packaging constraints and the provision of a separate storage area for hazardous cargo.

13 LAHD maintains compliance with these state and federal laws through a variety of
14 methods, including internal compliance reviews, preparation of regulatory plans, and
15 agency oversight. Most notably, the Port RMP implements development guidelines in an
16 effort to minimize the danger of accidents to vulnerable resources. This would be
17 achieved mainly through physical separation as well as through facility design features,
18 fire protection, and other risk management methods. There are two primary categories of
19 vulnerable resources, people, and facilities. People are further divided into subgroups.
20 The first subgroup is comprised of residences, recreational users, and visitors. Within the
21 Port setting, residences and recreational users are considered vulnerable resources. The
22 second subgroup is comprised of workers in high density (i.e., generally more than
23 10 people per acre, per employer).

24 Facilities that are vulnerable resources include Critical Regional Activities/Facilities and
25 High Value Facilities. Critical Regional Activities/Facilities are facilities in the Port that
26 are important to the local or regional economy, the national defense, or some major
27 aspect of commerce. These facilities typically have a large quantity of unique equipment,
28 a very large working population, and are critical to both the economy and to national
29 defense. Such facilities in the Port have been generally defined in the Port RMP as the
30 former Todd Shipyard, Fish Harbor, Badger Avenue Bridge, and Vincent Thomas Bridge.

31 High Value Facilities are nonhazardous facilities, in and near the Ports, which have very
32 high economic value. These facilities include both facility improvements and cargo
33 in-place, such as container storage areas. However, the determination of a vulnerable
34 resource is made by the Port and LAFD on a case-by-case basis. Although the Port
35 generally considers container terminals to be High Value Facilities, these types of
36 facilities have never been considered vulnerable resources in risk analyses completed by
37 the Port and LAFD (pers. comm., Knott, 2007). Because container terminals are not
38 considered vulnerable resources, this Alternative would not conflict with the RMP.

39 Alternative 4 plans and specifications will be reviewed by the LAFD for conformance to
40 the Los Angeles Municipal Fire Code, as a standard practice. Buildings will be equipped
41 with fire protection equipment as required by the Los Angeles Municipal Fire Code.
42 Access to all buildings and adequacy of road and fire lanes will be reviewed by the
43 LAFD to ensure that adequate access and firefighting features are provided. Plans would
44 include an internal circulation system, code-required features, and other firefighting
45 design elements, as approved by the LAFD.

46 Operation of Alternative 4 would be required to comply with all existing hazardous waste
47 laws and regulations, including the federal RCRA and CERCLA, and CCR Title 22 and
48 Title 26. Alternative 4 operations would comply with these laws and regulations, which

1 would ensure that potential hazardous materials handling would occur in an acceptable
2 manner.

3 **CEQA Impact Determination**

4 Alternative 4 operations would not conflict with RMP guidelines. Alternative 4 plans
5 and specifications will be reviewed by the LAFD for conformance to the Los Angeles
6 Municipal Fire Code, and operation of Alternative 4 would be required to comply
7 with all applicable existing hazardous waste laws and regulations. Therefore, under
8 CEQA, Alternative 4 operations would comply with applicable regulations and
9 policies guiding development in the Port. Impacts under CEQA would be less than
10 significant.

11 *Mitigation Measures*

12 No mitigation is required.

13 *Residual Impacts*

14 With no mitigation required, the residual impacts would be less than significant.

15 **NEPA Impact Determination**

16 Alternative 4 operations would not conflict with RMP guidelines. Alternative 4 plans
17 and specifications will be reviewed by the LAFD for conformance to the Los Angeles
18 Municipal Fire Code, and operation of Alternative 4 would be required to comply
19 with all applicable existing hazardous waste laws and regulations. Therefore, under
20 NEPA, Alternative 4 operations would comply with applicable regulations and
21 policies guiding development in the Port. Impacts under NEPA would be less than
22 significant.

23 *Mitigation Measures*

24 No mitigation is required.

25 *Residual Impacts*

26 With no mitigation required, the residual impacts would be less than significant.

27 **Impact RISK-5b: Tsunami-induced flooding and seismic events** 28 **would result in fuel releases from ships or hazardous substances** 29 **releases from containers, which in turn would result in risks to** 30 **persons and/or the environment.**

31 As discussed in Section 3.5, there is the potential for a large tsunami to affect the Port.
32 A large tsunami would likely lead to a fuel spill if a moored vessel is present. Although
33 crude oil tankers would not moor at Berths 97-109, each ship contains large quantities of
34 fuel oil. While in transit, the hazards posed to tankers are insignificant, and in most cases,
35 imperceptible. However, while docked, a tsunami striking the Port could cause
36 significant ship movement and even a hull breach if the ship is pushed against the wharf.

37 The Port is subject to diurnal tides, meaning two high tides and two low tides during a
38 24-hour day. The average of the lowest water level during low tide periods each day is
39 typically set as a benchmark of 0 feet and is defined as MLLW. For purposes of this
40 discussion, all proposed Project structures and land surfaces are expressed as height
41 above (or below) MLLW. The msl in the Port is +2.8 feet above MLLW (NOAA, 2005).

1 This height reflects the arithmetic mean of hourly heights observed over the National
2 Tidal Datum Epoch (19 years) and, therefore, reflects the mean of both high and low
3 tides in the Port. The recently developed Port Complex model described in Section 3.5.2
4 predicts tsunami wave heights with respect to msl, rather than MLLW and, therefore, can
5 be considered a reasonable average condition under which a tsunami might occur. The
6 Port msl of +2.8 feet must be considered in comparing projected tsunami run-up (i.e.,
7 amount of wharf overtopping and flooding) to proposed wharf height and topographic
8 elevations, which are measured with respect to MLLW.

9 A reasonably foreseeable scenario for generation of a tsunami or seiche in the San Pedro
10 Bay Ports include the recently developed Port Complex model, which predicts tsunami
11 wave heights of 1.3 to 5.3 feet above msl at the proposed Project site, under both
12 earthquake and landslide scenarios. Incorporating the Port msl of +2.8 feet, the model
13 predicts tsunami wave heights of 4.1 to 8.1 feet above MLLW at the proposed Project site.
14 Because the proposed Project site elevation ranges from 10 to 15 feet above MLLW,
15 localized tsunami-induced flooding would not occur.

16 While the analysis above considers the greatest reasonably foreseeable seismic risk based
17 on a maximum seismic event, with respect to msl, a theoretical maximum worst-case
18 wave action from a tsunami would result if the single highest tide predicted over the next
19 40 years at the San Pedro Bay Ports coincided with the seismic event. The single highest
20 tide predicted over the next 40 years is 7.3 feet above MLLW. This condition is expected
21 to occur less than 1 percent of the time over this 40-year period. If that very rare
22 condition were to coincide with a maximum tsunami event, the model predicts tsunami
23 wave heights of 8.6 to 12.6 feet above MLLW at the proposed Project site. Because the
24 proposed Project site elevation ranges from 10 to 15 feet above MLLW, localized
25 tsunami-induced flooding up to 2.6 feet is possible. To determine the extent of potential
26 impacts due to tsunami-induced flooding, Port structural engineers have determined that
27 Port reinforced concrete or steel structures designed to meet California earthquake
28 protocols incorporated into MOTEMS would be expected to survive complete inundation
29 in the event of a tsunami (pers. comm., Yin, 2006). However, substantial infrastructure
30 damage and/or injury to personnel would occur as a result of complete site inundation.

31 As previously discussed, there is a potential for tsunami-induced flooding under the
32 theoretical maximum worst-case scenario. However, the likelihood of a large tsunami is
33 very low during operation of the proposed Project and the overall probability of this
34 worst-case scenario is less than 1 in a 100,000-year period.

35 The most likely worst-case tsunami scenario was based partially on a magnitude
36 7.6 earthquake on the offshore Santa Catalina fault. The recurrence interval for a
37 magnitude 7.5 earthquake along an offshore fault in the Southern California Continental
38 Borderland is about 10,000 years. Similarly, the recurrence interval of a magnitude
39 7.0 earthquake is about 5,000 years and the recurrence interval of a magnitude
40 6.0 earthquake is about 500 years. However, there is no certainty that any of these
41 earthquake events would result in a tsunami, since only about 10 percent of earthquakes
42 worldwide result in a tsunami. In addition, available evidence indicates that
43 tsunamigenic landslides would be extremely infrequent and occur less often than large
44 earthquakes. This suggests recurrence intervals for such landslide events would be
45 longer than the 10,000-year recurrence interval estimated for a magnitude 7.5 earthquake
46 (Moffatt and Nichol, 2007). As noted above, the probability of the worst-case
47 combination of a large tsunami and extremely high tides would be less than once in a
48 100,000-year period.

1 Containers of hazardous substances on ships or on berths could similarly be damaged as a
2 result of a large tsunami. Such damage would result in releases of both hazardous and
3 nonhazardous cargo to the environment, adversely affecting persons and/or the marine
4 waters. However, containers carrying hazardous cargo would not necessarily release
5 their contents in the event of a large tsunami. The DOT regulations (49 CFR
6 Parts 172-180) covering hazardous material packaging and transportation would
7 minimize potential release volumes since packages must meet minimum integrity
8 specifications and size limitations.

9 The owner or operators of tanker vessels are required to have an approved Tank Vessel
10 Response Plan on board and a qualified individual in the U.S. with full authority to
11 implement removal actions in the event of an oil spill incident, and to contract with the
12 spill response organizations to carry out cleanup activities in case of a spill. The existing
13 oil spill response capabilities in the Port are sufficient to isolate spills with containment
14 booms and recover the maximum possible spill from an oil tanker.

15 Various studies have shown that double-hull tank vessels have lower probability of
16 releases when tanker vessels are involved in accidents. Because of these studies, the
17 USCG issued regulations addressing double-hull requirements for tanker vessels. The
18 regulations establish a timeline for eliminating single-hull vessels from operating in the
19 navigable waters or the EEZ of the United States after January 1, 2010, and double-
20 bottom or double-sided vessels by January 1, 2015. Only vessels equipped with a double
21 hull, or with an approved double containment system will be allowed to operate after
22 those times. It is unlikely that single-hull vessels will use the Alternative 4 terminal
23 facilities given the current schedule and the planned phase-out of these vessels.

24 CEQA Impact Determination

25 Designing new facilities based on existing building codes may not prevent substantial
26 damage to structures from coastal flooding as a result of tsunamis or seiches.
27 Impacts due to seismically induced tsunamis and seiches are typical for the entire
28 California coastline and would not be increased by construction of Alternative 4.
29 However, because the Alternative 4 elevation is located within 10 to 15 feet above
30 MLLW and projects in the construction phase are especially vulnerable to tsunami
31 damage due to the presence of unfinished structures, there is a substantial risk of
32 coastal flooding due to tsunamis and seiches, which in turn could result in accidental
33 spills of petroleum products or hazardous substances. Because a major tsunami is not
34 expected during the life of Alternative 4, but could occur (see Section 3.5, Geology,
35 for additional information on the probability of a major tsunami), the probability of a
36 major tsunami occurring is classified as “improbable” (less than once every
37 10,000 years). The potential consequence of such an event is classified as
38 “moderate,” resulting in a Risk Code of 4, which is “acceptable.” The volume of
39 spilled fuel is also expected to be relatively low. While there will be fuel containing
40 equipment present during construction, most equipment is equipped with watertight
41 tanks, with the main problem being the infiltration of water into the tank and fuel
42 combustion chambers. Thus, the volume spilled in the event of a tsunami would be
43 less than 10,000 gallons, which is considered minor. In light of such a low
44 probability and acceptable risk of a large tsunami or other seismic risk, impacts under
45 CEQA associated with Alternative 4 would be less than significant as they pertain to
46 hazardous materials spills under criterion **RISK-5**.

1 *Mitigation Measures*

2 No mitigation is required.

3 *Residual Impacts*

4 With no mitigation required, the residual impacts would be less than significant.

5 **NEPA Impact Determination**

6 Impacts due to seismically induced tsunamis and seiches are typical for the entire
7 California coastline and would not be increased by construction of Alternative 4.
8 However, because Alternative 4 elevations are located within 10 to 15 feet above
9 MLLW and projects in the construction phase are especially vulnerable to tsunami
10 damage due to the presence of unfinished structures, there is a substantial risk of
11 coastal flooding due to tsunamis and seiches, which in turn, could result in accidental
12 spills of petroleum products or hazardous substances. Because a major tsunami is not
13 expected during the life of Alternative 4, but could occur (see Section 3.5, Geology,
14 for additional information on the probability of a major tsunami), the probability of a
15 major tsunami occurring is classified as “improbable” (less than once every
16 10,000 years). The potential consequence of such an event is classified as
17 “moderate,” resulting in a Risk Code of 4, which is “acceptable.” In light of such a
18 low probability and acceptable risk of a large tsunami or other seismic risk, impacts
19 under NEPA associated with Alternative 4 would be less than significant under
20 criterion **RISK-5**.

21 *Mitigation Measures*

22 No mitigation is required.

23 *Residual Impacts*

24 With no mitigation required, the residual impacts would be less than significant.

25 **Impact RISK-6b: A potential terrorist attack would result in adverse**
26 **consequences to areas near the Alternative 4 site during the**
27 **operations period.**

28 **Risk of Terrorist Actions Associated with Operations**

29 The probability of a terrorist attack on the alternative Project facilities is not likely to
30 appreciably change over current conditions. It is possible that the increase in vessel
31 traffic in the vicinity of the Berth 97-109 terminal could lead to a greater opportunity of a
32 successful terrorist attack; however, existing Port security measures would counter this
33 potential increase in unauthorized access to the terminal.

34 **Consequences of Terrorist Attack**

35 The risks associated with terrorism discussed in Section 3.8.2.4 would apply to the
36 terminal during operations. The potential consequences of a terrorist action on a
37 container terminal would be mainly environmental and economic. A terrorist action
38 involving a container vessel while at berth may result in a fuel and/or commodity spill
39 and its associated environmental damage. Within the Port, a terrorist action could block
40 key waterways and result in economic disruption. Potential environmental damage
41 would include fuel and/or commodity spills into the marine environment, with associated

1 degradation of water quality and damage to marine biological resources. Container ships
2 typically carry up to 5,000 barrels of fuel oil but would not be full when arriving at the port.
3 These impacts would be limited to the area surrounding the point of attack and would be
4 contained by the relevant oil spill response contractor. A potential fire associated with a
5 terrorist attack could result in short-term impacts to local air quality. Such potential
6 impacts to the environment are addressed in specific resource sections including air
7 quality (Section 3.2), biology (Section 3.3), and water quality (Section 3.14).

8 The consequences associated with the smuggling of WMDs would be substantial in terms
9 of impacts to the environment and public health and safety. However, the consequences
10 of a WMD attack would not be affected by the alternative. Furthermore, the likelihood of
11 such an event would not be affected by alternative-related infrastructure or throughput
12 increases, but would depend on the terrorist's desired outcome and the ability of
13 safeguards, unaffected by the alternative, to thwart it. Cargo containers represent only
14 one of many potential methods to smuggle WMDs, and with current security initiatives
15 (see Section 3.8.2.5) may be less plausible than other established smuggling routes (e.g.,
16 land-based ports of entry, cross-border tunnels, and illegal vessel transportation).

17 **CEQA Impact Determination**

18 Potential public safety consequences of a terrorist attack on the Berths 97-109
19 Terminal for the alternative Project are considered negligible since, in the event of a
20 successful attack, the potential for a small number of offsite injuries are possible
21 mainly due to fire, which in turn would be a result of fuel spilled into Port waters.
22 Potential thermal radiation and explosion overpressure levels would be limited to the
23 immediate vicinity of the attack and would not overlap any existing, planned, or
24 permitted vulnerable resources including bulk oil and petroleum facilities located in
25 the West Basin. However, the potential for limited public exposure along Port
26 waterways is possible.

27 The risk of a terrorist attack is considered part of the baseline for the Project
28 alternative. Terrorism risk associated with container terminals currently exists, and is
29 not influenced by changes in container traffic volume. Currently, the Berth 97-109
30 terminal handles approximately 0.6 percent of the cargo volume of the Port. With the
31 implementation of the alternative, the relative importance of the alternative will
32 increase to 18.6 the current cargo volume of the Port. Overall, growth at the
33 Berth 97-109 terminal would not increase disproportionately compared to the growth
34 of the Port and of container terminals nationally. Therefore, the relative importance
35 of the terminal as a terrorist target would not change.

36 Any increase in the volume of container vessels visiting the Alternative 4 terminal
37 would not change the probability or consequences of a terrorist attack on the
38 Berth 97-109 terminal since the terminal is already considered a potential economic
39 target, as well as a potential mode to smuggle a weapon into the United States. In
40 addition, the measures outlined in Section 3.8.2.5 would serve to reduce the potential
41 for a successful terrorist attack on the Berth 97-109 facility compared to Project
42 baseline conditions (under which many of these measures had not yet been
43 implemented). These measures have since improved both terminal and cargo
44 security, and have resulted in enhanced cargo screening. Therefore, potential impacts
45 associated with a potential terrorist attack on the Berth 97-109 facility are considered
46 less than significant.

1 *Mitigation Measures*
2 Because terrorism impacts are less than significant, no mitigation is required.

3 *Residual Impacts*
4 With no mitigation required, residual impacts would be less than significant.

5 **NEPA Impact Determination**

6 Potential impacts under NEPA would be the same as under CEQA and are considered
7 less than significant.

8 *Mitigation Measures*
9 Because terrorism impacts are less than significant, no mitigation is required.

10 *Residual Impacts*
11 With no mitigation required, residual impacts would be less than significant.

12 **3.8.4.3.2.5 Alternative 5 – Reduced Construction and Operation: Phase I** 13 **Construction Only**

14 Under Alternative 5, the terminal (as completed in 2003 and allowed for under the ASJ)
15 would operate at levels similar to current levels. There would be 72 acres of backlands,
16 four operational A-frame cranes, and a single road bridge spanning the Southwest Slip.
17 No additional facilities would be constructed.

18 **3.8.4.3.2.5.1 Construction Impacts**

19 **CEQA Impact Determination**

20 During the period when facilities and infrastructure were developed (2001-2005), no
21 incidents occurred that: exposed people to the accidental release of hazardous
22 materials; caused contamination of soil or water; involved an accidental release from
23 a fire or explosion interfered with existing emergency response and evacuation plans;
24 or involved a terrorist attack. Therefore, construction impacts under CEQA for
25 **RISK-1a, RISK-2a, RISK-3a, RISK-4a, RISK-5a, and RISK-6a** would be less
26 than significant.

27 **NEPA Impact Determination**

28 Construction impacts under NEPA for **RISK-1a, RISK-2a, RISK-3a, RISK-4a,**
29 **RISK-5a, and RISK-6a** would be less than significant, as is the case under CEQA.

30 **3.8.4.3.2.5.2 Operational Impacts**

31 **Impact RISK-1b: Berth 97-109 terminal operations would not**
32 **increase the probable frequency and severity of consequences to**
33 **people or property as a result of accidental release or explosion of a**
34 **hazardous substance.**

35 Existing terminal facilities include 1,200 linear feet of wharf, four A-frame cranes, and
36 72 acres of backlands. As of 2001 (CEQA baseline), the Berth 97-109 terminal handled
37 approximately 45,135 TEUs per year. Berth 97-109 terminal operations under

1 Alternative 5 could handle approximately 630,000 TEUs per year when optimized and
2 functioning at maximum capacity (in 2025).

3 Terminal operations would be subject to safety regulations that govern the shipping,
4 transport, storage and handling of hazardous materials, which would limit the severity and
5 frequency of potential releases of hazardous materials resulting in increased exposure of
6 people to health hazards (i.e., Port RMP, USCG and LAFD regulations and requirements,
7 and DOT regulations). For example, as discussed in Section 3.8.3.1, List of Regulations,
8 and summarized below, the USCG maintains a HMSD, under the jurisdiction of the federal
9 Department of Homeland Security (33 CFR 126), which develops standards and industry
10 guidance to promote the safety of life and protection of property and the environment
11 during marine transportation of hazardous materials. In addition, the DOT Hazardous
12 Materials Regulations (Title 49 CFR Parts 100-185) regulate almost all aspects of terminal
13 operations. Parts 172 (Emergency Response), 173 (Packaging Requirements), 174 (Rail
14 Transportation), 176 (Vessel Transportation), 177 (Highway Transportation),
15 178 (Packaging Specifications), and 180 (Packaging Maintenance) would all apply to the
16 alternative Project activities.

17 Terminal cargo operations involving hazardous materials are also governed by the LAFD
18 in accordance with regulations of state and federal departments of transportation
19 (49 CFR 176). The transport of hazardous materials in containers on the street and
20 highway system is regulated by Caltrans procedures and the Standardized Emergency
21 Management System prescribed under Section 8607 of the California Government Code.
22 These safety regulations strictly govern the storage of hazardous materials in containers
23 (i.e., types of materials and size of packages containing hazardous materials).
24 Implementation of increased hazardous materials inventory control and spill prevention
25 controls associated with these regulations would limit both the frequency and severity of
26 potential releases of hazardous materials.

27 Terminal maintenance activities would involve the use of hazardous materials such as
28 petroleum products, solvents, paints, and cleaners. Quantities of hazardous materials that
29 exceed the thresholds provided in Chapter 6.95 of the California Health and Safety Code
30 would be subject to as RRP and HMI. Implementation of increased inventory
31 accountability and spill prevention controls associated with this RRP and HMI would
32 limit both the frequency and severity of potential releases of hazardous materials. Based
33 on the limited volumes that could potentially spill, quantities of hazardous materials used
34 at Berths 97-109 that are below the thresholds of Chapter 6.95 would not likely result in a
35 substantial release into the environment.

36 **CEQA Impact Determination**

37 Because projected terminal operations under Alternative 5 would accommodate
38 approximately a 14-fold increase in containerized cargo compared to the CEQA
39 baseline, the potential for an accidental release or explosion of hazardous materials
40 would also be expected to increase proportionally. During the period 1997-2004
41 there were 40 hazardous material spills directly associated with container terminals in
42 the Ports of Los Angeles and Long Beach. This equates to approximately five spills
43 per year for the entire port complex. During this period, the total throughput of the
44 container terminals was 76,874,841 TEU. Therefore, the probability of a spill at a
45 container terminal can be estimated at 5.2×10^{-7} per TEU (40 spills divided by
46 76,874,841 TEU). This spill probability conservatively represents the baseline
47 hazardous material spill probability since it includes materials that would not be
48 considered a risk to public safety (e.g., perfume spills), but would still be considered

1 an environmental hazard. The probability of spills associated with future operations
 2 would be based on the spill probability per TEU times the increase in TEUs under the
 3 alternative Project.

4 It should, with respect to hazardous material spills, be noted that during this period
 5 there were no reported impacts to the public (injuries, fatalities, and evacuations),
 6 with potential consequences limited to port workers (two worker injuries that were
 7 treated at the scene and 20 workers evaluated as a precaution).

8 Based on the accident history at the Port of containers containing hazardous materials,
 9 which includes 40 incidents over an 8-year period in the entire port complex (Ports of
 10 Los Angeles and Long Beach), the frequency of Project-related spills can be
 11 estimated as shown in Table 3.8-19.

Table 3.8-19. Alternative 5: Existing and Projected Cargo Throughput Volumes at Berths 97-109

Operations	Overall Throughput (TEUs)	Increase in TEUs over CEQA Baseline (times or multiples)	Potential Spills (per year)
Port Baseline (2005)	7,484,624	NA	3.9
CEQA Project Baseline (2001)	45,135	NA	0.02
Alternative 5 (2030)	630,000	13.9 times	0.33

Note:
 TEU = twenty-foot equivalent unit

12
 13 Based on the projected increase in TEUs, the frequency of spills potentially related to
 14 Alternative 5 would increase from 0.02 to 0.33 spills per year, or less than one spill
 15 per year. This spill frequency would be classified as “periodic” (between once per
 16 year and once in 10 years). Because, based on history, a slight possibility exists for
 17 injury and or property damage to occur during one of these frequent accidents, the
 18 consequence of such accidents is classified as “slight,” resulting in a Risk Code of 4
 19 that is “acceptable.” It should be noted that there were no impacts to the public from
 20 any of the hazardous materials spills that were reported during the 1997-2004 period.
 21 Compliance with applicable federal, state, and local laws and regulations governing
 22 the transport of hazardous materials and emergency response to hazardous material
 23 spills, as described above, would minimize the potentials for adverse public health
 24 impacts. Therefore, under CEQA, Alternative 5 operations would not substantially
 25 increase the probable frequency and severity of consequences to people or property
 26 as a result of an accidental release or explosion of a hazardous substance. Impacts
 27 under CEQA would be less than significant under criterion **RISK-1**.

28 **Mitigation Measures**

29 No mitigation is required.

30 **Residual Impacts**

31 With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Alternative 5 would result in a similar container throughput to that of the NEPA baseline and operational impacts would correspondingly be virtually identical as shown in Table 3.8-20.

Table 3.8-20. Alternative 5: Existing and Projected Cargo Throughput Volumes at Berths 97-109

Operations	Overall Throughput (TEUs)	Increase in TEUs over NEPA Baseline (percent)	Potential Spills (per year)
Port Baseline (2005)	7,484,624	NA	3.9
NEPA Project Baseline (2030)	632,500	NA	0.33
Alternative 5 (2030)	630,000	-0.4%	0.33

Note:
TEU = twenty-foot equivalent unit

This spill frequency would be classified as “periodic” (between once per year and once in 10 years). Because, based on history, a slight possibility exists for injury and or property damage to occur during one of these frequent accidents, the potential consequence of such accidents is classified as “slight,” resulting in a Risk Code of 4, which is “acceptable.” It should be noted that there were no impacts to the public from any of the hazardous materials spills that were reported during the 1997-2004 period. Compliance with applicable federal, state, and local laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills, as described above, would minimize the potentials for adverse public health impacts. Therefore, under NEPA, Alternative 5 operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of a potential accidental release or explosion of a hazardous substance. Impacts under NEPA would be less than significant under criterion **RISK-1**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-2b: Alternative 5 operations would not substantially increase the probable frequency and severity of consequences to people or property from exposure to health hazards.

Alternative 5 includes the siting of facilities that potentially handle hazardous materials and increase other hazards to the public. The handling and storing of hazardous materials would increase the probability of a local accident involving a release, spill, fire or explosion, which is proportional to the size of the terminal and its throughput as was addressed in **Impact RISK 1b**.

1 Because projected terminal operations at Berths 97-109 would accommodate
 2 approximately a 14-fold increase in containerized cargo compared to the CEQA baseline,
 3 the potential for increased truck transportation-related accidents would also occur.
 4 Potential alternative-related increases in truck trips could result in an increase in
 5 vehicular accidents, injuries, and fatalities. Therefore, the potential impact of increased
 6 truck traffic on regional injury and fatality rates is evaluated.

7 According to an FMCSA detailed analysis (FMCSA, 2001), the estimated nonhazardous
 8 materials truck accident rate is more than twice the hazardous materials truck accident
 9 rate. The nonhazardous materials truck accident rate was estimated to be 0.73 accidents
 10 per million vehicle miles and the average hazardous materials truck accident rate was
 11 estimated to be 0.32 accidents per million vehicle miles. The hazardous materials truck
 12 accident rate is not directly applicable to the alternative Project container trucks since
 13 they are generally limited to bulk hazardous materials carriers. Therefore, for this
 14 analysis, the higher accident rate associated with nonhazardous materials trucks was used.

15 Based on the NHTSA (DOT, 2003), of the estimated 457,000 truck crashes in 2000
 16 (causing fatalities, injuries, or property damage), an estimated 1 percent produced
 17 fatalities and 22 percent produced injuries. The FARS and the TIFA survey were the
 18 sources of data for this analysis, which primarily examined fatalities associated with
 19 vehicle impact and trauma.

20 Based on these statistics and the projected truck trips for the existing facilities and
 21 Alternative 5, the potential rate of truck accidents, injuries, and fatalities can be estimated
 22 and evaluated.

23 **CEQA Impact Determination**

24 Potential alternative-related truck accident rates can be estimated based on national
 25 average accident rates and the average number of miles per cargo truck trip. Based
 26 on the air pollutant emission inventory of the Port, it was determined that the average
 27 truck trip was approximately 49 miles (Starcrest Consulting Group, 2003). Given the
 28 annual number of truck trips, the average distance of each trip, and the published
 29 accident, injury and fatality rates, the following probabilities were estimated as
 30 shown in Table 3.8-21.

Table 3.8-21. Alternative 5: Existing and Projected Truck Trips at Berths 97-109

Operations	Annual Truck Trips	Increase over CEQA Baseline (%)	Accident Rate (per year)	Injury Probability (per year)	Fatality Probability (per year)
CEQA Baseline (2001)	0	NA	0.0	0.0	0.0
Alternative 5 (2030)	551,577	NA	19.7	4.3	0.2

31
 32 Because the occurrence of truck accidents associated with Berths 97-109 occur at a
 33 frequency greater than one per year, truck accidents are considered a “frequent” event.
 34 Because the possibility exists for injury and/or fatality to occur during one of these
 35 frequent accidents as noted in Table 3.8-21, the consequence of such accidents is
 36 classified as “severe,” resulting in a Risk Code of 2. An impact with a Risk Code
 37 of 2 is classed as significant and requires additional engineering or administrative
 38 controls to mitigate the potentially significant adverse impacts.

1 The Port is currently developing a port-wide TMP for roadways in and around its
 2 facilities. Present and future traffic improvement needs are being determined based
 3 on existing and projected traffic volumes. The results will be a TMP providing ideas
 4 on what to expect and how to prepare for future traffic volumes. Some of the
 5 transportation improvements already under consideration include: I-110/SR-47/
 6 Harbor Boulevard interchange improvements; Navy Way connector (grade separation)
 7 to westbound Seaside Avenue; south Wilmington grade separations; and additional
 8 traffic capacity analysis for the Vincent Thomas Bridge. In addition, the Port is
 9 working on several strategies to increase rail transport, which will reduce reliance on
 10 trucks. These projects would serve to reduce the frequency of truck accidents.

11 The Port also is currently phasing out older trucks as part of its Clean Truck Program,
 12 and the TWIC program will help identify and exclude truck drivers that lack the
 13 proper licensing and training. The phasing out of older trucks would reduce the
 14 probability of accidents that occur as a result of mechanical failure by approximately
 15 10 percent (ADL, 1990). Proper driver training, or more specifically, the reduction in
 16 the number of drivers that do not meet minimum training specifications, would
 17 further reduce potential accidents by approximately 30 percent. The potential
 18 number of injuries would be reduced to approximately 2.7, which would reduce the
 19 consequence classification to “moderate” and a Risk Code to 3 or less. Therefore,
 20 Alternative 5 operations would not substantially increase the probable frequency and
 21 severity of consequences to people from exposure to health hazards and potential
 22 impacts under CEQA would be considered less than significant

23 *Mitigation Measures*

24 No mitigation is required.

25 *Residual Impacts*

26 With no mitigation required, the residual impacts would be less than significant under
 27 CEQA.

28 **NEPA Impact Determination**

29 Alternative 5 would result in construction of new wharves, dikes, and backland areas,
 30 which would result in an increase in TEUs and truck trips, in comparison to the
 31 NEPA baseline, as described under the NEPA Impact Determination for **Impact**
 32 **RISK 1b**. Given the annual number of truck trips, the average distance of each trip,
 33 and the published accident, injury and fatality rates, the following probabilities were
 34 estimated as shown in Table 3.8-22

Table 3.8-22. Alternative 5: Existing and Projected Truck Trips at Berths 97-109

Operations	Annual Truck Trips	Increase over NEPA Baseline (%)	Accident Rate (per year)	Injury Probability (per year)	Fatality Probability (per year)
NEPA Baseline (2030)	0	NA	0.0	0.0	0.0
Alternative 5 (2030)	551,577	NA	19.7	4.3	0.2

35
 36 Because the occurrence of truck accidents associated with Berths 97-109 occur at a
 37 frequency greater than one per year, truck accidents are considered a “frequent” event.

1 Because the possibility exists for injury and/or fatality to occur during one of these
2 frequent accidents as noted in Table 3.8-22, the consequence of such accidents is
3 classified as “severe,” resulting in a Risk Code of 2. An impact with a Risk Code
4 of 2 is classed as significant and requires additional engineering or administrative
5 controls to mitigate the potentially significant adverse impacts.

6 The Port is currently developing a port-wide TMP for roadways in and around its
7 facilities. Present and future traffic improvement needs are being determined based
8 on existing and projected traffic volumes. The results will be a TMP providing ideas
9 on what to expect and how to prepare for future traffic volumes. Some of the
10 transportation improvements already under consideration include: I-110/SR-47/
11 Harbor Boulevard interchange improvements; Navy Way connector (grade separation)
12 to westbound Seaside Avenue; south Wilmington grade separations; and additional
13 traffic capacity analysis for the Vincent Thomas Bridge. In addition, the Port is
14 working on several strategies to increase rail transport, which will reduce reliance on
15 trucks. These projects would serve to reduce the frequency of truck accidents.

16 The Port is currently phasing out older trucks as part of its Clean Truck Program, and
17 the TWIC program will help identify and exclude truck drivers that lack the proper
18 licensing and training. The phasing out of older trucks would reduce the probability
19 of accidents that occur as a result of mechanical failure by approximately 10 percent
20 (ADL, 1990). Proper driver training, or more specifically, the reduction in the
21 number of drivers that do not meet minimum training specifications, would further
22 reduce potential accidents by approximately 30 percent. The potential number of
23 injuries would be reduced to approximately 2.7, which would reduce the consequence
24 classification to “moderate” and a Risk Code to 3 or less. Therefore, Alternative 5
25 operations would not substantially increase the probable frequency and severity of
26 consequences to people from exposure to health hazards and potential impacts under
27 NEPA would be considered less than significant

28 *Mitigation Measures*

29 No mitigation is required.

30 *Residual Impacts*

31 With no mitigation required, the residual impacts would be less than significant under
32 NEPA.

33 **Impact RISK-3b: Alternative 5 operations would not substantially** 34 **interfere with any existing emergency response plans or emergency** 35 **evacuation plans.**

36 Alternative 5 would optimize terminal operations by increasing backland capacity and
37 constructing new wharves and dikes to accommodate modern container terminal ships.
38 The Berth 97-109 terminal would operate as a container terminal similar to other
39 terminals in the West Basin; therefore, proposed terminal operations would not interfere
40 with any existing contingency plans, since the current activities are consistent with the
41 contingency plans and the alternative Project would not add any additional activities that
42 would be inconsistent with these plans. In addition, existing oil spill contingency and
43 emergency response plans for the site would be revised to incorporate proposed facility
44 and operation changes. Because existing management plans are commonly revised to
45 incorporate terminal operation changes, conflicts with existing contingency and
46 emergency response plans are not anticipated.

1 Berth 97-109 facilities personnel, including dock laborers and equipment operators,
2 would be trained in emergency response and evacuation procedures. The site would be
3 secured, with access allowed only to authorized personnel. The LAFD and Port Police
4 would be able to provide adequate emergency response services to the site. Additionally,
5 Alternative 5 operations would also be subject to emergency response and evacuation
6 systems implemented by the LAFD, which would review all plans to ensure that adequate
7 access in the Project vicinity is maintained. All Alternative 5 contractors would be
8 required to adhere to plan requirements.

9 **CEQA Impact Determination**

10 Alternative 5 would be operated as a container terminal and operations would be
11 subject to emergency response and evacuation systems implemented by the LAFD.
12 Thus, Alternative 5 operations would not interfere with any existing emergency
13 response or emergency evacuation plans or increase the risk of injury or death.
14 Therefore, impacts would be less than significant under CEQA.

15 *Mitigation Measures*

16 No mitigation is required.

17 *Residual Impacts*

18 With no mitigation required, the residual impacts would be less than significant under
19 CEQA.

20 **NEPA Impact Determination**

21 Alternative 5 would continue to be operated as a container terminal and operations
22 would be subject to emergency response and evacuation systems implemented by the
23 LAFD. Thus, Alternative 5 operations would not interfere with any existing
24 emergency response or emergency evacuation plans or increase the risk of injury or
25 death. Therefore, impacts would be less than significant under NEPA.

26 *Mitigation Measures*

27 No mitigation is required.

28 *Residual Impacts*

29 With no mitigation required, the residual impacts would be less than significant under
30 NEPA.

31 **Impact RISK-4b: Alternative 5 operations would comply with** 32 **applicable regulations and policies guiding development in the Port.**

33 Alternative 5 operations would be subject to numerous regulations for operation of the
34 proposed facilities. LAHD has implemented various plans and programs to ensure
35 compliance with these regulations, which must be adhered to during operation of this
36 alternative. For example, as discussed in Section 3.8.3.1, List of Regulations, the USCG
37 maintains a HMSD, under the jurisdiction of the federal Department of Homeland
38 Security (33 CFR 126), which develops standards and industry guidance to promote the
39 safety of life and protection of property and the environment during marine transportation
40 of hazardous materials.

1 Among other requirements, Alternative 5 operations would conform to the USCG
2 requirement to provide a segregated cargo area for containerized hazardous materials.
3 Terminal cargo operations involving hazardous materials are also governed by the LAFD
4 in accordance with regulations of state and federal departments of transportation
5 (49 CFR 176). The transport of hazardous materials in containers on the street and
6 highway system is regulated by Caltrans procedures and the Standardized Emergency
7 Management System prescribed under Section 8607 of the California Government Code.
8 These safety regulations strictly govern the storage of hazardous materials in containers
9 (i.e., types of materials and size of packages containing hazardous materials). In addition,
10 any facility constructed at the site, identified as either a hazardous cargo facility or a
11 vulnerable resource, would be required to conform to the RMP, which includes
12 packaging constraints and the provision of a separate storage area for hazardous cargo.

13 LAHD maintains compliance with these state and federal laws through a variety of
14 methods, including internal compliance reviews, preparation of regulatory plans, and
15 agency oversight. Most notably, the Port RMP implements development guidelines in an
16 effort to minimize the danger of accidents to vulnerable resources. This would be
17 achieved mainly through physical separation as well as through facility design features,
18 fire protection, and other risk management methods. There are two primary categories of
19 vulnerable resources, people, and facilities. People are further divided into subgroups.
20 The first subgroup is comprised of residences, recreational users, and visitors. Within the
21 Port setting, residences and recreational users are considered vulnerable resources. The
22 second subgroup is comprised of workers in high density (i.e., generally more than
23 10 people per acre, per employer).

24 Facilities that are vulnerable resources include Critical Regional Activities/Facilities and
25 High Value Facilities. Critical Regional Activities/Facilities are facilities in the Port that
26 are important to the local or regional economy, the national defense, or some major
27 aspect of commerce. These facilities typically have a large quantity of unique equipment,
28 a very large working population, and are critical to both the economy and to national
29 defense. Such facilities in the Port have been generally defined in the Port RMP as the
30 former Todd Shipyard, Fish Harbor, Badger Avenue Bridge, and Vincent Thomas Bridge.

31 High Value Facilities are nonhazardous facilities, in and near the Ports, which have very
32 high economic value. These facilities include both facility improvements and cargo
33 in-place, such as container storage areas. However, the determination of a vulnerable
34 resource is made by the Port and LAFD on a case-by-case basis. Although the Port
35 generally considers container terminals to be High Value Facilities, these types of
36 facilities have never been considered vulnerable resources in risk analyses completed by
37 the Port and LAFD (pers. comm., Knott, 2007). Because container terminals are not
38 considered vulnerable resources, this Alternative would not conflict with the RMP.

39 Alternative 5 plans and specifications will be reviewed by the LAFD for conformance to
40 the Los Angeles Municipal Fire Code, as a standard practice. Buildings will be equipped
41 with fire protection equipment as required by the Los Angeles Municipal Fire Code.
42 Access to all buildings and adequacy of road and fire lanes will be reviewed by the
43 LAFD to ensure that adequate access and firefighting features are provided. Plans would
44 include an internal circulation system, code-required features, and other firefighting
45 design elements, as approved by the LAFD.

46 Operation of Alternative 5 would be required to comply with all existing hazardous waste
47 laws and regulations, including the federal RCRA and CERCLA, and CCR Title 22 and
48 Title 26. Alternative 5 operations would comply with these laws and regulations, which

1 would ensure that potential hazardous materials handling would occur in an acceptable
2 manner.

3 **CEQA Impact Determination**

4 Alternative 5 operations would not conflict with RMP guidelines. Alternative 5 plans
5 and specifications will be reviewed by the LAFD for conformance to the Los Angeles
6 Municipal Fire Code, and operation of Alternative 5 would be required to comply
7 with all applicable existing hazardous waste laws and regulations. Therefore, under
8 CEQA, Alternative 5 operations would comply with applicable regulations and
9 policies guiding development in the Port. Impacts under CEQA would be less than
10 significant.

11 *Mitigation Measures*

12 No mitigation is required.

13 *Residual Impacts*

14 With no mitigation required, the residual impacts under NEPA would be less than
15 significant.

16 **NEPA Impact Determination**

17 Alternative 5 would not conflict with RMP guidelines. Alternative 5 plans and
18 specifications will be reviewed by the LAFD for conformance to the Los Angeles
19 Municipal Fire Code, and operation of Alternative 5 would be required to comply
20 with all applicable existing hazardous waste laws and regulations. Therefore, under
21 NEPA, Alternative 5 operations would comply with applicable regulations and
22 policies guiding development in the Port. Impacts under NEPA would be less than
23 significant.

24 *Mitigation Measures*

25 No mitigation is required.

26 *Residual Impacts*

27 With no mitigation required, the residual impacts would be less than significant.

28 **Impact RISK-5b: Tsunami-induced flooding and seismic events** 29 **would result in fuel releases from ships or hazardous substances** 30 **releases from containers, which in turn would result in risks to** 31 **persons and/or the environment.**

32 As discussed in Section 3.5, there is the potential for a large tsunami to affect the Port.
33 A large tsunami would likely lead to a fuel spill if a moored vessel is present. Although
34 crude oil tankers would not moor at Berths 97-109, each ship contains large quantities of
35 fuel oil. While in transit, the hazards posed to tankers are insignificant, and in most cases,
36 imperceptible. However, while docked, a tsunami striking the Port could cause
37 significant ship movement and even a hull breach if the ship is pushed against the wharf.

38 The Port is subject to diurnal tides, meaning two high tides and two low tides during a
39 24-hour day. The average of the lowest water level during low tide periods each day is
40 typically set as a benchmark of 0 feet and is defined as MLLW. For purposes of this
41 discussion, all proposed Project structures and land surfaces are expressed as height

1 above (or below) MLLW. The msl in the Port is +2.8 feet above MLLW (NOAA, 2005).
2 This height reflects the arithmetic mean of hourly heights observed over the National
3 Tidal Datum Epoch (19 years) and, therefore, reflects the mean of both high and low
4 tides in the Port. The recently developed Port Complex model described in Section 3.5.2
5 predicts tsunami wave heights with respect to msl, rather than MLLW and, therefore, can
6 be considered a reasonable average condition under which a tsunami might occur. The
7 Port msl of +2.8 feet must be considered in comparing projected tsunami run-up (i.e.,
8 amount of wharf overtopping and flooding) to proposed wharf height and topographic
9 elevations, which are measured with respect to MLLW.

10 A reasonably foreseeable scenario for generation of a tsunami or seiche in the San Pedro
11 Bay Ports include the recently developed Port Complex model, which predicts tsunami
12 wave heights of 1.3 to 5.3 feet above msl at the proposed Project site, under both
13 earthquake and landslide scenarios. Incorporating the Port msl of +2.8 feet, the model
14 predicts tsunami wave heights of 4.1 to 8.1 feet above MLLW at the proposed Project site.
15 Because the proposed Project site elevation ranges from 10 to 15 feet above MLLW,
16 localized tsunami-induced flooding would not occur.

17 While the analysis above considers the greatest reasonably foreseeable seismic risk based
18 on a maximum seismic event, with respect to msl, a theoretical maximum worst-case
19 wave action from a tsunami would result if the single highest tide predicted over the next
20 40 years at the San Pedro Bay Ports coincided with the seismic event. The single highest
21 tide predicted over the next 40 years is 7.3 feet above MLLW. This condition is expected
22 to occur less than 1 percent of the time over this 40-year period. If that very rare
23 condition were to coincide with a maximum tsunami event, the model predicts tsunami
24 wave heights of 8.6 to 12.6 feet above MLLW at the proposed Project site. Because the
25 proposed Project site elevation ranges from 10 to 15 feet above MLLW, localized
26 tsunami-induced flooding up to 2.6 feet is possible. To determine the extent of potential
27 impacts due to tsunami-induced flooding, Port structural engineers have determined that
28 Port reinforced concrete or steel structures designed to meet California earthquake
29 protocols incorporated into MOTEMS would be expected to survive complete inundation
30 in the event of a tsunami (pers. comm., Yin, 2006). However, substantial infrastructure
31 damage and/or injury to personnel would occur as a result of complete site inundation.

32 As previously discussed, there is a potential for tsunami-induced flooding under the
33 theoretical maximum worst-case scenario. However, the likelihood of a large tsunami is
34 very low during operation of the proposed Project and the overall probability of this
35 worst-case scenario is less than 1 in a 100,000-year period.

36 The most likely worst-case tsunami scenario was based partially on a magnitude
37 7.6 earthquake on the offshore Santa Catalina fault. The recurrence interval for a
38 magnitude 7.5 earthquake along an offshore fault in the Southern California Continental
39 Borderland is about 10,000 years. Similarly, the recurrence interval of a magnitude
40 7.0 earthquake is about 5,000 years and the recurrence interval of a magnitude
41 6.0 earthquake is about 500 years. However, there is no certainty that any of these
42 earthquake events would result in a tsunami, since only about 10 percent of earthquakes
43 worldwide result in a tsunami. In addition, available evidence indicates that
44 tsunamigenic landslides would be extremely infrequent and occur less often than large
45 earthquakes. This suggests recurrence intervals for such landslide events would be
46 longer than the 10,000-year recurrence interval estimated for a magnitude 7.5 earthquake
47 (Moffatt and Nichol, 2007). As noted above, the probability of the worst-case
48 combination of a large tsunami and extremely high tides would be less than once in a
49 100,000-year period.

1 Containers of hazardous substances on ships or on berths could similarly be damaged as a
2 result of a large tsunami. Such damage would result in releases of both hazardous and
3 nonhazardous cargo to the environment, adversely affecting persons and/or the marine
4 waters. However, containers carrying hazardous cargo would not necessarily release
5 their contents in the event of a large tsunami. The DOT regulations (49 CFR
6 Parts 172-180) covering hazardous material packaging and transportation would
7 minimize potential release volumes since packages must meet minimum integrity
8 specifications and size limitations.

9 The owner or operators of tanker vessels are required to have an approved Tank Vessel
10 Response Plan on board and a qualified individual in the U.S. with full authority to
11 implement removal actions in the event of an oil spill incident, and to contract with the
12 spill response organizations to carry out cleanup activities in case of a spill. The existing
13 oil spill response capabilities in the Port are sufficient to isolate spills with containment
14 booms and recover the maximum possible spill from an oil tanker.

15 Various studies have shown that double-hull tank vessels have lower probability of
16 releases when tanker vessels are involved in accidents. Because of these studies, the
17 USCG issued regulations addressing double-hull requirements for tanker vessels. The
18 regulations establish a timeline for eliminating single-hull vessels from operating in the
19 navigable waters or the EEZ of the U.S. after January 1, 2010 and double-bottom or
20 double-sided vessels by January 1, 2015. Only vessels equipped with a double hull, or
21 with an approved double containment system will be allowed to operate after those times.
22 It is unlikely that single-hull vessels will use the Alternative 2 terminal facilities given the
23 current schedule and the planned phase-out of these vessels.

24 CEQA Impact Determination

25 Designing new facilities based on existing design codes may not prevent substantial
26 damage to structures from coastal flooding as a result of tsunamis or seiches. Impacts
27 due to seismically induced tsunamis and seiches are typical for the entire California
28 coastline and would not be increased by construction of Alternative 5. However,
29 because the Alternative 5 elevation is located within 10 to 15 feet above MLLW and
30 projects in the construction phase are especially vulnerable to tsunami damage due to
31 the presence of unfinished structures, there is a substantial risk of coastal flooding
32 due to tsunamis and seiches, which in turn, could result in accidental spills of
33 petroleum products or hazardous substances. Because a major tsunami is not
34 expected during the life of Alternative 5, but could occur (see Section 3.5, Geology,
35 for additional information on the probability of a major tsunami), the probability of a
36 major tsunami occurring is classified as “improbable” (less than once every
37 10,000 years). The potential consequence of such an event is classified as
38 “moderate,” resulting in a Risk Code of 4, which is “acceptable.” The volume of
39 spilled fuel is also expected to be relatively low. While there will be fuel containing
40 equipment present during construction, most equipment is equipped with watertight
41 tanks, with the main problem being the infiltration of water into the tank and fuel
42 combustion chambers. Thus, the volume spilled in the event of a tsunami would be
43 less than 10,000 gallons, which is considered minor. In light of such a low
44 probability and acceptable risk of a large tsunami or other seismic risk, impacts under
45 CEQA associated with Alternative 5 would be less than significant as they pertain to
46 hazardous materials spills under criterion **RISK-5**.

1 *Mitigation Measures*

2 No mitigation is required.

3 *Residual Impacts*

4 With no mitigation required, the residual impacts would be less than significant.

5 **NEPA Impact Determination**

6 Designing new facilities based on existing design codes may not prevent substantial
7 damage to structures from coastal flooding as a result of tsunamis or seiches.
8 Impacts due to seismically induced tsunamis and seiches are typical for the entire
9 California coastline and would not be increased by construction of Alternative 5.
10 However, because Alternative 5 elevations are located within 10 to 15 feet above
11 MLLW and projects in the construction phase are especially vulnerable to tsunami
12 damage due to the presence of unfinished structures, there is a substantial risk of
13 coastal flooding due to tsunamis and seiches, which in turn, could result in accidental
14 spills of petroleum products or hazardous substances. Because a major tsunami is not
15 expected during the life of Alternative 5, but could occur (see Section 3.5, Geology,
16 for additional information on the probability of a major tsunami), the probability of a
17 major tsunami occurring is classified as “improbable” (less than once every
18 10,000 years). The potential consequence of such an event is classified as
19 “moderate,” resulting in a Risk Code of 4, which is “acceptable.” In light of such a
20 low probability and acceptable risk of a large tsunami or other seismic risk, impacts
21 under NEPA associated with Alternative 5 would be less than significant under
22 criterion **RISK-5**.

23 *Mitigation Measures*

24 No mitigation is required.

25 *Residual Impacts*

26 With no mitigation required, the residual impacts would be less than significant.

27 **Impact RISK-6b: A potential terrorist attack would result in adverse**
28 **consequences to areas near the Alternative 5 site during the**
29 **operations period.**

30 **Risk of Terrorist Actions Associated with Operations**

31 The probability of a terrorist attack on the alternative Project facilities is not likely to
32 appreciably change over current conditions. It is possible that the increase in vessel
33 traffic in the vicinity of the Berth 97-109 terminal could lead to a greater opportunity of a
34 successful terrorist attack; however, existing Port security measures would counter this
35 potential increase in unauthorized access to the terminal.

36 **Consequences of Terrorist Attack**

37 The risks associated with terrorism discussed in Section 3.8.2.4 would apply to the
38 terminal during operations. The potential consequences of a terrorist action on a
39 container terminal would be mainly environmental and economic. A terrorist action
40 involving a container vessel while at berth may result in a fuel and/or commodity spill
41 and its associated environmental damage. Within the Port, a terrorist action could block

1 key waterways and result in economic disruption. Potential environmental damage
2 would include fuel and/or commodity spills into the marine environment, with associated
3 degradation of water quality and damage to marine biological resources. Container ships
4 typically carry up to 5,000 barrels of fuel oil but would not be full when arriving at the port.
5 These impacts would be limited to the area surrounding the point of attack and would be
6 contained by the relevant oil spill response contractor. A potential fire associated with a
7 terrorist attack could result in short-term impacts to local air quality. Such potential
8 impacts to the environment are addressed in specific resource sections including air
9 quality (Section 3.2), biology (Section 3.3), and water quality (Section 3.14).

10 The consequences associated with the smuggling of WMDs would be substantial in terms
11 of impacts to the environment and public health and safety. However, the consequences
12 of a WMD attack would not be affected by the alternative. Furthermore, the likelihood of
13 such an event would not be affected by alternative-related infrastructure or throughput
14 increases, but would depend on the terrorist's desired outcome and the ability of
15 safeguards, unaffected by the alternative, to thwart it. Cargo containers represent only
16 one of many potential methods to smuggle WMDs, and with current security initiatives
17 (see Section 3.8.2.5) may be less plausible than other established smuggling routes (e.g.,
18 land-based ports of entry, cross border tunnels, and illegal vessel transportation).

19 **CEQA Impact Determination**

20 Potential public safety consequences of a terrorist attack on the Berth 97-109
21 terminal for the alternative Project are considered negligible since, in the event of a
22 successful attack, the potential for a small number of onsite injuries are possible
23 mainly due to fire, which in turn would be a result of fuel spilled into Port waters.
24 Potential thermal radiation and explosion overpressure levels would be limited to the
25 immediate vicinity of the attack and would not overlap any existing, planned, or
26 permitted vulnerable resources including bulk oil and petroleum facilities located in
27 the West Basin. However, the potential for limited public exposure along Port
28 waterways is possible.

29 Any increase in the volume of container vessels visiting the Alternative 5 terminal
30 would not change the probability or consequences of a terrorist attack on the
31 Berth 97-109 terminal since the terminal is already considered a potential economic
32 target, as well as a potential mode to smuggle a weapon into the United States. In
33 addition, the measures outlined in Section 3.8.2.5 would serve to reduce the potential
34 for a successful terrorist attack on the Berth 97-109 facility compared to Project
35 baseline conditions (under which many of these measures had not yet been
36 implemented). These measures have since improved both terminal and cargo
37 security, and have resulted in enhanced cargo screening. Therefore, potential impacts
38 associated with a potential terrorist attack on the Berth 97-109 facility are considered
39 less than significant.

40 *Mitigation Measures*

41 Because terrorism impacts are less than significant, no mitigation is required.

42 *Residual Impacts*

43 With no mitigation required, residual impacts would be less than significant.

NEPA Impact Determination

Potential impacts under NEPA would be that same as under CEQA and are considered less than significant.

Mitigation Measures

Because terrorism impacts are less than significant, no mitigation is required.

Residual Impacts

With no mitigation required, residual impacts would be less than significant.

3.8.4.3.2.6 Alternative 6 – Omni Terminal

Alternative 6 would entail physical land improvements and wharf construction similar to those of the proposed Project. However, under this alternative, backlands would be constructed to match the needs of an omni terminal rather than a container terminal. Like the proposed Project, construction of Alternative 6 would involve construction of 2,500 linear feet of wharf improvements, the operation of approximately 142 acres of backlands, and the placement of 2.5 acres of fill into waters of the United States. With build-out of Alternative 6, throughput would be approximately 525,000 TEUs per year when functioning at maximum capacity (containers and automobiles). In addition, the omni terminal would handle over 5 million tons of break-bulk commodities annually. The analysis of hazards presented here uses a methodology to predict probability of spills based on TEU throughput.

3.8.4.3.2.7 Construction Impacts

Impact RISK-1a: Construction/demolition activities would not substantially increase the probable frequency and severity of consequences to people or property as a result of an accidental release or explosion of a hazardous substance.

Construction equipment could spill oil, gas, or fluids during normal usage or during refueling, resulting in potential health and safety impacts to not only construction personnel, but to people and property occupying operational portions of the terminal area. (BMPs and Los Angeles Municipal Code regulations (Chapter 5, Section 57, Divisions 4 and 5; Chapter 6, Article 4) would govern construction and demolition activities. Federal and state regulations that govern the storage of hazardous materials in containers (i.e., the types of materials and the size of packages containing hazardous materials) and the separation of containers holding hazardous materials, would limit the potential adverse impacts of contamination to a relatively small area. In addition, standard BMPs would be used during construction and demolition activities to minimize runoff of contaminants, in compliance with the State General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order 99-08-DWQ) and Project-specific SWPPP (see Section 3.14, Water Quality, Sediments, and Oceanography, for more information).

CEQA Impact Determination

Implementation of construction and demolition standards, including BMPs, would minimize the potential for an accidental release of petroleum products and/or hazardous materials and/or explosion during construction/demolition activities at

1 Berths 97-109. Because construction/demolition-related spills are not uncommon,
2 the probability of a spill occurring is classified as “frequent” (more than once a year).
3 However, because such spills are typically short-term and localized, mainly due to
4 the fact that the volume in any single vehicle is generally less than 50 gallons and
5 fuel trucks are limited to 10,000 gallons or less, the potential consequence of such
6 accidents is classified as “slight” resulting in a Risk Code of 4, which is “acceptable.”
7 Therefore, under CEQA, construction and demolition would not substantially
8 increase the probable frequency and severity of consequences to people or property
9 as a result of an accidental release or explosion of a hazardous substance. Based on
10 criterion **RISK-1**, impacts under CEQA of Alternative 6 would be less than
11 significant.

12 *Mitigation Measures*

13 No mitigation is required.

14 *Residual Impacts*

15 With no mitigation required, the residual impacts would be less than significant.

16 **NEPA Impact Determination**

17 Under Alternative 6, in-water and upland construction impacts would be similar to
18 those described for the proposed Project. Alternative 6 would include construction of
19 new wharves, dikes, and backland areas, which would result in increased
20 susceptibility to hazardous materials spills during construction. Implementation of
21 construction standards, including BMPs, would minimize the potential for an
22 accidental release of hazardous materials and/or explosion during in-water and
23 upland construction activities at Berths 97-109. Because construction- and
24 demolition-related spills are not uncommon, the probability of a spill occurring is
25 classified as “frequent” (more than once a year). However, because such spills are
26 typically short-term and localized, the potential consequence of such accidents is
27 classified as “slight,” resulting in a Risk Code of 4, which is “acceptable.” Therefore,
28 under NEPA, construction and demolition would not substantially increase the
29 probable frequency and severity of consequences to people or property as a result of
30 an accidental release or explosion of a hazardous substance. Based on risk criterion
31 **RISK-1**, impacts under NEPA would be less than significant.

32 *Mitigation Measures*

33 No mitigation is required.

34 *Residual Impacts*

35 With no mitigation required, the residual impacts would be less than significant.

36 **Impact RISK-2a: Construction/demolition activities would not** 37 **substantially increase the probable frequency and severity of** 38 **consequences to people from exposure to health hazards.**

39 Construction and demolition activities would be conducted using BMPs and in
40 accordance with the Los Angeles Municipal Code (Chapter 5, Section 57, Division 4
41 and 5; Chapter 6, Article 4). Quantities of hazardous materials that exceed the thresholds
42 provided in Chapter 6.95 of the California Health and Safety Code would be subject to a
43 Release Response Plan (RRP) and a Hazardous Materials Inventory (HMI).

1 Implementation of increased inventory accountability and spill prevention controls
2 associated with this Release Response Plan and Hazardous Materials Inventory, such as
3 limiting the types of materials stored and size of packages containing hazardous materials,
4 would limit both the frequency and severity of potential releases of hazardous materials,
5 thus minimizing potential health hazards and/or contamination of soil or water during
6 construction/demolition activities. These measures reduce the frequency and
7 consequences of spills by requiring proper packaging for the material being shipped,
8 limits on package size, and thus potential spill size, as well as proper response measures
9 for the materials being handled. Impacts from contamination of soil or water during
10 construction/demolition activities would apply to not only construction personnel, but to
11 people and property occupying operational portions of the Project area, as Berth 97-109
12 terminal would be operating during ongoing construction activities.

13 **CEQA Impact Determination**

14 Several standard policies regulate the storage of hazardous materials including the
15 types of materials, size of packages containing hazardous materials, and the
16 separation of containers containing hazardous materials. These measures reduce the
17 frequency and consequences of spills by requiring proper packaging for the material
18 being shipped, limits on package size, and thus potential spill size, as well as proper
19 response measures for the materials being handled. Implementation of these
20 preventative measures would minimize the potential for spills to affect members of
21 the public and limit the adverse impacts of contamination to a relatively small area.
22 Because construction/demolition-related spills are not uncommon, the probability of
23 a spill occurring is classified as “frequent” (more than once a year). However,
24 because such spills are typically short-term and localized, the potential consequence
25 of such accidents is classified as “slight,” resulting in a Risk Code of 4, which is
26 “acceptable.” Therefore, under CEQA, construction/demolition activities at
27 Berths 97-109 would not substantially increase the probable frequency and severity
28 of consequences to people from exposure to health hazards. Based on risk criterion
29 **RISK-2**, impacts under CEQA would be less than significant.

30 *Mitigation Measures*

31 No mitigation is required.

32 *Residual Impacts*

33 With no mitigation required, the residual impacts would be less than significant.

34 **NEPA Impact Determination**

35 Alternative 6 would include construction of new wharves, dikes, and backland areas,
36 which would result in increased susceptibility to hazardous materials spills during
37 construction. Several standard policies regulate the storage of hazardous materials
38 including the types of materials, size of packages containing hazardous materials, and
39 the separation of containers containing hazardous materials. These measures reduce
40 the frequency and consequences of spills by requiring proper packaging for the
41 material being shipped, limits on package size, and thus potential spill size, as well as
42 proper response measures for the materials being handled. Implementation of these
43 preventative measures would minimize the potential for spills to affect members of
44 the public and limit the potential adverse impacts of contamination to a relatively
45 small area. Therefore, under NEPA, construction activities at Berths 97-109 would
46 not substantially increase the probable frequency and severity of consequences to

1 people from exposure to health hazards. Based on risk criterion **RISK-2**, impacts
2 under NEPA would be less than significant.

3 *Mitigation Measures*

4 No mitigation is required.

5 *Residual Impacts*

6 With no mitigation required, the residual impacts would be less than significant.

7 **Impact RISK-3a: Construction/demolition activities would not**
8 **substantially interfere with an existing emergency response or**
9 **evacuation plan or increase the risk of injury or death.**

10 Emergency response and evacuation planning is the responsibility of the Los Angeles
11 Police Department (LAPD), LAFD, Port Police, and United States Coast Guard (USCG).
12 Construction and demolition activities would be subject to emergency response and
13 evacuation systems implemented by LAFD. During construction/demolition activities,
14 the LAFD would require that adequate vehicular access to the proposed Project area be
15 provided and maintained. Prior to commencement of construction/demolition activities,
16 all plans would be reviewed by the LAFD to ensure adequate access is maintained
17 throughout construction/demolition.

18 **CEQA Impact Determination**

19 Project contractors would be required to adhere to all LAFD emergency response and
20 evacuation regulations, ensuring compliance with existing emergency response plans.
21 Therefore, under CEQA, construction/demolition activities would not substantially
22 interfere with an existing emergency response or evacuation plan or increase the risk
23 of injury or death. Based on risk criterion **RISK-3**, impacts under CEQA would be
24 less than significant.

25 *Mitigation Measures*

26 No mitigation is required.

27 *Residual Impacts*

28 With no mitigation required, the residual impacts would be less than significant.

29 **NEPA Impact Determination**

30 Project contractors would be required to adhere to all LAFD emergency response and
31 evacuation regulations, ensuring compliance with existing emergency response plans.
32 Therefore, under NEPA, construction/demolition activities would not substantially
33 interfere with an existing emergency response or evacuation plan or increase the risk
34 of injury or death. Based on risk criterion **RISK-3**, impacts under NEPA would be
35 less than significant.

36 *Mitigation Measures*

37 No mitigation is required.

38 *Residual Impacts*

39 With no mitigation required, the residual impacts would be less than significant.

Impact RISK-4a: Alternative 6 would comply with applicable regulations and policies guiding development in the Port.

As described in Section 3.8.3.1, List of Regulations, Alternative 6 is subject to numerous regulations for development and operation of the proposed facilities. For example, construction and demolition would be completed in accordance with RCRA, HSWA, CERCLA, CCR Title 22 and Title 26, and the California Hazardous Waste Control Law, which would govern proper containment, spill control, and disposal of hazardous waste generated during demolition and construction activities. Implementation of increased inventory accountability, spill prevention controls, and waste disposal controls associated with these regulations would limit both the frequency and severity of potential releases of hazardous materials.

Potential releases of hazardous substances during demolition and/or construction would be addressed through the federal Emergency Planning and Right-to-Know Act, which is administered in California by the SERC, and the Hazardous Material Release Response Plans and Inventory Law. In addition, demolition and construction would be completed in accordance with the Los Angeles Municipal Fire Code, which regulates the construction of buildings and other structures used to store flammable hazardous materials, and the Los Angeles Municipal Public Property Code, which regulates the discharge of materials into the sanitary sewer and storm drain. The latter requires the construction of spill-containment structures to prevent the entry of forbidden materials, such as hazardous materials, into sanitary sewers and storm drains. LAHD maintains compliance with these federal, state, and local laws through a variety of methods, including internal compliance reviews, preparation of regulatory plans, and agency oversight. LAHD has implemented various plans and programs to ensure compliance with these regulations. These regulations must be adhered to during design and construction of the proposed Project. Implementation of increased spill prevention controls, spill release notification requirements, and waste disposal controls associated with these regulations would limit both the frequency and severity of potential releases of hazardous materials.

Construction/demolition activities would be conducted using BMPs in accordance with City guidelines, as detailed in the Development Best Management Practices Handbook (City of Los Angeles, 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. Proposed Project plans and specifications will be reviewed by the LAFD for conformance to the Los Angeles Municipal Fire Code, as a standard practice. Implementation of increased spill prevention controls associated with these BMPs would limit both the frequency and severity of potential releases of hazardous materials.

CEQA Impact Determination

Because Alternative 6 construction would be completed using standard BMPs and in accordance with LAHD plans and programs, LAFD regulations, and all hazardous waste laws and regulations, impacts relating to compliance with applicable regulations and policies guiding development in the Port would be less than significant under CEQA under criterion **RISK-4**.

Mitigation Measures

No mitigation is required.

1 *Residual Impacts*

2 With no mitigation required, the residual impacts would be less than significant.

3 **NEPA Impact Determination**

4 Because construction of Alternative 6 would be completed using standard BMPs and
5 in accordance with LAHD plans and programs, LAFD regulations, and all hazardous
6 waste laws and regulations, impacts under NEPA relating to compliance with
7 applicable regulations and policies guiding development in the Port would be less
8 than significant under criterion **RISK-4**.

9 *Mitigation Measures*

10 No mitigation is required.

11 *Residual Impacts*

12 With no mitigation required, the residual impacts would be less than significant.

13 **Impact RISK-5a: Tsunami-induced flooding and seismic events**
14 **would result in fuel releases from demolition/construction equipment**
15 **or hazardous substances releases from containers, which in turn**
16 **would result in risks to persons and/or the environment.**

17 As discussed in Section 3.5, there is the potential for a major or great earthquake or large
18 tsunami to affect the Port. Either event would likely lead to a fuel spill from demolition
19 and/or construction equipment, as well as from containers of petroleum products and
20 hazardous substances used during the demolition/construction period. Unfinished
21 structures are especially vulnerable to damage from earthquakes and tsunamis during the
22 construction period.

23 The Port is subject to diurnal tides, meaning two high tides and two low tides during a
24 24-hour day. The average of the lowest water level during low tide periods each day is
25 typically set as a benchmark of 0 feet and is defined as MLLW. For purposes of this
26 discussion, all proposed Project structures and land surfaces are expressed as height
27 above (or below) MLLW. The msl in the Port is +2.8 feet above MLLW (NOAA, 2005).
28 This height reflects the arithmetic mean of hourly heights observed over the National
29 Tidal Datum Epoch (19 years) and, therefore, reflects the mean of both high and low
30 tides in the Port. The recently developed Port Complex model described in Section 3.5.2
31 predicts tsunami wave heights with respect to msl, rather than MLLW and, therefore, can
32 be considered a reasonable average condition under which a tsunami might occur. The
33 Port msl of +2.8 feet must be considered in comparing projected tsunami run-up (i.e.,
34 amount of wharf overtopping and flooding) to proposed wharf height and topographic
35 elevations, which are measured with respect to MLLW.

36 A reasonably foreseeable scenario for generation of a tsunami or seiche in the San Pedro
37 Bay Ports include the recently developed Port Complex model, which predicts tsunami
38 wave heights of 1.3 to 5.3 feet above msl at the proposed Project site, under both
39 earthquake and landslide scenarios. Incorporating the Port msl of +2.8 feet, the model
40 predicts tsunami wave heights of 4.1 to 8.1 feet above MLLW at the Alternative 6 site.
41 Because the Alternative 6 site elevation ranges from 10 to 15 feet above MLLW,
42 localized tsunami-induced flooding would not occur.

43 While the analysis above considers the greatest reasonably foreseeable seismic risk based
44 on a maximum seismic event, with respect to msl, a theoretical maximum worst-case

1 wave action from a tsunami would result if the single highest tide predicted over the next
2 40 years at the San Pedro Bay Ports coincided with the seismic event. The single highest
3 tide predicted over the next 40 years is 7.3 feet above MLLW. This condition is expected
4 to occur less than 1 percent of the time over this 40-year period. If that very rare
5 condition were to coincide with a maximum tsunami event, the model predicts tsunami
6 wave heights of 8.6 to 12.6 feet above MLLW at the Alternative 6 site. Because the
7 Alternative 6 site elevation ranges from 10 to 15 feet above MLLW, localized tsunami-
8 induced flooding up to 2.6 feet is possible. To determine the extent of potential impacts
9 due to tsunami-induced flooding, Port structural engineers have determined that Port
10 reinforced concrete or steel structures designed to meet California earthquake protocols
11 incorporated into MOTEMS would be expected to survive complete inundation in the
12 event of a tsunami (pers. comm., Yin, 2006). However, substantial infrastructure damage
13 and/or injury to personnel would occur as a result of complete site inundation.

14 As previously discussed, there is a potential for tsunami-induced flooding under the
15 theoretical maximum worst-case scenario. However, the likelihood of a large tsunami is
16 very low during construction of Alternative 6 and the overall probability of this worst-
17 case scenario is less than 1 in a 100,000-year period.

18 The most likely worst-case tsunami scenario was based partially on a magnitude
19 7.6 earthquake on the offshore Santa Catalina fault. The recurrence interval for a
20 magnitude 7.5 earthquake along an offshore fault in the Southern California Continental
21 Borderland is about 10,000 years. Similarly, the recurrence interval of a magnitude
22 7.0 earthquake is about 5,000 years and the recurrence interval of a magnitude
23 6.0 earthquake is about 500 years. However, there is no certainty that any of these
24 earthquake events would result in a tsunami, since only about 10 percent of earthquakes
25 worldwide result in a tsunami. In addition, available evidence indicates that
26 tsunamigenic landslides would be extremely infrequent and occur less often than large
27 earthquakes. This suggests recurrence intervals for such landslide events would be
28 longer than the 10,000-year recurrence interval estimated for a magnitude 7.5 earthquake
29 (Moffatt and Nichol, 2007). As noted above, the probability of the worst-case
30 combination of a large tsunami and extremely high tides would be less than once in a
31 100,000-year period.

32 **CEQA Impact Determination**

33 Impacts due to major or great earthquakes and seismically induced tsunamis and
34 seiches are typical for the entire California coastline and would not be increased by
35 construction of the proposed Project. However, because Alternative 6 site elevation
36 is located within 10 to 15 feet above MLLW and projects in the construction phase
37 are especially vulnerable to tsunami damage due to the presence of unfinished
38 structures, there is a substantial risk of coastal flooding due to tsunamis and seiches,
39 which in turn, could result in accidental spills of petroleum products or hazardous
40 substances. Because a major tsunami is not expected during the life of Alternative 6,
41 but could occur (see Section 3.5, Geology, for additional information on the
42 probability of a major tsunami), the probability of a major tsunami occurring is
43 classified as “improbable” (less than once every 10,000 years). The potential
44 consequence of such an event is classified as “moderate,” resulting in a Risk Code
45 of 4, which is “acceptable.” The volume of spilled fuel is also expected to be
46 relatively low. While there would be fuel-containing equipment present during
47 construction, most equipment is equipped with watertight tanks, with the most likely
48 scenario being the infiltration of water into the tank and fuel combustion chambers

1 and very little fuel spilled. Thus, the volume spilled in the event of a tsunami would
2 be less than 10,000 gallons, which is considered “slight.” In light of such a low
3 probability and acceptable risk of a large tsunami or other seismic risk, impacts under
4 CEQA would be less than significant as they pertain to hazardous materials spills
5 under criterion **RISK-5**.

6 *Mitigation Measures*

7 No mitigation is required.

8 *Residual Impacts*

9 With no mitigation required, the residual impacts would be less than significant.

10 **NEPA Impact Determination**

11 Impacts due to major or great earthquakes and seismically induced tsunamis and
12 seiches are typical for the entire California coastline and would not be increased by
13 construction of the proposed Project. However, because the Alternative 6 site
14 elevation is located within 10 to 15 feet above MLLW and projects in the
15 construction phase are especially vulnerable to tsunami damage due to the presence
16 of unfinished structures, there is a substantial risk of coastal flooding due to tsunamis
17 and seiches, which in turn, could result in accidental spills of petroleum products or
18 hazardous substances. Because a major tsunami is not expected during the life of
19 Alternative 6, but could occur (see Section 3.5, Geology, for additional information
20 on the probability of a major tsunami), the probability of a major tsunami occurring is
21 classified as “improbable” (less than once every 10,000 years). The potential
22 consequence of such an event is classified as “slight,” resulting in a Risk Code of 4,
23 which is “acceptable.” In light of such a low probability and acceptable risk of a
24 large tsunami or other seismic risk, impacts under NEPA would be less than
25 significant under criterion **RISK-5**.

26 *Mitigation Measures*

27 No mitigation is required.

28 *Residual Impacts*

29 With no mitigation required, the residual impacts would be less than significant.

30 **Impact RISK-6a: A potential terrorist attack would result in adverse** 31 **consequences to areas near the Alternative 6 site during the** 32 **construction period.**

33 **Risk of Terrorist Actions during Construction**

34 The probability of a terrorist attack on the proposed Project facilities is not likely to
35 appreciably change during construction compared to baseline conditions. It is possible
36 that the increase in construction vessel traffic in the vicinity of the Berth 97-109 terminal
37 could lead to a greater opportunity of a successful terrorist attack; however, existing Port
38 security measures would counter this potential increase in unauthorized access to the
39 terminal. The Berth 97-109 terminal would be operational during the construction period;
40 therefore, risks associated with terrorism during operations will also apply to the terminal
41 during the construction period.

Consequences of Terrorist Attack

During construction, a terrorist action could block key road access points and 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. These impacts would be limited to the area surrounding the point of attack and would be contained by the relevant oil spill response contractor. A potential fire associated with a terrorist attack could result in short-term impacts to local air quality.

CEQA Impact Determination

Access to the terminal site during construction could occur by land, water, and/or air. However, existing Port security measures would counter any potential increase in unauthorized access to the terminal site through the use of vehicles or vessels. The potential for a terrorist attack that would result in adverse consequences to areas near the proposed terminal site during the construction period is considered improbable and the consequences could be moderate. This combination would result in a Risk Code of 4, which is “acceptable,” and impacts would be less than significant under criterion **RISK-6**.

Mitigation Measures

Because terrorism impacts are less than significant, no mitigation is required.

Residual Impacts

With no mitigation required, residual impacts would be less than significant.

NEPA Impact Determination

Impacts under NEPA would be less than significant as defined in the CEQA determination above.

Mitigation Measures

Because terrorism impacts are less than significant, no mitigation is required.

Residual Impacts

With no mitigation required, residual impacts would be less than significant.

3.8.4.3.2.8 Operational Impacts

Impact RISK-1b: Alternative 6 operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of accidental release or explosion of a hazardous substance.

As of 2001 (CEQA baseline), the Berth 97-109 terminal handled approximately 45,135 TEUs per year. With build-out of Alternative 6, operations would rise to approximately 525,000 TEUs per year when functioning at maximum capacity (containers and automobiles). This would equate to an almost 12-fold increase in throughput capacity over CEQA baseline conditions. In addition, the omni terminal would handle over 5 million tons of break-bulk commodities annually.

1 Terminal operations would be subject to safety regulations that govern the shipping,
2 transport, storage and handling of hazardous materials, which would limit the severity
3 and frequency of potential releases of hazardous materials resulting in increased exposure
4 of people to health hazards (i.e., Port RMP, USCG, and LAFD regulations and
5 requirements, and DOT regulations). For example, as discussed in Section 3.8.3.1, List
6 of Regulations, and summarized below, the USCG maintains a HMSD, under the
7 jurisdiction of the federal Department of Homeland Security (33 CFR 126), which
8 develops standards and industry guidance to promote the safety of life and protection of
9 property and the environment during marine transportation of hazardous materials. In
10 addition, the DOT Hazardous Materials Regulations (Title 49 CFR Parts 100-185)
11 regulate almost all aspects of terminal operations. Parts 172 (Emergency Response),
12 173 (Packaging Requirements), 174 (Rail Transportation), 176 (Vessel Transportation),
13 177 (Highway Transportation), 178 (Packaging Specifications) and 180 (Packaging
14 Maintenance) would all apply to Alternative 6 activities.

15 Terminal cargo operations involving hazardous materials are also governed by the LAFD
16 in accordance with regulations of state and federal departments of transportation
17 (49 CFR 176). The transport of hazardous materials in containers on the street and
18 highway system is regulated by Caltrans procedures and the Standardized Emergency
19 Management System prescribed under Section 8607 of the California Government Code.
20 These safety regulations strictly govern the storage of hazardous materials in containers
21 (i.e., types of materials and size of packages containing hazardous materials).
22 Implementation of increased hazardous materials inventory control and spill prevention
23 controls associated with these regulations would limit both the frequency and severity of
24 potential releases of hazardous materials.

25 Terminal maintenance activities would involve the use of hazardous materials such as
26 petroleum products, solvents, paints, and cleaners. Quantities of hazardous materials that
27 exceed the thresholds provided in Chapter 6.95 of the California Health and Safety Code
28 would be subject to an RRP and HMI. Implementation of increased inventory
29 accountability and spill prevention controls associated with this RRP and HMI would
30 limit both the frequency and severity of potential releases of hazardous materials. Based
31 on the limited volumes that could potentially spill, quantities of hazardous materials used
32 at Berths 97-109 that are below the thresholds of Chapter 6.95 would not likely result in a
33 substantial release into the environment.

34 **CEQA Impact Determination**

35 Because projected terminal operations at Berths 97-109 would accommodate
36 approximately a 12-fold increase in containerized cargo compared to the CEQA
37 baseline, the potential for an accidental release or explosion of hazardous materials
38 would also be expected to increase proportionally.

39 During the period 1997-2004, there were 40 hazardous material spills directly
40 associated with container terminals in the Ports of Los Angeles and Long Beach.
41 This equates to approximately five spills per year for the entire port complex. During
42 this period, the total throughput of the container terminals at both Ports was
43 76,874,841 TEU. Therefore, the probability of a spill at a container terminal can be
44 estimated at 5.2×10^{-7} per TEU (40 spills divided by 76,874,841 TEU). This spill
45 probability conservatively represents the baseline hazardous material spill probability
46 since it includes materials that would not be considered a risk to public safety (e.g.,
47 perfume spills), but would still be considered an environmental hazard. The

1 probability of spills associated with future operations would be based on the spill
2 probability per TEU times the increase in TEUs under Alternative 6.

3 It should be noted, with respect to hazardous material spills, that during this period
4 there were no reported impacts to the public (injuries, fatalities, and evacuations),
5 with potential consequences limited to port workers (two worker injuries that were
6 treated at the scene and 20 workers evaluated as a precaution).

7 Based on the accident history at the Port of containers containing hazardous materials,
8 which includes 40 incidents over an 8-year period in the entire port complex (Ports of
9 Los Angeles and Long Beach), the frequency of Project-related spills can be
10 estimated as shown in Table 3.8-23.

Table 3.8-23. Alternative 6: Existing and Projected Cargo Throughput Volumes at Berths 97-109 and the Port

Operations	Overall Throughput (TEUs)	Increase in TEUs over CEQA Baseline (times or multiples)	Potential Spills (per year)
Port Baseline (2005)	7,484,624	NA	3.9
CEQA Project Baseline (2001)	45,135	NA	0.02
Alternative 6 (2030)*	525,000	11.6 times	0.27

Note:
TEU = twenty-foot equivalent unit

*Although Alternative 6 would include the transport of break-bulk commodities and automobiles in addition to containers, the bulk items and automobiles are not generally categorized as hazardous material and, therefore, are not expected to result in substantive hazardous materials spills.

11
12 Based on the projected increase in TEUs, the frequency of potential Project-related
13 spills would increase from 0.02 to 0.27 spills per year. This spill frequency would be
14 classified as “periodic” (between once per year and once in 10 years). Because,
15 based on history, a slight possibility exists for injury and or property damage to occur
16 during one of these frequent accidents, the potential consequence of such accidents is
17 classified as “slight,” resulting in a Risk Code of 4, which is “acceptable.” It should
18 be noted that there were no impacts to the public from any of the hazardous materials
19 spills that were reported during the 1997-2004 period. Although Alternative 6 would
20 include the transport of break-bulk commodities and automobiles in addition to
21 containers, the bulk items and automobiles are not generally categorized as hazardous
22 material and, therefore, are not expected to result in substantive hazardous materials
23 spills. Compliance with applicable federal, state, and local laws and regulations
24 governing the transport of hazardous materials and emergency response to hazardous
25 material spills, as described above, would minimize the potentials for adverse public
26 health impacts. Therefore, under CEQA, Alternative 6 operations would not
27 substantially increase the probable frequency and severity of consequences to people
28 or property as a result of a potential accidental release or explosion of a hazardous
29 substance. Impacts under CEQA would be less than significant under criterion
30 **RISK-1.**

1 **Mitigation Measures**

2 No mitigation is required.

3 **Residual Impacts**

4 With no mitigation required, the residual impacts would be less than significant.

5 **NEPA Impact Determination**

6 Alternative 6 would result in the construction of new wharves, dikes, and backland
 7 areas. However, this would not lead to an increase in the TEU throughput because of
 8 the nature of the terminal. The container throughput would be lower than under the
 9 NEPA baseline. Berth 97-109 terminal operations under the NEPA baseline would
 10 handle approximately 632,500 TEUs per year when optimized and functioning at
 11 maximum capacity (in 2045). Under Alternative 6, there would be a decrease of
 12 107,500 TEUs per year compared to the NEPA baseline. An overall decrease in
 13 TEUs would result in proportionally smaller hazardous materials containers subject
 14 to accidental release or explosion as shown in Table 3.8-24.

Table 3.8-24. Alternative 6: Existing and Projected Cargo Throughput Volumes at Berths 97-109

Operations	Overall Throughput (TEUs)	Increase in TEUs over NEPA Baseline (%)	Potential Spills (per year)
Port Baseline (2005)	7,484,624	NA	3.9
NEPA Baseline (2030)	632,500	NA	0.3
Alternative 6 (2030)*	525,000	-17%	0.27

Note:
 TEU = twenty-foot equivalent unit
 *Although Alternative 6 would include the transport of break-bulk commodities and automobiles in addition to containers, the bulk items and automobiles are not generally categorized as hazardous material and, therefore, are not expected to result in substantive hazardous materials spills.

15
 16 Based on the projected decrease in TEUs, the frequency of potential Project-related
 17 spills would decrease from 0.3 to 0.27 spills per year. This spill frequency would be
 18 classified as “periodic” (between once per year and once in 10 years). Because,
 19 based on history, a slight possibility exists for injury and or property damage to occur
 20 during one of these frequent accidents, the potential consequence of such accidents is
 21 classified as “slight,” resulting in a Risk Code of 4, which is “acceptable.” It should
 22 be noted that there were no impacts to the public from any of the hazardous materials
 23 spills that were reported during the 1997-2004 period. Although Alternative 6 would
 24 include the transport of break-bulk commodities and automobiles in addition to
 25 containers, the bulk items and automobiles are not generally categorized as hazardous
 26 material and, therefore, are not expected to result in substantive hazardous materials
 27 spills. Compliance with applicable federal, state, and local laws and regulations
 28 governing the transport of hazardous materials and emergency response to hazardous
 29 material spills, as described above, would minimize the potentials for adverse public
 30 health impacts. Therefore, under NEPA, Alternative 6 operations would not

1 substantially increase the probable frequency and severity of consequences to people
2 or property as a result of a potential accidental release or explosion of a hazardous
3 substance. Impacts under NEPA would be less than significant under criterion
4 **RISK-1.**

5 *Mitigation Measures*

6 No mitigation is required.

7 *Residual Impacts*

8 With no mitigation required, the residual impacts would be less than significant.

9 **Impact RISK-2b: Alternative 6 operations would not substantially**
10 **increase the probable frequency and severity of consequences to**
11 **people or property from exposure to health hazards.**

12 Alternative 6 would include siting facilities that would potentially handle hazardous
13 materials and increase other hazards to the public. These hazards would include the same
14 hazardous materials that were handled at the site under the baseline conditions, but the
15 volume of hazardous materials would increase (relative to CEQA baseline conditions)
16 proportionally with the increase in TEUs. Likewise, the increased throughput volume
17 would increase the chance of a fire or explosion at the terminal, as well as hazards
18 associated with container transportation. The handling and storing of hazardous materials
19 would increase the probability of a local accident involving a release, spill, fire, or
20 explosion, which is proportional to the size of the terminal and its throughput as was
21 addressed in **Impact RISK-1b.**

22 Because projected terminal operations at Berths 97-109 would accommodate
23 approximately a 12-fold increase in containerized cargo compared to the CEQA baseline,
24 the potential for increased truck transportation-related accidents would also occur.
25 Potential Alternative 6-related increases in truck trips could result in an increase in
26 vehicular accidents, injuries, and fatalities. Therefore, the potential impact of increased
27 truck traffic on regional injury and fatality rates have been evaluated.

28 According to an FMCSA detailed analysis (FMCSA, 2001), the estimated nonhazardous
29 materials truck accident rate is more than twice the hazardous materials truck accident
30 rate. The nonhazardous materials truck accident rate was estimated to be 0.73 accidents
31 per million vehicle miles and the average hazardous materials truck accident rate was
32 estimated to be 0.32 accidents per million vehicle miles. The hazardous materials truck
33 accident rate is not directly applicable to the Alternative 6 container trucks since such
34 trucks are generally limited to bulk hazardous materials carriers. Therefore, to conduct a
35 conservative analysis, the higher accident rate associated with nonhazardous materials
36 trucks was used.

37 Based on the NHTSA (DOT, 2003), of the estimated 457,000 truck crashes in 2000
38 (causing fatalities, injuries, or property damage), an estimated 1 percent produced
39 fatalities and 22 percent produced injuries. The FARS and the TIFA survey were the
40 sources of data for this analysis, which primarily examined fatalities associated with
41 vehicle impact and trauma.

42 Based on these statistics and the projected truck trips for the existing facilities and
43 Alternative 6, the potential rate of truck accidents, injuries, and fatalities can be estimated
44 and evaluated.

CEQA Impact Determination

Potential Project-related truck accident rates can be estimated based on national average accident rates and the average number of miles per cargo truck trip. Based on the air pollutant emission inventory at the Port, it was determined that the average truck trip was approximately 49 miles (Starcrest Consulting Group, 2003). Given the annual number of truck trips, the average distance of each trip, and the published accident, injury and fatality rates, the following probabilities were estimated as shown in Table 3.8-25.

Table 3.8-25. Alternative 6: Existing and Projected Truck Trips at Berths 97-109

Operations	Annual Truck Trips	Increase over CEQA Baseline (%)	Accident Rate (per year)	Injury Probability (per year)	Fatality Probability (per year)
CEQA Baseline (2001)	0	NA	0.0	0.0	0.0
Alternative 6 (2030)	1,453,382	NA	51.9	11.4	0.5

Because the occurrence of truck accidents associated with Berth 97-109 occur at a frequency greater than one per year, truck accidents are considered a “frequent” event. Because the possibility exists for injury and/or fatality to occur during one of these frequent accidents as noted in Table 3.8-25, the consequence of such accidents is classified as “severe,” resulting in a Risk Code of 2. An impact with a Risk Code of 2 is classed as significant and requires additional engineering or administrative controls to mitigate the potentially significant adverse impacts.

The Port is currently developing a port-wide TMP for roadways in and around its facilities. Present and future traffic improvement needs are being determined based on existing and projected traffic volumes. The results will be a TMP providing ideas on what to expect and how to prepare for future traffic volumes. Some of the transportation improvements already under consideration include: I-110/SR-47/ Harbor Boulevard interchange improvements; Navy Way connector (grade separation) to westbound Seaside Avenue; south Wilmington grade separations; and additional traffic capacity analysis for the Vincent Thomas Bridge. In addition, the Port is working on several strategies to increase rail transport, which will reduce reliance on trucks. These projects would serve to reduce the frequency of truck accidents.

In addition, the Port is currently phasing out older trucks as part of its Clean Truck Program, and the TWIC program will help identify and exclude truck drivers that lack the proper licensing and training. The phasing out of older trucks would reduce the probability of accidents that occur as a result of mechanical failure by approximately 10 percent (ADL, 1990). Proper driver training, or more specifically, the reduction in the number of drivers that do not meet minimum training specifications, would further reduce potential accidents by approximately 30 percent. The potential number of injuries would be reduced to approximately 7.2, which would reduce the consequence classification to “moderate” and a Risk Code to 3 or less. Therefore, Alternative 6 operations would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards and potential impacts under CEQA would be considered less than significant.

1 **Mitigation Measures**

2 No mitigation is required.

3 **Residual Impacts**

4 With no mitigation required, the residual impacts would be less than significant under
5 CEQA.

6 **NEPA Impact Determination**

7 Alternative 6 would result in the construction of new wharves, dikes, and backland
8 areas, which would result in an increase in TEUs and truck trips, in comparison to the
9 NEPA baseline, as described under the NEPA Impact Determination for **Impact**
10 **RISK 1b**. Given the annual number of truck trips, the average distance of each trip,
11 and the published accident, injury, and fatality rates, probabilities were estimated as
12 shown in Table 3.8-26.

Table 3.8-26. Alternative 6: Existing and Projected Truck Trips at Berths 97-109

Operations	Annual Truck Trips	Increase over NEPA Baseline (%)	Accident Rate (per year)	Injury Probability (per year)	Fatality Probability (per year)
NEPA Baseline (2030)	0	NA	0.0	0.0	0.0
Alternative 6 (2030)	1,453,382	NA	51.9	11.4	0.5

13
14 Because the occurrence of truck accidents associated with Berths 97-109 occur at a
15 frequency greater than one per year, truck accidents are considered a “frequent” event.
16 Because the possibility exists for injury and/or fatality to occur during one of these
17 frequent accidents as noted in Table 3.8-26, the consequence of such accidents is
18 classified as “severe,” resulting in a Risk Code of 2. An impact with a Risk Code
19 of 2 is classed as significant and requires additional engineering or administrative
20 controls to mitigate the potentially significant adverse impacts.

21 The Port is currently developing a port-wide TMP for roadways in and around its
22 facilities. Present and future traffic improvement needs are being determined based
23 on existing and projected traffic volumes. The results will be a TMP providing ideas
24 on what to expect and how to prepare for future traffic volumes. Some of the
25 transportation improvements already under consideration include: I-110/SR-47/
26 Harbor Boulevard interchange improvements; Navy Way connector (grade separation)
27 to westbound Seaside Avenue; south Wilmington grade separations; and additional
28 traffic capacity analysis for the Vincent Thomas Bridge. In addition, the Port is
29 working on several strategies to increase rail transport, which will reduce reliance on
30 trucks. These projects would serve to reduce the frequency of truck accidents.

31 The Port also is currently phasing out older trucks as part of its Clean Truck Program,
32 and the TWIC program will help identify and exclude truck drivers that lack the
33 proper licensing and training. The phasing out of older trucks would reduce the
34 probability of accidents that occur as a result of mechanical failure by approximately
35 10 percent (ADL, 1990). Proper driver training, or more specifically, the reduction in
36 the number of drivers that do not meet minimum training specifications, would
37 further reduce potential accidents by approximately 30 percent. The potential
38 number of injuries would be reduced to approximately 7.2, which would reduce the

1 consequence classification to “moderate” and a Risk Code to 3 or less. Therefore,
2 Alternative 6 operations would not substantially increase the probable frequency and
3 severity of consequences to people from exposure to health hazards and potential
4 impacts under NEPA would be considered less than significant

5 *Mitigation Measures*

6 No mitigation is required.

7 *Residual Impacts*

8 With no mitigation required, the residual impacts would be less than significant under
9 CEQA.

10 **Impact RISK-3b: Alternative 6 operations would not substantially**
11 **interfere with any existing emergency response plans or emergency**
12 **evacuation plans.**

13 Alternative 6 would optimize terminal operations by increasing backland capacity,
14 constructing new wharves and dikes to accommodate modern omni terminal ships, and
15 implementing transportation infrastructure improvements. The Berth 97-109 terminal
16 would operate as an omni terminal and proposed terminal operations would not interfere
17 with any existing contingency plans, since the current activities are consistent with the
18 contingency plans and Alternative 6 would not add any additional activities that would be
19 inconsistent with these plans. In addition, existing oil spill contingency and emergency
20 response plans for the proposed Project site would be revised to incorporate proposed
21 facility and operation changes. Because existing management plans are commonly
22 revised to incorporate terminal operation changes, conflicts with existing contingency
23 and emergency response plans are not anticipated.

24 Berths 97-109 facilities personnel, including dock laborers and equipment operators,
25 would be trained in emergency response and evacuation procedures. The Alternative 6
26 site would be secured, with access allowed only to authorized personnel. The LAFD and
27 Port Police would be able to provide adequate emergency response services to the
28 proposed Project site. Additionally, Alternative 6 operations would also be subject to
29 emergency response and evacuation systems implemented by the LAFD, which would
30 review all plans to ensure that adequate access in the Project vicinity is maintained. All
31 Project contractors would be required to adhere to plan requirements.

32 **CEQA Impact Determination**

33 Alternative 6 would have operational characteristics of a container terminal and a
34 terminal that handles bulk goods and materials. Alternative 6 operations would be
35 subject to emergency response and evacuation systems implemented by the LAFD.
36 Thus, Alternative 6 operations would not interfere with any existing emergency
37 response or emergency evacuation plans or increase the risk of injury or death.
38 Therefore, impacts would be less than significant under CEQA.

39 *Mitigation Measures*

40 No mitigation is required.

41 *Residual Impacts*

42 With no mitigation required, the residual impacts would be less than significant under
43 CEQA.

NEPA Impact Determination

Alternative 6 would continue to have operational characteristics of a container terminal and a terminal that handles bulk goods and materials. Alternative 6 operations would be subject to emergency response and evacuation systems implemented by the LAFD. Thus, Alternative 6 operations would not interfere with any existing emergency response or emergency evacuation plans or increase the risk of injury or death. Therefore, impacts would be less than significant under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant under NEPA.

Impact RISK-4b: Alternative 6 would comply with applicable regulations and policies guiding development in the Port.

Alternative 6 is subject to numerous regulations for operation of the proposed facilities. LAHD has implemented various plans and programs to ensure compliance with these regulations, which must be adhered to during operation of Alternative 6. For example, as discussed in Section 3.8.3.1, List of Regulations, the USCG maintains a HMSD, under the jurisdiction of the federal Department of Homeland Security (33 CFR 126), which develops standards and industry guidance to promote the safety of life and protection of property and the environment during marine transportation of hazardous materials. Among other requirements, Alternative 6 would conform to the USCG requirement to provide a segregated cargo area for containerized hazardous materials. Terminal cargo operations involving hazardous materials are also governed by the LAFD in accordance with regulations of state and federal departments of transportation (49 CFR 176). The transport of hazardous materials in containers on the street and highway system is regulated by Caltrans procedures and the Standardized Emergency Management System prescribed under Section 8607 of the California Government Code. These safety regulations strictly govern the storage of hazardous materials in containers (i.e., types of materials and size of packages containing hazardous materials). In addition, any facility constructed in the Project area, identified as either a hazardous cargo facility or a vulnerable resource, would be required to conform to the RMP, which includes packaging constraints and the provision of a separate storage area for hazardous cargo.

LAHD 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 Port 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. There are two primary categories of vulnerable resources, people, and facilities. People are further divided into subgroups. The first subgroup is comprised of residences, recreational users, and visitors. Within the Port setting, residences and recreational users are considered vulnerable resources. The second subgroup is comprised of workers in high density (i.e., generally more than 10 people per acre, per employer).

1 Facilities that are vulnerable resources include Critical Regional Activities/Facilities and
2 High Value Facilities. Critical Regional Activities/Facilities are facilities in the Port that
3 are important to the local or regional economy, the national defense, or some major
4 aspect of commerce. These facilities typically have a large quantity of unique equipment,
5 a very large working population, and are critical to both the economy and to national
6 defense. Such facilities in the Port have been generally defined in the Port RMP as the
7 former Todd Shipyard, Fish Harbor, Badger Avenue Bridge, and Vincent Thomas Bridge.

8 High Value Facilities are nonhazardous facilities, in and near the Ports, which have very
9 high economic value. These facilities include both facility improvements and cargo
10 in-place, such as container storage areas. However, the determination of a vulnerable
11 resource is made by the Port and LAFD on a case-by-case basis. Although the Port
12 generally considers container terminals to be High Value Facilities, these types of
13 facilities have never been considered vulnerable resources in risk analyses completed by
14 the Port and LAFD (pers. comm., Knott, 2007). Because omni terminals are not
15 considered vulnerable resources, the proposed Project would not conflict with the RMP.

16 Alternative 6 plans and specifications will be reviewed by the LAFD for conformance to
17 the Los Angeles Municipal Fire Code, as a standard practice. Buildings will be equipped
18 with fire protection equipment as required by the Los Angeles Municipal Fire Code.
19 Access to all buildings and adequacy of road and fire lanes will be reviewed by the
20 LAFD to ensure that adequate access and firefighting features are provided. Alternative
21 6 plans would include an internal circulation system, code-required features, and other
22 firefighting design elements, as approved by the LAFD.

23 Operation of Alternative 6 would be required to comply with all existing hazardous waste
24 laws and regulations, including the federal RCRA and CERCLA, and CCR Title 22 and
25 Title 26. Alternative 6 would comply with these laws and regulations, which would
26 ensure that potential hazardous materials handling would occur in an acceptable manner.

27 **CEQA Impact Determination**

28 Alternative 6 operations would not conflict with RMP guidelines. Alternative 6 plans
29 and specifications will be reviewed by the LAFD for conformance to the Los Angeles
30 Municipal Fire Code, and operation of Alternative 6 would be required to comply
31 with all applicable existing hazardous waste laws and regulations. Therefore, under
32 CEQA, Alternative 6 operations would comply with applicable regulations and
33 policies guiding development in the Port. Impacts under CEQA would be less than
34 significant.

35 *Mitigation Measures*

36 No mitigation is required.

37 *Residual Impacts*

38 With no mitigation required, the residual impacts would be less than significant.

39 **NEPA Impact Determination**

40 Alternative 6 operations would not conflict with RMP guidelines. Alternative 6 plans
41 and specifications will be reviewed by the LAFD for conformance to the Los Angeles
42 Municipal Fire Code, and operation of Alternative 6 would be required to comply
43 with all applicable existing hazardous waste laws and regulations. Therefore, under
44 NEPA, Alternative 6 operations would comply with applicable regulations and

1 policies guiding development in the Port. Impacts under NEPA would be less than
2 significant.

3 *Mitigation Measures*

4 No mitigation is required.

5 *Residual Impacts*

6 With no mitigation required, the residual impacts would be less than significant.

7 **Impact RISK-5b: Tsunami-induced flooding and seismic events** 8 **would result in fuel releases from ships or hazardous substances** 9 **releases from containers, which in turn would result in risks to** 10 **persons and/or the environment.**

11 As discussed in Section 3.5, there is the potential for a large tsunami to affect the Port.
12 A large tsunami would likely lead to a fuel spill if a moored vessel is present. Although
13 crude oil tankers would not moor at Berths 97-109, each ship contains large quantities of
14 fuel oil (up to 5,000 barrels). While in transit, the hazards posed to tankers are
15 insignificant, and in most cases, imperceptible. However, while docked, a tsunami
16 striking the Port could cause significant ship movement and even a hull breach if the ship
17 is pushed against the wharf.

18 The Port is subject to diurnal tides, meaning two high tides and two low tides during a
19 24-hour day. The average of the lowest water level during low tide periods each day is
20 typically set as a benchmark of 0 feet and is defined as MLLW. For purposes of this
21 discussion, all proposed Project structures and land surfaces are expressed as height
22 above (or below) MLLW. The msl in the Port is +2.8 feet above MLLW (NOAA, 2005).
23 This height reflects the arithmetic mean of hourly heights observed over the National
24 Tidal Datum Epoch (19 years) and, therefore, reflects the mean of both high and low
25 tides in the Port. The recently developed Port Complex model described in Section 3.5.2
26 predicts tsunami wave heights with respect to msl, rather than MLLW and, therefore, can
27 be considered a reasonable average condition under which a tsunami might occur. The
28 Port msl of +2.8 feet must be considered in comparing projected tsunami run-up (i.e.,
29 amount of wharf overtopping and flooding) to proposed wharf height and topographic
30 elevations, which are measured with respect to MLLW.

31 A reasonably foreseeable scenario for generation of a tsunami or seiche in the San Pedro
32 Bay Ports include the recently developed Port Complex model, which predicts tsunami
33 wave heights of 1.3 to 5.3 feet above msl at the proposed Project site, under both
34 earthquake and landslide scenarios. Incorporating the Port msl of +2.8 feet, the model
35 predicts tsunami wave heights of 4.1 to 8.1 feet above MLLW at the proposed Project site.
36 Because the proposed Project site elevation ranges from 10 to 15 feet above MLLW,
37 localized tsunami-induced flooding would not occur.

38 While the analysis above considers the greatest reasonably foreseeable seismic risk based
39 on a maximum seismic event, with respect to msl, a theoretical maximum worst-case
40 wave action from a tsunami would result if the single highest tide predicted over the next
41 40 years at the San Pedro Bay Ports coincided with the seismic event. The single highest
42 tide predicted over the next 40 years is 7.3 feet above MLLW. This condition is expected
43 to occur less than 1 percent of the time over this 40-year period. If that very rare
44 condition were to coincide with a maximum tsunami event, the model predicts tsunami
45 wave heights of 8.6 to 12.6 feet above MLLW at the proposed Project site. Because the

1 proposed Project site elevation ranges from 10 to 15 feet above MLLW, localized
2 tsunami-induced flooding up to 2.6 feet is possible. To determine the extent of potential
3 impacts due to tsunami-induced flooding, Port structural engineers have determined that
4 Port reinforced concrete or steel structures designed to meet California earthquake
5 protocols incorporated into MOTEMS would be expected to survive complete inundation
6 in the event of a tsunami (pers. comm., Yin, 2006). However, substantial infrastructure
7 damage and/or injury to personnel would occur as a result of complete site inundation.

8 As previously discussed, there is a potential for tsunami-induced flooding under the
9 theoretical maximum worst-case scenario. However, the likelihood of a large tsunami is
10 very low during operation of the proposed Project and the overall probability of this
11 worst-case scenario is less than 1 in a 100,000-year period.

12 The most likely worst-case tsunami scenario was based partially on a magnitude
13 7.6 earthquake on the offshore Santa Catalina fault. The recurrence interval for a
14 magnitude 7.5 earthquake along an offshore fault in the Southern California Continental
15 Borderland is about 10,000 years. Similarly, the recurrence interval of a magnitude
16 7.0 earthquake is about 5,000 years and the recurrence interval of a magnitude
17 6.0 earthquake is about 500 years. However, there is no certainty that any of these
18 earthquake events would result in a tsunami, since only about 10 percent of earthquakes
19 worldwide result in a tsunami. In addition, available evidence indicates that
20 tsunamigenic landslides would be extremely infrequent and occur less often than large
21 earthquakes. This suggests recurrence intervals for such landslide events would be
22 longer than the 10,000-year recurrence interval estimated for a magnitude 7.5 earthquake
23 (Moffatt and Nichol, 2007). As noted above, the probability of the worst-case
24 combination of a large tsunami and extremely high tides would be less than once in a
25 100,000-year period.

26 Containers of hazardous substances on ships or on berths could similarly be damaged as a
27 result of a large tsunami. Such damage would result in releases of both hazardous and
28 nonhazardous cargo to the environment, adversely affecting persons and/or the marine
29 waters. However, containers carrying hazardous cargo would not necessarily release
30 their contents in the event of a large tsunami. The DOT regulations (49 CFR
31 Parts 172-180) covering hazardous material packaging and transportation would
32 minimize potential release volumes since packages must meet minimum integrity
33 specifications and size limitations.

34 The owner or operators of tanker vessels are required to have an approved Tank Vessel
35 Response Plan on board and a qualified individual in the U.S. with full authority to
36 implement removal actions in the event of an oil spill incident, and to contract with the
37 spill response organizations to carry out cleanup activities in case of a spill. The existing
38 oil spill response capabilities in the Port are sufficient to isolate spills with containment
39 booms and recover the maximum possible spill from an oil tanker.

40 Various studies have shown that double-hull tank vessels have lower probability of
41 releases when tanker vessels are involved in accidents. Because of these studies, the
42 USCG issued regulations addressing double-hull requirements for tanker vessels. The
43 regulations establish a timeline for eliminating single-hull vessels from operating in the
44 navigable waters or the EEZ of the U.S. after January 1, 2010 and double-bottom or
45 double-sided vessels by January 1, 2015. Only vessels equipped with a double hull, or
46 with an approved double containment system will be allowed to operate after those times.
47 It is unlikely that single-hull vessels will use the proposed Project terminal facilities
48 given the current proposed Project schedule and the planned phase-out of these vessels.

CEQA Impact Determination

Designing new facilities based on existing building codes may not prevent substantial damage to structures from coastal flooding as a result of tsunamis or seiches. Impacts due to seismically induced tsunamis and seiches are typical for the entire California coastline and would not be increased by construction of Alternative 6. However, because the Alternative 6 site elevation is located in 10 to 15 feet above MLLW, there is a substantial risk of coastal flooding due to tsunamis and seiches, which in turn, could result in accidental spills of petroleum products or hazardous substances. Because a major tsunami is not expected during the life of the proposed Project, but could occur (see Section 3.5, Geology, for additional information on the probability of a major tsunami), the probability of a major tsunami occurring is classified as “improbable” (less than once every 10,000 years). The potential consequence of such an event is classified as “moderate,” resulting in a Risk Code of 4, which is “acceptable.” The volume of spilled fuel is also expected to be relatively low since all fuel storage containers at the Project site would be quite small in comparison to the significance criteria volumes. While there will be fuel-containing equipment present during construction, most equipment is equipped with watertight tanks, with the most likely scenario being the infiltration of water into the tank and fuel combustion chambers and 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 under CEQA would be less than significant as they pertain to hazardous materials spills under criterion **RISK-5**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Designing new facilities based on existing building codes may not prevent substantial damage to structures from coastal flooding as a result of tsunamis or seiches. Impacts due to seismically induced tsunamis and seiches are typical for the entire California coastline and would not be increased by construction of Alternative 6. However, because the proposed Project site elevation is located within 10 to 15 feet above MLLW, there is a substantial risk of coastal flooding due to tsunamis and seiches, which in turn, could result in accidental spills of petroleum products or hazardous substances. Because a major tsunami is not expected during the life of Alternative 6, but could occur (see Section 3.5, Geology, for additional information on the probability of a major tsunami), the probability of a major tsunami occurring is classified as “improbable” (less than once every 10,000 years). The potential consequence of such an event is classified as “moderate,” resulting in a Risk Code of 4, which is “acceptable.” The volume of spilled fuel is also expected to be relatively low since all fuel storage containers at the Project site would be quite small in comparison to the significance criteria volumes. While there will be fuel-containing equipment present during construction, most equipment is equipped with watertight tanks, with the most likely scenario being the infiltration of water into the tank and fuel combustion chambers and very little fuel spilled. Thus, the volume spilled in the

1 event of a tsunami would be less than 10,000 gallons, which is considered “slight.”
2 In light of such a low probability and acceptable risk of a large tsunami, impacts
3 under NEPA would be less than significant as they pertain to hazardous materials
4 spills under criterion **RISK-5**.

5 *Mitigation Measures*

6 No mitigation is required.

7 *Residual Impacts*

8 With no mitigation required, the residual impacts would be considered less than
9 significant.

10 **Impact RISK-6b: A potential terrorist attack would result in adverse** 11 **consequences to areas near the Alternative 6 site during the** 12 **operations period.**

13 **Risk of Terrorist Actions Associated with Project Operations**

14 The probability of a terrorist attack on the proposed Project facilities is not likely to
15 appreciably change over current conditions. It is possible that the increase in vessel
16 traffic in the vicinity of the Berth 97-109 terminal could lead to a greater opportunity of a
17 successful terrorist attack; however, existing Port security measures would counter this
18 potential increase in unauthorized access to the terminal.

19 **Consequences of Terrorist Attack**

20 The risks associated with terrorism discussed in Section 3.8.2.4 would apply to the
21 terminal during operations. The potential consequences of a terrorist action on a
22 container terminal would be mainly environmental and economic. A terrorist action
23 involving a container vessel while at berth may result in a fuel and/or commodity spill
24 and its associated environmental damage. Within the Port, a terrorist action could block
25 key waterways and result in economic disruption. Potential environmental damage
26 would include fuel and/or commodity spills into the marine environment, with associated
27 degradation of water quality and damage to marine biological resources. Container ships
28 typically carry up to 5,000 barrels of fuel oil but would not be full when arriving at the
29 port. These impacts would be limited to the area surrounding the point of attack and
30 would be contained by the relevant oil spill response contractor. A potential fire
31 associated with a terrorist attack could result in short-term impacts to local air quality.
32 Such potential impacts to the environment area addressed in specific resource sections
33 including air quality (Section 3.2), biology (Section 3.3), and water quality (Section 3.14).

34 The consequences associated with the smuggling of WMDs would be substantial in terms
35 of impacts to the environment and public health and safety. However, the consequences
36 of a WMD attack would not be affected by the Project. Furthermore, the likelihood of
37 such an event would not be affected by Project-related infrastructure or throughput
38 increases, but would depend on the terrorist’s desired outcome and the ability of
39 safeguards, unaffected by the Project, to thwart it. Cargo containers represent only one of
40 many potential methods to smuggle WMDs, and with current security initiatives (see
41 Section 3.8.2.5) may be less plausible than other established smuggling routes (e.g., land-
42 based ports of entry, cross-border tunnels, and illegal vessel transportation).

CEQA Impact Determination

Potential public safety consequences of a terrorist attack on the Berth 97-109 terminal for Alternative 6 are considered negligible since, in the event of a successful attack, the potential for a small number of offsite injuries are possible mainly due to fire, which in turn would be a result of large amounts of fuel spilled into Port waters. Potential thermal radiation and explosion overpressure levels would be limited to the immediate vicinity of the attack and would not overlap any existing, planned, or permitted vulnerable resources including bulk oil and petroleum facilities located in the West Basin. However, the potential for limited public exposure along Port waterways is possible.

Any increase in the volume of container vessels visiting the Alternative 6 terminal would not change the probability or consequences of a terrorist attack on the Berth 97-109 terminal because the terminal is already considered a potential economic target, as well as a potential mode to smuggle a weapon into the United States. In addition, the measures outlined in Section 3.8.2.5 would serve to reduce the potential for a successful terrorist attack on the Berth 97-109 facility compared to Project baseline conditions (under which many of these measures had not been implemented). These measures have since improved both terminal and cargo security, and have resulted in enhanced cargo screening. Therefore, potential impacts associated with a potential terrorist attack on the Berth 97-109 facility are considered less than significant.

Mitigation Measures

Because terrorism impacts are less than significant, no mitigation is required.

Residual Impacts

With no mitigation required, residual impacts would be less than significant.

NEPA Impact Determination

Potential impacts under NEPA would be that same as under CEQA and are considered less than significant.

Mitigation Measures

Because terrorism impacts are less than significant, no mitigation is required.

Residual Impacts

With no mitigation required, residual impacts would be less than significant.

3.8.4.3.2.9 Alternative 7 – Nonshipping Use

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

Alternative 7 would convert the proposed site into a Regional Center, composed of retail, office park, and light industrial uses. Construction of a public dock(s) and related improvements would occur to support small watercraft, but new wharves would not be

1 constructed. The Catalina Express Terminal would not be relocated. Implementation of
2 Alternative 7 would include in-water construction activities.

3 **3.8.4.3.2.9.1 Construction Impacts**

4 **Impact RISK-1a: Construction/demolition activities would not** 5 **substantially increase the probable frequency and severity of** 6 **consequences to people or property as a result of accidental release** 7 **or explosion of a hazardous substance.**

8 Construction equipment could spill oil, gas, or fluids during normal usage or during
9 refueling, resulting in potential health and safety impacts to construction personnel.
10 BMPs and Los Angeles Municipal Code regulations (Chapter 5, Section 57, Divisions 4
11 and 5; Chapter 6, Article 4) would govern construction and demolition activities. Federal
12 and state regulations that govern the storage of hazardous materials in containers (i.e., the
13 types of materials and the size of packages containing hazardous materials) and the
14 separation of containers holding hazardous materials, would limit the potential adverse
15 impacts of contamination to a relatively small area. In addition, standard BMPs would be
16 used during construction and demolition activities to minimize runoff of contaminants, in
17 compliance with the State General Permit for Storm Water Discharges Associated with
18 Construction Activity (Water Quality Order 99-08-DWQ) and Project-specific SWPPP
19 (see Section 3.14, Water Quality, Sediments, and Oceanography, for more information).

20 **CEQA Impact Determination**

21 Implementation of construction and demolition standards, including BMPs, would
22 minimize the potential for an accidental release of petroleum products and/or
23 hazardous materials and/or explosion during construction/demolition activities at
24 Berths 97-109. Because construction/demolition-related spills are not uncommon,
25 the probability of a spill occurring is classified as “frequent” (more than once a year).
26 However, because such spills are typically short-term and localized, mainly due to
27 the fact that the volume in any single vehicle is generally less than 50 gallons and
28 fuel trucks are limited to 10,000 gallons or less, the potential consequence of such
29 accidents is classified as “slight,” resulting in a Risk Code of 4, which is
30 “acceptable.” Therefore, under CEQA, Alternative 7 construction and demolition
31 activities would not substantially increase the probable frequency and severity of
32 consequences to people or property as a result of an accidental release or explosion of
33 a hazardous substance. Based on criterion **RISK-1**, impacts under CEQA would be
34 less than significant.

35 *Mitigation Measures*

36 No mitigation is required.

37 *Residual Impacts*

38 With no mitigation required, the residual impacts would be less than significant.

39 **NEPA Impact Determination**

40 Alternative 7 would include Phase I construction, as well as construction of public
41 docks and related improvements, which would result in increased susceptibility to
42 hazardous materials spills during construction. Implementation of construction
43 standards, including BMPs, would minimize the potential for an accidental release of

1 hazardous materials and/or explosion during in-water construction activities at
2 Berths 97-109. Because construction-related spills are not uncommon, the
3 probability of a spill occurring is classified as “frequent” (more than once a year).
4 However, because such spills are typically short-term and localized, the potential
5 consequence of such accidents is classified as “slight,” resulting in a Risk Code of 4,
6 which is “acceptable.” Therefore, under NEPA, in-water construction would not
7 substantially increase the probable frequency and severity of consequences to people
8 or property as a result of an accidental release or explosion of a hazardous substance.
9 Based on risk criterion **RISK-1**, impacts under NEPA would be less than significant.

10 *Mitigation Measures*

11 No mitigation is required.

12 *Residual Impacts*

13 Residual impacts would be less than impact.

14 **Impact RISK-2a: Construction/demolition activities would not** 15 **substantially increase the probable frequency and severity of** 16 **consequences to people from exposure to health hazards.**

17 Construction and demolition activities would be conducted using BMPs and in
18 accordance with the Los Angeles Municipal Code (Chapter 5, Section 57, Divisions 4
19 and 5; Chapter 6, Article 4). Quantities of hazardous materials that exceed the thresholds
20 provided in Chapter 6.95 of the California Health and Safety Code would be subject to an
21 RRP and HMI. Implementation of increased inventory accountability and spill
22 prevention controls associated with this RRP and HMI, such as limiting the types of
23 materials stored and size of packages containing hazardous materials, would limit both
24 the frequency and severity of potential releases of hazardous materials, thus minimizing
25 potential health hazards and/or contamination of soil or water during construction/
26 demolition activities. These measures reduce the frequency and consequences of spills
27 by requiring proper packaging for the material being shipped, limits on package size, and
28 thus potential spill size, as well as proper response measures for the materials being
29 handled. Impacts from contamination of soil or water during construction/demolition
30 activities would apply mainly to construction personnel.

31 **CEQA Impact Determination**

32 Several standard policies regulate the storage of hazardous materials including the
33 types of materials, size of packages containing hazardous materials, and the
34 separation of containers containing hazardous materials. These measures reduce the
35 frequency and consequences of spills by requiring proper packaging for the material
36 being shipped, limits on package size, and thus potential spill size, as well as proper
37 response measures for the materials being handled. Implementation of these
38 preventative measures would minimize the potential for spills to affect members of
39 the public and limit the adverse impacts of contamination to a relatively small area.
40 Because construction/demolition-related spills are not uncommon, the probability of
41 a spill occurring is classified as “frequent” (more than once a year). However,
42 because such spills are typically short-term and localized, the potential consequence
43 of such accidents is classified as “slight,” resulting in a Risk Code of 4, which is
44 “acceptable.” Therefore, under CEQA, Alternative 7 construction/demolition
45 activities at Berths 97-109 would not substantially increase the probable frequency

1 and severity of consequences to people from exposure to health hazards. Based on
2 risk criterion **RISK-2**, impacts under CEQA would be less than significant.

3 *Mitigation Measures*

4 No mitigation is required.

5 *Residual Impacts*

6 Residual impacts would be less than significant.

7 **NEPA Impact Determination**

8 Phase I construction is applied to Alternative 7. In addition, Alternative 7 would
9 include construction of new commercial, retail, and light industrial buildings and
10 public dock areas, which would result in increased susceptibility to hazardous
11 materials spills during construction. Several standard policies regulate the storage of
12 hazardous materials including the types of materials, size of packages containing
13 hazardous materials, and the separation of containers containing hazardous materials.
14 These measures reduce the frequency and consequences of spills by requiring proper
15 packaging for the material being shipped, limits on package size, and thus potential
16 spill size, as well as proper response measures for the materials being handled.
17 Implementation of these preventative measures would minimize the potential for
18 spills to affect members of the public and limit the potential adverse impacts of
19 contamination to a relatively small area. Therefore, under NEPA, construction
20 activities at Berths 97-109 would not substantially increase the probable frequency
21 and severity of consequences to people from exposure to health hazards. Based on
22 risk criterion **RISK-2**, impacts under NEPA would be less than significant.

23 *Mitigation Measures*

24 No mitigation is required.

25 *Residual Impacts*

26 Residual impacts would be less than significant.

27 **Impact RISK-3a: Construction/demolition activities would not** 28 **substantially interfere with an existing emergency response or** 29 **evacuation plan or increase the risk of injury or death.**

30 Emergency response and evacuation planning is the responsibility of the LAPD, LAFD,
31 Port Police, and USCG. Construction and demolition activities would be subject to
32 emergency response and evacuation systems implemented by LAFD. During
33 construction/demolition activities, the LAFD would require that adequate vehicular
34 access to the site be provided and maintained. Prior to commencement of
35 construction/demolition activities, all plans would be reviewed by the LAFD to ensure
36 adequate access is maintained throughout construction/demolition.

37 **CEQA Impact Determination**

38 Alternative 7 contractors would be required to adhere to all LAFD emergency
39 response and evacuation regulations, ensuring compliance with existing emergency
40 response plans. Therefore, under CEQA construction/demolition activities associated
41 with Alternative 7 would not substantially interfere with an existing emergency

1 response or evacuation plan or increase risk of injury or death. Impacts would be less
2 than significant.

3 *Mitigation Measures*

4 No mitigation is required.

5 *Residual Impacts*

6 Residual impacts would be less than significant.

7 **NEPA Impact Determination**

8 Project contractors would be required to adhere to all LAFD emergency response and
9 evacuation regulations, ensuring compliance with existing emergency response plans.
10 Therefore, under NEPA, construction/demolition activities would not substantially
11 interfere with an existing emergency response or evacuation plan or increase the risk
12 of injury or death. Based on risk criterion **RISK-3**, impacts under NEPA would be
13 less than significant.

14 *Mitigation Measures*

15 No mitigation is required.

16 *Residual Impacts*

17 Residual impacts would be less than significant.

18 **Impact RISK-4a: Alternative 7 construction/demolition would comply**
19 **with applicable regulations and policies guiding development in the**
20 **Port.**

21 As described in Section 3.8.3.1, List of Regulations, the Alternative 7 would be subject to
22 numerous regulations for development and operation of the proposed facilities. For
23 example, construction and demolition would be completed in accordance with RCRA,
24 HSWA, CERCLA, CCR Title 22 and Title 26, and the California Hazardous Waste
25 Control Law, which would govern proper containment, spill control, and disposal of
26 hazardous waste generated during demolition and construction activities. Implementation
27 of increased inventory accountability, spill prevention controls, and waste disposal
28 controls associated with these regulations would limit both the frequency and severity of
29 potential releases of hazardous materials.

30 Potential releases of hazardous substances during demolition and/or construction would
31 be addressed through the federal Emergency Planning and Right-to-Know Act, which is
32 administered in California by the SERC, and the Hazardous Material Release Response
33 Plans and Inventory Law. In addition, demolition and construction would be completed
34 in accordance with the Los Angeles Municipal Fire Code, which regulates the
35 construction of buildings and other structures used to store flammable hazardous
36 materials, and the Los Angeles Municipal Public Property Code, which regulates the
37 discharge of materials into the sanitary sewer and storm drain. The latter requires the
38 construction of spill-containment structures to prevent the entry of forbidden materials,
39 such as hazardous materials, into sanitary sewers and storm drains. LAHD maintains
40 compliance with these federal, state, and local laws through a variety of methods,
41 including internal compliance reviews, preparation of regulatory plans, and agency
42 oversight. LAHD has implemented various plans and programs to ensure compliance
43 with these regulations. These regulations must be adhered to during design and

1 construction of Alternative 7. Implementation of increased spill prevention controls, spill
2 release notification requirements, and waste disposal controls associated with these
3 regulations would limit both the frequency and severity of potential releases of hazardous
4 materials.

5 Construction/demolition activities would be conducted using BMPs in accordance with
6 City guidelines, as detailed in the Development Best Management Practices Handbook
7 (City of Los Angeles, 2002). Applicable BMPs include, but are not limited to, vehicle
8 and equipment fueling and maintenance; material delivery, storage, and use; spill
9 prevention and control; solid and hazardous waste management; and contaminated soil
10 management. Alternative 7 plans and specifications will be reviewed by the LAFD for
11 conformance to the Los Angeles Municipal Fire Code, as a standard practice.
12 Implementation of increased spill prevention controls associated with these BMPs would
13 limit both the frequency and severity of potential releases of hazardous materials.

14 **CEQA Impact Determination**

15 Because Alternative 7 construction/demolition would be completed using standard
16 BMPs and in accordance with LAHD plans and programs, LAFD regulations, and all
17 applicable hazardous waste laws and regulations, impacts relating to compliance with
18 applicable regulations and policies guiding development in the Port would be less
19 than significant under CEQA under criterion **RISK-4**.

20 *Mitigation Measures*

21 No mitigation is required.

22 *Residual Impacts*

23 Residual impacts would be less than significant.

24 **NEPA Impact Determination**

25 Because Alternative 7 construction/demolition would be completed using standard
26 BMPs and in accordance with LAHD plans and programs, LAFD regulations, and all
27 applicable hazardous waste laws and regulations, impacts relating to compliance with
28 applicable regulations and policies guiding development in the Port would be less
29 than significant under NEPA under criterion **RISK-4**.

30 *Mitigation Measures*

31 No mitigation is required.

32 *Residual Impacts*

33 Residual impacts would be less than significant.

34 **Impact RISK-5a: Tsunami-induced flooding and seismic events** 35 **would result in fuel releases from demolition/construction equipment** 36 **or hazardous substances releases from containers, which in turn** 37 **would result in risks to persons and/or the environment.**

38 As discussed in Section 3.5, there is the potential for a major or great earthquake or large
39 tsunami to affect the Port. Either event would likely lead to a fuel spill from demolition
40 and/or construction equipment, as well as from containers of petroleum products and
41 hazardous substances used during the demolition/construction period. Unfinished

1 structures are especially vulnerable to damage from earthquakes and tsunamis during the
2 construction period.

3 The Port is subject to diurnal tides, meaning two high tides and two low tides during a
4 24-hour day. The average of the lowest water level during low tide periods each day is
5 typically set as a benchmark of 0 feet and is defined as MLLW. For purposes of this
6 discussion, all Alternative 5 structures and land surfaces are expressed as height above
7 (or below) MLLW. The msl in the Port is +2.8 feet above MLLW (NOAA, 2005). This
8 height reflects the arithmetic mean of hourly heights observed over the National Tidal
9 Datum Epoch (19 years) and, therefore, reflects the mean of both high and low tides in
10 the Port. The recently developed Port Complex model described in Section 3.5.2 predicts
11 tsunami wave heights with respect to msl rather than MLLW and, therefore, can be
12 considered a reasonable average condition under which a tsunami might occur. The Port
13 msl of +2.8 feet must be considered in comparing projected tsunami run-up (i.e., amount
14 of wharf overtopping and flooding) to proposed wharf height and topographic elevations,
15 which are measured with respect to MLLW.

16 A reasonably foreseeable scenario for generation of a tsunami or seiche in the San Pedro
17 Bay Ports include the recently developed Port Complex model, which predicts tsunami
18 wave heights of 1.3 to 5.3 feet above msl at the Alternative 7 site, under both earthquake
19 and landslide scenarios. Incorporating the Port msl of +2.8 feet, the model predicts
20 tsunami wave heights of 4.1 to 8.1 feet above MLLW at the Alternative 7 site. Because
21 the Alternative 7 site elevation ranges from 10 to 15 feet above MLLW, localized
22 tsunami-induced flooding would not occur.

23 While the analysis above considers the greatest reasonably foreseeable seismic risk based
24 on a maximum seismic event, with respect to msl, a theoretical maximum worst-case
25 wave action from a tsunami would result if the single highest tide predicted over the next
26 40 years at the San Pedro Bay Ports coincided with the seismic event. The single highest
27 tide predicted over the next 40 years is 7.3 feet above MLLW. This condition is expected
28 to occur less than 1 percent of the time over this 40-year period. If that very rare
29 condition were to coincide with a maximum tsunami event, the model predicts tsunami
30 wave heights of 8.6 to 12.6 feet above MLLW at the Alternative 7 site. Because the
31 Alternative 7 site elevation ranges from 10 to 15 feet above MLLW, localized tsunami-
32 induced flooding up to 2.6 feet is possible. To determine the extent of potential impacts
33 due to tsunami-induced flooding, Port structural engineers have determined that Port
34 reinforced concrete or steel structures designed to meet California earthquake protocols
35 incorporated into MOTEMS would be expected to survive complete inundation in the
36 event of a tsunami (pers. comm., Yin, 2006). However, substantial infrastructure damage
37 and/or injury to personnel would occur as a result of complete site inundation.

38 As previously discussed, there is a potential for tsunami-induced flooding under the
39 theoretical maximum worst-case scenario. However, the likelihood of a large tsunami is
40 very low during construction of Alternative 7 and the overall probability of this worst-
41 case scenario is less than 1 in a 100,000-year period.

1 The most likely worst-case tsunami scenario was based partially on a magnitude
2 7.6 earthquake on the offshore Santa Catalina fault. The recurrence interval for a
3 magnitude 7.5 earthquake along an offshore fault in the Southern California Continental
4 Borderland is about 10,000 years. Similarly, the recurrence interval of a magnitude
5 7.0 earthquake is about 5,000 years and the recurrence interval of a magnitude
6 6.0 earthquake is about 500 years. However, there is no certainty that any of these
7 earthquake events would result in a tsunami, since only about 10 percent of earthquakes
8 worldwide result in a tsunami. In addition, available evidence indicates that
9 tsunamigenic landslides would be extremely infrequent and occur less often than large
10 earthquakes. This suggests recurrence intervals for such landslide events would be
11 longer than the 10,000-year recurrence interval estimated for a magnitude 7.5 earthquake
12 (Moffatt and Nichol, 2007). As noted above, the probability of the worst-case
13 combination of a large tsunami and extremely high tides would be less than once in a
14 100,000-year period.

15 **CEQA Impact Determination**

16 Impacts due to major or great earthquakes and seismically induced tsunamis and
17 seiches are typical for the entire California coastline and would not be increased by
18 construction of Alternative 7. However, because the Alternative 7 site elevation is
19 located within 10 to 15 feet above MLLW and projects in the construction phase are
20 especially vulnerable to tsunami damage due to the presence of unfinished structures,
21 there is a substantial risk of coastal flooding due to tsunamis and seiches, which in
22 turn, could result in accidental spills of petroleum products or hazardous substances.
23 Because a major tsunami is not expected during the life of Alternative 7, but could
24 occur (see Section 3.5, Geology, for additional information on the probability of a
25 major tsunami), the probability of a major tsunami occurring is classified as
26 “improbable” (less than once every 10,000 years). The potential consequence of
27 such an event is classified as “moderate,” resulting in a Risk Code of 4, which is
28 “acceptable.” The volume of spilled fuel is also expected to be relatively low. While
29 there will be fuel-containing equipment present during construction, most equipment
30 is equipped with watertight tanks, with the most likely scenario being the infiltration
31 of water into the tank and fuel combustion chambers and very little fuel spilled. Thus,
32 the volume spilled in the event of a tsunami would be less than 10,000 gallons, which
33 is considered “slight.” In light of such a low probability and acceptable risk of a
34 large tsunami or other seismic risk, Alternative 7 impacts under CEQA would be less
35 than significant as they pertain to hazardous materials spills under criterion **RISK-5**.

36 *Mitigation Measures*

37 No mitigation is required.

38 *Residual Impacts*

39 Residual impacts would be less than significant.

40 **NEPA Impact Determination**

41 Impacts due to major or great earthquakes and seismically induced tsunamis and
42 seiches are typical for the entire California coastline and would not be increased by
43 construction of Alternative 7. However, because the Alternative 7 site elevation is
44 located within 10 to 15 feet above MLLW and projects in the construction phase are
45 especially vulnerable to tsunami damage due to the presence of unfinished structures,
46 there is a substantial risk of coastal flooding due to tsunamis and seiches, which in

1 turn, could result in accidental spills of petroleum products or hazardous substances.
2 Because a major tsunami is not expected during the life of Alternative 7, but could
3 occur (see Section 3.5, Geology, for additional information on the probability of a
4 major tsunami), the probability of a major tsunami occurring is classified as
5 “improbable” (less than once every 10,000 years). The potential consequence of
6 such an event is classified as “moderate,” resulting in a Risk Code of 4, which is
7 “acceptable.” The volume of spilled fuel is also expected to be relatively low. While
8 there will be fuel-containing equipment present during construction, most equipment
9 is equipped with watertight tanks, with the most likely scenario being the infiltration
10 of water into the tank and fuel combustion chambers and very little fuel spilled. Thus,
11 the volume spilled in the event of a tsunami would be less than 10,000 gallons, which
12 is considered “slight.” In light of such a low probability and acceptable risk of a
13 large tsunami or other seismic risk, Alternative 7 impacts under NEPA would be less
14 than significant as they pertain to hazardous materials spills under criterion **RISK-5**.

15 *Mitigation Measures*

16 No mitigation is required.

17 *Residual Impacts*

18 Residual impacts would be less than significant.

19 **Impact RISK-6a: A potential terrorist attack would result in adverse** 20 **consequences to areas near the Alternative 7 site during the** 21 **construction period.**

22 **Risk of Terrorist Actions during Construction**

23 The probability of a terrorist attack on the Alternative 7 facilities is not likely to
24 appreciably change during construction compared to baseline conditions.

25 **Consequences of Terrorist Attack**

26 During construction, a terrorist action could block key road access points and result in
27 economic disruption. Potential environmental damage would include fuel spills into the
28 marine environment, with associated degradation of water quality and damage to marine
29 biological resources. These impacts would be limited to the area surrounding the point of
30 attack and would be contained by the relevant oil spill response contractor. A potential
31 fire associated with a terrorist attack could result in short-term impacts to local air quality.

32 **CEQA Impact Determination**

33 Existing Port security measures would counter any potential increase in unauthorized
34 vehicular access to the terminal. The potential for a terrorist attack that would result
35 in adverse consequences to areas near the proposed site during the construction
36 period is considered improbable and the consequences could be moderate. This
37 combination would result in a Risk Code of 4, which is “acceptable” and impacts
38 would be less than significant under criterion **RISK-6**.

1 *Mitigation Measures*

2 No mitigation is required.

3 *Residual Impacts*

4 Residual impacts would be less than significant.

5 **NEPA Impact Determination**

6 Potential impacts under NEPA would be the same as under CEQA and are considered
7 less than significant.

8 *Mitigation Measures*

9 No mitigation is required.

10 *Residual Impacts*

11 Residual impacts would be less than significant.

12 **3.8.4.3.2.9.2 Operational Impacts**

13 Under Alternative 7, the Project site would not operate as a marine terminal of any type,
14 but rather a Regional Center combining mainly office, retail, and light industrial uses.
15 Operation of a regional center would not include uses or tenants that would use or store
16 substantial quantities of hazardous substances. Operation of such public oriented retail,
17 commercial, and industrial areas would be required to comply with all applicable health
18 and safety codes that address hazards avoidance and hazardous materials management.
19 As such, potential risks associated with **Impact RISKS 1b, 2b, 3b, 5b, and 6b** during
20 everyday operations are considered less than significant from a CEQA and NEPA
21 perspective.

22 **Impact RISK-4b: Alternative 7 would comply with applicable
23 regulations and policies guiding development in the Port.**

24 Alternative 7 plans and specifications will be reviewed by the LAFD for conformance to
25 the Los Angeles Municipal Fire Code, as a standard practice. Buildings will be equipped
26 with fire protection equipment as required by the Los Angeles Municipal Fire Code.
27 Access to all buildings and adequacy of road and fire lanes will be reviewed by the
28 LAFD to ensure that adequate access and firefighting features are provided.
29 Alternative 7 plans would include an internal circulation system, code-required features,
30 and other firefighting design elements, as approved by the LAFD.

31 Operation of Alternative 7 would be required to comply with all existing hazardous waste
32 laws and regulations, including the federal RCRA and CERCLA, and CCR Title 22 and
33 Title 26. Alternative 7 would comply with these laws and regulations, which would
34 ensure that potential hazardous materials handling would occur in an acceptable manner.

35 The West Basin is identified by the Port as an area of restricted access. Public
36 recreational boaters can only access the West Basin with a permit granted by the Port.

CEQA Impact Determination

Project plans under Alternative 7 would be reviewed by the LAFD for conformance to the Los Angeles Municipal Fire Code, as a standard practice. Buildings would be equipped with fire protection equipment as required by the Los Angeles Municipal Fire Code. Access to all buildings and adequacy of road and fire lanes will be reviewed by the LAFD to ensure that adequate access and firefighting features are provided. Alternative 7 would be constructed in accordance with policies and guidelines governing Port construction.

However, the Port RMP, which provides guidelines for the siting or relocation of facilities that handle dangerous cargo, was specifically intended to minimize potential risks to vulnerable resources, which include high densities of workers, recreational users, and visitors. This alternative could be determined by the Port and LAFD to be a vulnerable resource (this determination is made on an individual case-by-case basis). Although this alternative is not a facility that handles dangerous cargo, the intent of the RMP is to avoid overlapping hazard zones of dangerous cargo facilities with vulnerable resources. Because existing liquid bulk facilities are located directly across the Southwest Slip from the proposed site and because ships carrying liquefied natural or petroleum gases can moor at the Berth 120 wharf (reducing the distance between flammable materials and the Alternative 7 site), the Port has preliminarily determined that the hazard footprint for the Berth 118-120 facilities (but not the Berth 148 facilities) would partially overlap with the Alternative 7 site (Cham, 2004). Because the uses or users under Alternative 7 could be determined to be vulnerable resources, Alternative 7 is likely to conflict with the intent of the Port RMP, which is considered to be a potentially significant impact.

The vulnerability of the site as a regional center is also based on substantial numbers of daily workers, recreational users, and visitors who could be exposed to the risk of release or explosion due to proximity to the Kinder Morgan/GATX bulk and the Western Fuel Oil facility just across the Southwest slip and the ConocoPhillips facility across the West Basin. Consequently, Alternative 7 could result in significant impacts because it has the potential to expose a substantial number of people to increased health hazard risks.

Mitigation Measures

Alternative 7 would require the implementation of **MM HAZ-1**.

HAZ-1: The Los Angeles Harbor Department will perform a Risk Analysis of the Berth 118-120 facilities that would consider the location of the Regional Center. Based on the results of the risk analysis, recommendations to ensure an acceptable level of public safety would be implemented. These include, but are not limited to, alternative building configurations and buffer zones that will be incorporated into the design of this alternative to reduce potential impacts to users of the Regional Center to an acceptable level.

Residual Impacts

Impacts after the implementation of **MM HAZ-1** (reduces potential risks to the Regional Center as a vulnerable resource) would not be significant.

NEPA Impact Determination

Alternative 7 would include development on the same site acreage as the NEPA baseline. Design, construction, and operation of Alternative 7 would comply with existing fire and building codes and hazardous waste laws and regulations, including the federal RCRA, CERCLA, and CCR Title 22 and Title 26. Compliance with these laws and regulations would ensure that potential hazardous materials management would occur in an acceptable manner. However, because existing liquid bulk facilities are across the Southwest Slip and because ships carrying liquefied natural or petroleum gases can moor at the Berth 120 wharf (reducing the distance between flammable materials and the Alternative 7 site), the Port has preliminarily determined that the hazard footprint for the Berth 118-120 facilities (but not the Berth 148 facilities) would partially overlap with the Alternative 7 site (Cham, 2004). Because the uses or users under Alternative 7 could be determined to be vulnerable resources, Alternative 7 is likely to conflict with the intent of the Port RMP, which is considered to be a potentially significant impact.

The vulnerability of the site as a Regional Center is also based on substantial numbers of daily workers, recreational users, and visitors who could be exposed to the risk of release or explosion due to proximity to the Kinder Morgan/GATX bulk and the Western Fuel Oil facility just across the Southwest slip and the ConocoPhillips facility across the West Basin. Consequently, Alternative 7 would result in significant impacts because it has the potential to expose a substantial number of people to increased health hazard risks.

Mitigation Measures

Alternative 7 would require the implementation of **MM HAZ-1**, as described above.

Residual Impacts

Impacts after the implementation of **MM HAZ-1** (reduces potential risks to the Regional Center as a vulnerable resource) would not be significant.

3.8.4.3.3 Summary of Impact Determinations

Table 3.8-27 presents a summary of the CEQA and NEPA impact determinations of the proposed Project and its alternatives related to Hazards and Hazardous Materials, as described in the detailed discussion in Sections 3.8.4.3.1 and 3.8.4.3.2. This table is meant to allow easy comparison between the potential impacts of the Project and its alternatives with respect to this resource. Identified potential impacts may be based on federal, state, or City of Los Angeles significance criteria, Port criteria, and the scientific judgment of the report preparers.

For each type of potential impact, the table describes the impact, notes the CEQA and NEPA impact determinations, describes any applicable mitigation measures, and notes the residual impacts (i.e., the impact remaining after mitigation). All impacts, whether significant or not, are included in this table. Note that impact the description for each of the alternatives is the same as for the proposed Project, unless otherwise noted.

1

Table 3.8-27. Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.8 Hazards and Hazardous Materials				
Proposed Project	RISK-1a: Construction/demolition activities would not substantially increase the probable frequency and severity of consequences to people or property as a result of accidental release or explosion of a hazardous substance.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-2a: Construction/demolition activities would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-3a: Construction/demolition activities would not substantially interfere with an existing emergency response or evacuation plan, thereby increasing risk of injury or death.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-4a: The proposed Project would comply with applicable regulations and policies guiding development within the Port.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-5a: Tsunami-induced flooding and seismic events would result in fuel releases from demolition/construction equipment or hazardous substances releases from containers, which in turn would result in risks to persons and/or the environment.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-6a: A potential terrorist attack would result in adverse consequences to areas near the proposed Project site during the construction period.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

2

Table 3.8-27. Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.8 Hazards and Hazardous Materials (continued)				
Proposed Project (continued)	RISK-1b: Berth 97-109 terminal operations would not increase the probable frequency and severity of consequences to people or property as a result of accidental release or explosion of a hazardous substance.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-2b: Proposed Project operations would not substantially increase the probable frequency and severity of consequences to people or property from exposure to health hazards.	CEQA: Less than Significant impact NEPA: Less than Significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-3b: Proposed Project operations would not substantially interfere with any existing emergency response plans or emergency evacuation plans.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-4b: The proposed Project would comply with applicable regulations and policies guiding development within the Port.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-5b: Tsunami-induced flooding and seismic events would result in fuel releases from ships or hazardous substances releases from containers, which in turn would result in risks to persons and/or the environment.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-6b: A potential terrorist attack would result in adverse consequences to areas near the proposed Project site during the operations period.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

Table 3.8-27. Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.8 Hazards and Hazardous Materials (continued)				
Alternative 1 – No Project Alternative	RISK-1a	CEQA: Less than significant impact NEPA: Not Applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not Applicable
	RISK-2a	CEQA: Less than significant impact NEPA: Not Applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not Applicable
	RISK-3a	CEQA: Less than significant impact NEPA: Not Applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not Applicable
	RISK-4a	CEQA: Less than significant impact NEPA: Not Applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not Applicable
	RISK-5a	CEQA: Less than significant impact NEPA: Not Applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not Applicable
	RISK-6a	CEQA: No impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: No impact NEPA: Not applicable
	RISK-1b	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-2b	CEQA: No impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: No impact NEPA: Not applicable
	RISK-3b	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable

Table 3.8-27. Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.8 Hazards and Hazardous Materials (continued)				
Alternative 1 (continued)	RISK-4b	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-5b	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-6b	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
Alternative 2 – No Federal Action Alternative	RISK-1a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-2a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-3a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-4a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

Table 3.8-27. Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.8 Hazards and Hazardous Materials (continued)				
Alternative 2 (continued)	RISK-5a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-6a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-1b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-2b	CEQA: No impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: No impact NEPA: No impact
	RISK-3b	CEQA: Less than significant impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: No impact
	RISK-4b	CEQA: Less than significant impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: No impact
	RISK-5b	CEQA: Less than significant impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: No impact
	RISK-6b	CEQA: Less than significant impact NEPA: No impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: No impact

Table 3.8-27. Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.8 Hazards and Hazardous Materials (continued)				
Alternative 3 – Reduced Fill Alternative, No Berth 102 Wharf	RISK-1a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-2a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-3a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-4a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-5a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-6a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

Table 3.8-27. Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.8 Hazards and Hazardous Materials (continued)				
Alternative 3 (continued)	RISK-1b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-2b	CEQA: Less than Significant impact NEPA: Less than Significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-3b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-4b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-5b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-6b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

Table 3.8-27. Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.8 Hazards and Hazardous Materials (continued)				
Alternative 4 – Reduced Fill Alternative, No Berth 100 South	RISK-1a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-2a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-3a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-4a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-5a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-6a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

Table 3.8-27. Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.8 Hazards and Hazardous Materials (continued)				
Alternative 4 (continued)	RISK-1b	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
		NEPA: Less than significant impact	Mitigation not required	NEPA: Less than significant impact
	RISK-2b	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
		NEPA: Less than significant impact	Mitigation not required	NEPA: Less than significant impact
	RISK-3b	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact
		NEPA: Less than significant impact	Mitigation not required	NEPA: Less than significant impact
RISK-4b	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact	
	NEPA: Less than significant impact	Mitigation not required	NEPA: Less than significant impact	
RISK-5b	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact	
	NEPA: Less than significant impact	Mitigation not required	NEPA: Less than significant impact	
RISK-6b	CEQA: Less than significant impact	Mitigation not required	CEQA: Less than significant impact	
	NEPA: Less than significant impact	Mitigation not required	NEPA: Less than significant impact	

Table 3.8-27. Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.8 Hazards and Hazardous Materials (continued)				
Alternative 5 – Reduced Construction and Operation Alternative: Phase I Construction Only	No in-water construction impacts would occur in association with the Alternative 5. Therefore, there would be no impacts under CEQA and NEPA for RISK-1a, RISK-2a, RISK-3a, RISK-4a, RISK-5a, and RISK-6a.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-1b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-2b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-3b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-4b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-5b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

Table 3.8-27. Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.8 Hazards and Hazardous Materials (continued)				
Alternative 5 (continued)	RISK-6b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
Alternative 6 Omni Cargo Terminal Alternative	RISK-1a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-2a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-3a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-4a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-5a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-6a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

Table 3.8-27. Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.8 Hazards and Hazardous Materials (continued)				
Alternative 6 (continued)	RISK-1b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-2b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-3b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-4b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-5b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-6b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

Table 3.8-27. Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.8 Hazards and Hazardous Materials (continued)				
Alternative 7 – Non-Shipping Alternative	RISK-1a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-2a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-3a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-4a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-5a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-6a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

Table 3.8-27. Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.8 Hazards and Hazardous Materials (continued)				
Alternative 7 (continued)	Operation of such public oriented retail, commercial, and industrial areas would be required to comply with all applicable health and safety codes that address hazards avoidance and hazardous materials management. As such, potential risks associated with Impact RISKS 1b, 2b, 3b, 5b, and 6b during everyday operations are considered less than significant from both a CEQA and NEPA perspective.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-4b	CEQA: Significant impact NEPA: Significant impact	MM HAZ-1 MM HAZ-1	CEQA: Less than significant impact NEPA: Less than significant impact
Note: *Unless otherwise noted, all impact descriptions for each of the Alternatives are the same as those described for the Proposed Project.				

1 **3.8.4.4 Mitigation Monitoring**

2 Mitigation measure HAZ-1 applies to Alternative 7.

Impact RISK-4b: Alternative 7 would comply with applicable regulations and policies guiding development in the Port.	
Mitigation Measure	HAZ-1: The Los Angeles Harbor Department will perform a Risk Analysis of the Berth 118-120 facilities that would consider the location of the Regional Center. Based on the results of the risk analysis, recommendations to ensure an acceptable level of public safety would be implemented. These include, but are not limited to, alternative building configurations and buffer zones that will be incorporated into the design of this alternative to reduce potential impacts to users of the Regional Center to an acceptable level.
Timing	Prior to commencing design of the Regional Center.
Methodology	Port staff will perform the risk assessment and make recommendations that shall be complied with during design to ensure potential risks to vulnerable resources are within acceptable levels.
Responsible Parties	Port of Los Angeles
Residual Impacts	Not Significant after mitigation

3

4 **3.8.5 Significant Unavoidable Impacts**

5 There are no significant unavoidable impacts associated with hazards and hazardous
6 materials.