3.7

HAZARDS AND HAZARDOUS MATERIALS

3.7.1 Introduction

This section describes the environmental setting for hazards and hazardous materials within the PMPU area, identifies applicable regulations, and analyzes the potential impacts that could result from implementing the proposed Program. Mitigation measures and the significance of impacts after mitigation also are described.

Potential health and safety impacts associated with encountering contaminated soil and groundwater are discussed in Section 3.6, Groundwater and Soils. The potential risks of inundation associated with tsunami-related flooding are discussed in Section 3.5, Geology.

3.7.2 Environmental Setting

A hazardous material is any item or agent (biological, chemical, physical) that has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors. Hazardous materials are defined and regulated in the U.S primarily by laws and regulations administered by the USEPA, OSHA, USDOT, and the U.S. Nuclear Regulatory Commission. Each has its own definition of "hazardous material."

OSHA's definition includes any substance or chemical that is a "health hazard" or "physical hazard," including: chemicals which are carcinogens, toxic agents, irritants, corrosives, sensitizers; agents which act on the hematopoietic system; agents which damage the lungs, skin, eyes, or mucous membranes; chemicals which are combustible, explosive, flammable, oxidizers, pyrophorics, unstable-reactive or water-reactive; and, chemicals which in the course of normal handling, use, or storage may produce or release dusts, gases, fumes, vapors, mists or smoke which may have any of the previously mentioned characteristics. (Full definitions can be found at 29 CFR 1910.1200.)

USEPA incorporates the OSHA definition, and adds any item or chemical which can cause harm to people, plants, or animals when released by spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing into the environment. (40 CFR 355 contains a list of over 350 hazardous and extremely hazardous substances).

USDOT defines a hazardous material as any item or chemical which, when being transported or moved, is a risk to public safety or the environment, and is regulated as such under the Hazardous Materials Regulations (49 CFR 100-180); International Maritime Dangerous Goods Code; Dangerous Goods Regulations of the International Air Transport Association; Technical Instructions of the International Civil Aviation Organization; and U.S. Air Force Joint Manual, Preparing Hazardous Materials for Military Air Shipments.

The U.S. Nuclear Regulatory Commission regulates items or chemicals which are "special nuclear source" or by-product materials or radioactive substances (10 CFR 20).

Hazardous materials are handled, stored, and transported to/from the Port by marine vessel, truck, and pipeline primarily as liquid bulk or in containers. Current facilities that handle hazardous materials are discussed in Section 3.7.2.2, PMPU Area.

3.7.2.1 Regional Setting

3.7.2.1.1 Existing Public Emergency Services

Emergency response/fire protection for the Port is provided by the City of Los Angeles Fire Department (LAFD); landside and waterside security is provided primarily by the Los Angeles Port Police (Port Police), in addition to the USCG and Los Angeles Police Department (LAPD). Two large fireboats and three small fireboats are strategically located in the Port. There are also fire stations equipped with fire trucks located in the Port and nearby in the communities of Wilmington and San Pedro. Section 3.10, Public Services, provides further details regarding emergency response services.

3.7.2.1.2 Existing Oil Spill Response Capability

The responsibility for onshore and offshore oil spill containment and cleanup is with the owner/operator of the facility or vessel involved in the spill (40 CFR, Part 112). All marine terminals in the Port and all vessels calling at the marine terminals are required to have oil spill response plans and a certain level of initial response capability. As it is not economically feasible or practical for terminal operators and vessels to each have their own equipment to respond to more than minor spills, operators rely on pooled or contract capabilities. Most spills at the Port are small and handled by commercial contractors. Most major oil companies are members of Marine Spill Response Corporation (MSRC), an oil spill cooperative established to respond to marine spills in Los Angeles and Orange counties, including the Port.

The vessel and terminal owners use various companies and organizations to provide their response capability. The USCG has created the Oil Spill Response Organization (OSRO) classification program so that facility and tank vessel operators can contract with and list an approved OSRO in their response plans in lieu of providing extensive lists of response resources to show that the listed organization can meet the response requirements. Organizations looking to receive a USCG OSRO classification submit an extensive list of their resources and capabilities to the USCG for evaluation. The State of California has a similar OSRO classification program to allow facility and tank vessel operators to list OSROs in meeting state oil spill response requirements.

Organizations that provide oil spill removal in the Port area include: Advanced Cleanup Technology; ANCON Marine, Inc.; Clean Seas, LLC; NRC Environmental Services Inc.; Heritage Environmental Services; MSRC; National Response Corporation; Oil Mop, LLC; Patriot Environmental Services; SoCal Ship Services; and, Tractide Marine Corporation. MSRC response services are available to all Marine Preservation Association members, companies that have contracted with MSRC. MSRC responds to oil spills of any size, shoreline cleanup and, as appropriate, hazardous material spill response and response to spills outside the U.S. MSRC can provide additional response capabilities through a network of contractors that make up MSRC's Spill Team Area Responders.

3.7.2.1.3 Homeland Security at the Port

Terrorism risk is 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. 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.

Cargo facilities in the Port are the locations where cargo moving through the international supply chain is transferred between vessels and land storage or to land transportation (e.g., truck, rail, or pipeline). 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, although these terminals are generally not seen as iconic (in the sense of the World Trade Center in 2001). 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. Further, the Transportation Worker Identification Credential program that was established by Congress through the Maritime Transportation Security Act is in force at the Port. This program is part of an effort to ensure that the nation’s ports are secure against people who could pose a security threat. To obtain a credential, an individual must provide a digital photograph, along with biometric information such as fingerprints, and pass a security threat assessment, which includes a criminal background check, conducted by the TSA.

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

In an attempt to minimize the risk of terrorism, numerous security measures have been implemented in the Port. 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 various terminal operators. The various security related regulations are summarized in Section 3.7.3, Applicable Regulations.

U.S. Customs and Border Protection (CBP) is the federal agency with responsibility for the security of cargo being shipped into the U.S. CBP is the lead agency for screening and scanning cargo that is shipped through the Port. While neither the individual berths within the Port nor the LAHD have responsibilities related to security scanning or

screening of cargo entering the port, 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 program, CBP inspectors pre-screen U.S.-bound marine containers at foreign ports prior to loading aboard vessels bound for U.S. ports. The Customs Trade Partnership Against Terrorism offers importers expedited processing of their cargo if they comply with CBP measures for securing their entire supply chain. Details of CBP cargo security programs can be found at the CBP website (CBP 2012).

3.7.2.1.4 Tsunami Hazards

The West Coast and Alaska Tsunami Warning Center (WCATWC) operates the federal data collection and warning system for tsunami hazards in its area of responsibility (AOR), which includes the west coast of the U.S., Alaska, Atlantic Ocean and seaboard, Puerto Rico, Virgin Islands, and Gulf of Mexico coastal areas, as well as the east and west coasts of Canada. The WCATWC collects seismic data from various seismic networks throughout its AOR (NOAA 2012). The data are processed, automatically and interactively, to quickly determine the tsunami potential of an earthquake, and bulletins are issued based on this first analysis of seismic data. If a tsunami could have been generated, sea level data, tsunami models, and historical tsunami information are analyzed to estimate impact level (NOAA 2012).

The WCATWC issues tsunami warnings within 10 minutes of an earthquake occurrence when a potentially tsunami-producing earthquake is greater than 7.0 on the Richter (greater than M7.0) in the Pacific AOR. Warnings also may be issued when potentially tsunami-producing earthquakes (greater than M7.5) outside the AOR occur and are likely to affect the AOR. The geographic extent of the warning is based on the size of the earthquake, tsunami travel times throughout the AOR, and expected impact zones (NOAA 2012).

Tsunami bulletins and warnings are broadcast by WCATWC through standard National Weather Service dissemination methods such as NOAA Weather Radio All Hazards, the Emergency Alert System, and the Emergency Managers Weather Information Network. State emergency service agencies receive the message through the Federal Emergency Management Administration's National Warning System and the NOAA Weather Wire Service. The states immediately pass warnings to local jurisdictions (NOAA 2012). The USCG also relays the message via radio. The Safety Element of the City's General Plan identifies the entire Port as an area that could be affected by a tsunami, and existing PMP Planning Areas 5, 6, 7, 8, and 9 as potential inundation areas (City of Los Angeles 1996). The LAHD has a Port-wide emergency notification system in place to warn of tsunamis and other emergency situations by telephone/email/text alerts (Malin 2011, personal communication).

3.7.2.1.5 Oil Facilities in the Port of Los Angeles Area

The region surrounding the Port contains a number of oil and natural gas fields. Development and use of these natural resources have been ongoing in the area for nearly a century. As a result, there is a variety of oil production and refining facilities scattered throughout the area, and connected by various pipelines. The presence and

operation of these facilities, especially those close to other Port operations, present some level of baseline risk to the public and environment. Although oil facilities and pipelines in the area are engineered safely and undergo extensive environmental review prior to their approval and construction, and rigorous safety testing prior to their operation, the nature of the materials handled by these facilities and pipelines nonetheless pose risks to people, the environment, and property in the vicinity. Upsets are possible even under normal operating conditions for oil pipelines and oil facilities, and they therefore pose a risk of exposing the surrounding population to accidental releases of materials. These releases can subsequently lead to biological and/or hydrological damage, fires, and/or releases of hazardous combustion byproducts from petroleum fires.

3.7.2.1.6 Schools in the Port of Los Angeles Area

Following is a list of schools within approximately one-quarter mile of the Port boundary. The locations of these schools are shown on Figure 3.7-1.

- Wilmington Skill Center, 217 Island Ave, Wilmington.
- Harbor Occupational Center, 740 N. Pacific, San Pedro.
- Gang Alternative Program, 231 Island Ave, Wilmington.
- Li'l Cowpoke Preschool, 445 North Avalon Blvd, Wilmington.
- Dana Strand Senior High School, 410 Hawaiian Ave, Wilmington.
- World Tots LA, 100 West 5th, San Pedro.
- Port of Los Angeles High School, 250 West 5th, San Pedro.
- 15th Street Elementary School, 1527 South Mesa St, San Pedro.

3.7.2.2 PMPU Area

3.7.2.2.1 Hazardous Materials

Hazardous materials are primarily handled at the Port in either liquid bulk or in containers. In addition, the Jankovich fuel dock with fuel storage tanks is located at Berth 74. Other facilities and terminals within the Port also store and use various hazardous materials such as lubricants and cleaning products.

Liquid Bulk Hazardous Materials

A hazardous liquid bulk cargo is defined by the RMP as a cargo moved through the Port in liquid bulk form, which is either flammable, explosive, or produces a flammable, toxic, or suffocating gas if released. Such cargoes include crude oil, petroleum products, and many liquid chemicals. The Port currently has seven liquid bulk facilities comprising a total of 114 acres to handle various types of commodities for both import and export. Handling facilities include tankers, barges, bulk carriers, and storage tanks with convenient rail access.

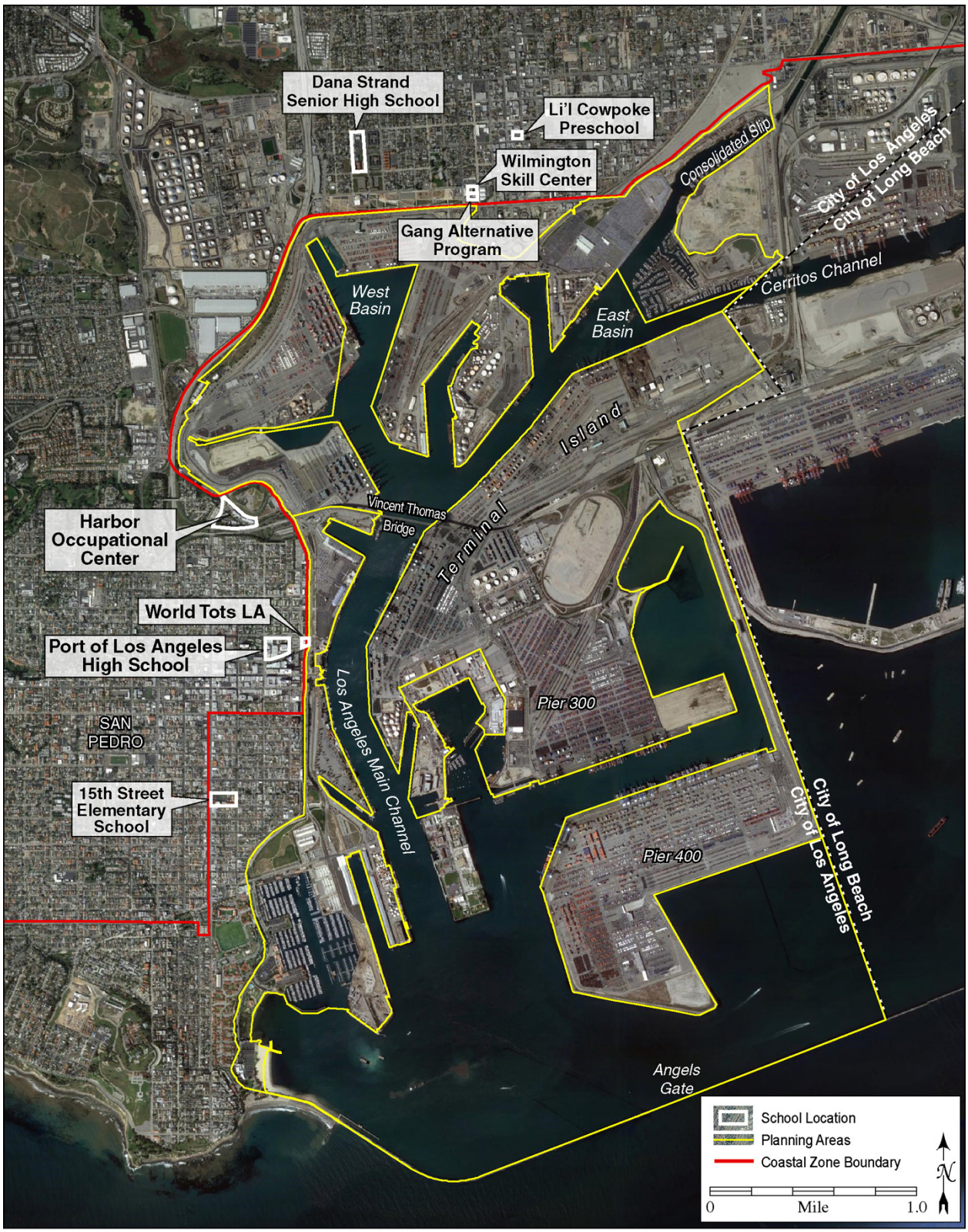

Figure 3.7-1. Schools in the Port of Los Angeles Area

Containerized Hazardous Materials

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 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;
- Unstable materials - those materials that react from heat, shock, friction, and contamination, and are capable of violent decomposition or autoreaction, but which are not designed primarily as an explosive;
- Radioactive materials - those materials that undergo spontaneous emission of radiation from decaying atomic nuclei; and,
- Water-reactive materials - those materials that react violently or dangerously on exposure to water or moisture.

Hazardous materials that are transported in containers are stored in individual containers specifically manufactured for storing and transporting the material. In addition, shipping companies prepare, package, and label hazardous materials shipments in accordance with federal requirements (49 CFR Parts 170-179) to facilitate surface transport of the containers. All hazardous materials in containers are required to be properly manifested.

Hazardous material manifests for inbound containerized hazardous materials are reviewed and approved by the Port Security and the LAFD before they can be unloaded.

3.7.2.2.2 Existing Operational Hazards

Existing hazards from marine terminals that handle hazardous liquid bulk materials and marine terminals that handle containers are discussed below.

Hazardous Liquid Bulk Marine Terminals

Table 3.7-1 summarizes information on the seven existing marine terminals in the Port that handle hazardous liquid bulk materials.

Currently, petroleum product imports dominate the hazardous liquid bulk movement through the Port. Recent data on oil and petroleum product throughput for the Port is presented in Table 3.7-2. The chemicals and related products listed in the table as hazardous are not all in liquid form.

Table 3.7-1. Hazardous Liquid Bulk Terminals

Name	*Berth*	*Existing Planning Area*	*Use*	*Terminal Features*
Kinder Morgan	118-120	4	Receive/export petroleum product	18 tanks with total capacity of 570,000 barrels (bbls)
ConocoPhillips	148-151	4	Receive partly or fully refined petroleum product	26 tanks with total capacity of 800,000 bbls
Nustar Energy	163	4	Marine oil	19 tanks with total capacity of 600,000 bbls
Valero	164	4	Fuels and lubricants	17 tanks with total capacity of 947,000 bbls
Shell	167-169	4	Fuels and lubricants	10 tanks with total capacity of 485,000 bbls
Vopak	187-191	5	Liquid bulk chemical products	66 tanks with total capacity of 700,000 bbls
ExxonMobil	238-240C	7	Fuels and lubricants	26 tanks with total capacity of 2,313,000 bbls
Source: Port 2012a				

Table 3.7-2. Port Petroleum and Chemical Annual Throughput 2006-2010

Commodity	*Commodity Throughput by Year (millions of short tons)*				
	2006	*2007*	*2008*	*2009*	*2010*
Crude Petroleum	0.6	1.6	0.2	2.7	2.8
Petroleum Products	14.3	15.0	10.5	11.4	10.5
Chemicals and related products	4.9	4.9	5.1	5.2	5.2
Source: USACE 2012					

The annual number of transfers of oil/petroleum products at California marine terminals has ranged from 6,000 to more than 7,000 over the past 10 years. Table 3.7-3 shows the number of spills per year from 2000 through 2009. For the most part, the quantity of each spill was very small, often measured in drops. Since 1995 there have only been two marine spills of more than 1,000 gallons. In 2009, out of 6,596 transfers totaling 33.3 billion gallons of oil through California marine terminals, there were nine spills resulting in a total of 124 gallons spilled. Of the nine spills, seven were related to terminal activities and two to shipboard activities (CSLC 2010). As shown in the table, there has been a decreasing trend in the number of spills since 2005.

Table 3.7-3. California Marine Terminal Spills 2000-2009

Year	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*
Number of Spills	21	25	27	36	28	32	17	19	14	9
Source: CSLC 2010										

Container Terminals

The Port Police issue permits for hazardous materials transported in containers. Table 3.7-4 lists the number of permits issued and the total weight of the hazardous materials transported for the time period 2009 through 2011. The major factor in the increase of hazardous materials in 2011 was the move to the Port of California United Terminals, which is located at Berths 405-406 and removed from the local communities.

Table 3.7-4 Hazardous Cargo in Containers 2009-2011

Year	*Permit Total*	*Total Weight (lbs)*
2009	5,808	116,198,758
2010	7,484	128,060,770
2011	24,192	675,824,431
Source: Lee 2012, personal communication		

Table 3.7-5 lists the nine existing container terminals in the Port together with their berths and existing planning area.

Table 3.7-5. Container Terminals in the Port of Los Angeles

Name	*Berth*	*Existing PMP Planning Area*
China Shipping / West Basin Container Terminal	100	3
Yang Ming / West Basin Container Terminal	121-131	4
TracPac Container Terminal	135-147	4
Port of Los Angeles Container Terminal	206-209	7
Yusen Container Terminal	212-225	7
Evergreen Container Terminal	226-236	7
APL / Global Gateway South Terminal	302-305	9
APM Terminals	401-404	9
California United Terminals	405-406	9
Source: Port 2012b		

Containers containing hazardous materials are transported from terminals via truck and, while in the Port, they are only handled by authorized workers (Section 3.7.3.2, Federal Regulations). The California Office of Emergency Services maintains the Response Information Management System (RIMS) database that includes detailed information on all reported hazardous material spills in California. All spills that occur in the Port, both hazardous and non-hazardous, are reported to the Office of Emergency Services and entered into the RIMS database. This database includes spills that may not result in a risk to the public, but could be considered environmental hazards. Information in the RIMS database was evaluated for the period 2007-2011 to assess the types and number of spills that have occurred at the Port that would be associated with container terminals (Table 3.7-6). As can be seen from the table, two spills reached the water and two resulted in an injury or evacuation involving workers only. None of the incidents affected members of the public.

Table 3.7-6. Container-Related Spills at the Port of Los Angeles 2007-2011

Date	*Substance*	*Amt Released*	*No. Injuries*	*No. Fatalities*	*No. Evac*	*Enter Water*
1/16/07	Ferrous Chlorine	Unknown	0	0	0	N
2/3/07	Propionic Acid	5 gallons	0	0	0	N
2/11/07	Chlorpyrifos	1 pint	0	0	0	N
2/26/07	Unknown	Unknown	1	0	0	Y
3/26/07	Furyl Alcohol	Unknown	0	0	0	N
5/9/07	Unknown	1 gallon	0	0	0	N
5/10/07	Unknown	Unknown	0	0	0	N
7/31/07	Methyl Carbonyls	1 gallon	0	0	0	N
9/5/07	Dimethyl Carbonate	0.5 gallon	0	0	0	N
10/5/07	Sodium Hydroxide	4 gallons	0	0	0	N
11/16/07	Unknown chemical	Unknown	0	0	0	N
2/28/08	Phenylenediamime	Unknown	0	0	0	N
5/24/08	Sulfur fertilizer	Unknown	0	0	0	N
3/10/09	Dichloropropane	20 gallons	0	0	0	N
5/9/09	Bio- diesel	Unknown	0	0	0	N
1/4/10	Gasoline	Unknown	0	0	0	N
5/3/10	Unknown	<1 quart	0	0	0	N
10/23/10	Xylene	1 gallon	7	0	50	N
3/14/11	Sulfur	1 pound	0	0	0	Y
3/16/11	Paint resin	8 ounces	0	0	0	N
6/6/11	Unknown	Unknown	0	0	0	N
6/30/11	Oil	Unknown	0	0	0	N
8/2/11	Corrosive liquid	1 quart	0	0	0	N
8/13/11	Unknown	Unknown	0	0	0	N

Source: California Emergency Management Agency 2012

3.7.2.2.3 Existing PMP Planning Areas

PMP Planning Area 1

While this planning area does not currently contain any liquid bulk or container terminals, such facilities are allowed under the current allowable land uses. The siting of a facility handling a hazardous liquid bulk material would require compliance with the Port's RMP. Hence, such a facility would only be allowed if it did not present a risk to the surrounding community (i.e., the hazard footprints generated by the facility calculated in accordance with the RMP do not overlap any vulnerable resources). A container terminal that handles hazardous materials would be allowed. Hazardous materials, such as fuel, lubricants, cleaning materials, and pesticides are presently stored and used in the planning area at facilities such as warehouses and other commercial facilities and would be allowed at new facilities. This area currently has a number of recreational boating facilities that are classified as vulnerable resources under the Port's RMP. This planning area is also adjacent to the community of San Pedro.

PMP Planning Area 2

Both liquid bulk and general cargo, including container, terminals are allowable under the existing PMP. There are currently several liquid bulk land use areas located on Pier 1. The Jankovich fuel dock, which includes hazardous liquid bulk storage tanks, is located in this planning area. There are currently no container terminals. Ports O'Call, a vulnerable resource, is located in existing PMP Planning Area 2. This planning area is also adjacent to the community of San Pedro.

PMP Planning Area 3

Both liquid bulk and general cargo, including container, terminals are allowable under the existing PMP. In addition, this planning area includes a container terminal. This planning area includes a number of vulnerable resources including the World Cruise Center, Island Express dock, and Catalina Express dock. It is also adjacent to the community of San Pedro. Recreational uses are also allowed. A new hazardous liquid bulk facility or change to an existing facility would only be allowed if it were consistent with the Port's RMP and would not produce a hazard footprint which would overlap a vulnerable resource.

PMP Planning Area 4

Both liquid bulk and general cargo, including container, terminals are allowable under the existing PMP. This planning area contains a number of container terminals and liquid bulk terminals. This planning area is adjacent to the community of Wilmington. Again, a new hazardous liquid bulk facility or change to an existing facility would only be allowed if it were consistent with the Port's RMP and not produce a hazard footprint which would overlap a vulnerable resource.

PMP Planning Area 5

Both liquid bulk and general cargo, including container, terminals are allowable under the existing PMP. This planning area currently contains the Vopak hazardous liquid bulk terminal. It does not contain any container terminals. There are no vulnerable resources, but recreational facilities are allowable. This planning area is adjacent to the community of Wilmington.

PMP Planning Area 6

Liquid bulk facilities are allowable under the existing PMP, however this planning area currently only contains recreational boating and open space. Siting of a liquid bulk facility would be difficult because such a facility would have to comply with the Port's RMP and it would be near the existing recreational boating vulnerable resource.

PMP Planning Area 7

Both liquid bulk and general cargo, including container, terminals are allowable under the existing PMP. This planning area consists primarily of container terminals

but also contains several liquid bulk facilities. It also contains several institutional facilities that are classified as vulnerable resources. This planning area is adjacent to Fish Harbor, also classified as a vulnerable resource.

PMP Planning Area 8

Both liquid bulk and general cargo, including container, terminals are allowable under the existing PMP. There is currently one liquid bulk facility and one container terminal in this planning area. Recreational uses are also allowed and several are currently present.

PMP Planning Area 9

Both liquid bulk and general cargo, including container, terminals are allowable under the existing PMP. This planning area consists primarily of container terminals but also contains one area at Pier 400 for liquid bulk that is mostly separated from vulnerable resources.

3.7.3 Applicable Regulations

The PMPU would be subject to numerous federal, state, and local laws and regulations designed to regulate site security and hazardous materials and hazardous wastes. These regulations also are designed to limit the risk of upset during the use, transport, handling, storage, and disposal of hazardous materials. Key laws and regulations are described below.

3.7.3.1 International Regulations

3.7.3.1.1 International Maritime Organization

The IMO is the major authority with jurisdiction over the movement of goods at sea. This is accomplished through a series of international protocols. Individual countries must approve and adopt these protocols before they become effective. The International Convention for the Prevention of Pollution from Ships (MARPOL 73/78 and amendments) governs the movement of oil and specifies tanker construction standards and equipment requirements. Regulation 26 of Annex I of MARPOL 73/78 requires that every tanker of 150 tons gross tonnage and above carry on board a shipboard oil pollution emergency plan approved by IMO. The U.S. implemented MARPOL 73/78 with passage of the Act of 1980 to Prevent Pollution from Ships. The IMO has also issued *Guidelines for the Development of Shipboard Oil Pollution Emergency Plans* to assist tanker owners in preparing plans that comply with the cited regulations and to assist governments in developing and enacting domestic laws which give force to and implement the cited regulations (IMO 2001). Plans that meet the 1990 Oil Pollution Act (OPA 90) and the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act (California SB 2040) requirements also meet IMO requirements. Traffic Separation Schemes (TSS) must be approved by the IMO (refer to Section 3.13.2.2, Marine Vessel Transportation, for discussion of TSS).

The IMO adopted an amendment to the International Convention for Safety of Life at Sea (SOLAS) with provisions entitled Special Measures to Enhance Maritime Safety, which became effective in 1996. These provisions allow for operational testing during the Port state examinations to ensure that masters and crews for both U.S. and international vessels are familiar with essential shipboard procedures relating to ship safety. The USCG Marine Safety Office conducts the Port state examinations as part of their vessel inspection program.

The International Ship and Port Facility Security (ISPS) Code was adopted by the 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. 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 Maritime Transportation Security Act (MTSA) regulations.

3.7.3.1.2 Oil Companies International Marine Forum

A set of comprehensive minimum standards for offshore lightering, now in its third edition, has been developed by the Oil Companies International Marine Forum (OCIMF), an international group of vessel owners and charter operations. The guidelines contain advice on lightering (exchanging cargoes between vessels, typically from a larger vessel that cannot enter a port to a smaller one that can) procedures and arrangements, as well as specifications for mooring, fenders, and cargo transfer hoses. Industry guidelines for lightering have been established by at least two industry groups, and most individual companies have developed their own internal guidelines.

A supplement to the OCIMF guidelines was developed in the U.S. by the Industry Taskforce on Offshore Lightering, a highly effective cooperative organization that promotes industry self-policing and, in partnership with the USCG, continuous improvement in lightering.

3.7.3.2 Federal Regulations

3.7.3.2.1 Resource Conservation and Recovery Act of 1976

The goals of RCRA, a federal statute passed in 1976 (42 USC Section 6901-6987), are the protection of human health and the environment, reduction of waste, conservation of energy and natural resources, and elimination of the generation of hazardous waste as expeditiously as possible. The Hazardous and Solid Waste Amendments of 1984 significantly expanded the scope of RCRA by adding new corrective action requirements, land disposal restrictions, and technical requirements. The corresponding regulations in 40 CFR Parts 260-299 provide the general framework for managing hazardous waste, including requirements for entities that generate, store, transport, treat, and dispose of hazardous waste.

3.7.3.2.2 Department of Transportation Hazardous Materials Regulations

The USDOT Hazardous Materials Regulations (Title 49 CFR Parts 100-185) cover all aspects of hazardous materials packaging, handling, and transportation including: Parts 172 (Emergency Response); 173 (Packaging Requirements);174 (Rail Transportation); 176 (Vessel Transportation);177 (Highway Transportation); 178 (Packaging Specifications); and 180 (Packaging Maintenance).

3.7.3.2.3 The Hazardous Materials Transportation Act

The USDOT, FHWA, and the Federal Railroad Administration regulate transportation of hazardous materials at the federal level. The Hazardous Materials Transportation Act (49 CFR Part 171, Subchapter C) requires that carriers report accidental releases of hazardous materials to USDOT at the earliest practical moment. Other incidents that must be reported include deaths; injuries requiring hospitalization; and property damage exceeding $50,000.

3.7.3.2.4 United States Coast Guard Title 33

The USCG, through Title 33 (Navigation and Navigable Waters) and Title 46 (Shipping) of the CFR, is the federal agency responsible for vessel inspection, marine terminal operations safety, coordination of federal responses to marine emergencies, enforcement of marine pollution statutes, marine safety (such as navigation aids), and operation of the National Response Center for spill response, and is the lead agency for offshore spill response. The USCG implemented a revised vessel-boarding program in 1994 designed to identify and eliminate sub-standard ships from U.S. waters. The program pursues this goal by systematically targeting the relative risk of vessels and increasing the boarding frequency on high risk (potentially substandard) vessels. The relative risk of each vessel is determined through the use of a matrix that factors the flag of the vessel, owner, operator, classification society, vessel particulars, and violation history. Vessels are assigned a boarding priority from I to IV, with priority I vessels being the potentially highest risk and priority IV having relatively low risk. The USCG is also responsible for reviewing marine terminal Operations Manuals and issuing Letters of Adequacy on approval. The USCG issued regulations under OPA 90 addressing requirements for response plans for tanker vessels, offshore facilities, and onshore facilities that could reasonably expect to spill oil into navigable waterways.

Because studies have shown that the use of double-hull vessels reduces the probability of releases when tank vessels are involved in accidents, the USCG has issued regulations addressing double-hull requirements for tank vessels. The regulations established a timeline for eliminating single-hull vessels from operating in the navigable waters or the Exclusive Economic Zone of the U.S after January 1, 2010, and double-bottom or double-sided vessels by January 1, 2015. Only vessels equipped with a double hull, or with an approved double containment system will be allowed to operate after those dates.

Hazardous materials inside cargo containers fall under the primary jurisdiction of the federal Department of Homeland Security (DHS) and USCG (33 CFR Part 126)

while the containers are at sea, in Port waters, and at waterfront facilities. Under the jurisdiction of the DHS, the USCG maintains an Office of Operating and Environmental Standards Division which develops national regulations and policies on marine environmental protection. This division coordinates with appropriate federal, state, and international organizations to minimize conflicting environmental requirements. The USCG also maintains a Hazardous Materials Standards Division, 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. This includes transportation of bulk liquid chemicals and liquefied gases, hazardous bulk solids, and packaged hazardous cargoes, as well as hazardous materials used as ship stores and hazardous materials used for shipboard fumigation of cargo.

3.7.3.2.5 Emergency Planning and Community Right-To-Know Act

Also known as Title III of the Superfund Amendments and Reauthorization Act (SARA), the Emergency Planning and Community Right-to-Know Act (EPCRA) was enacted by Congress as the national legislation on community safety (42 USC 11001 *et seq*.). This law was designed to help local communities protect public health, safety, and the environment from chemical hazards. To implement EPCRA, Congress required each state to appoint a State Emergency Response Commission. These commissions are required to divide their states into Emergency Planning Districts and to name a Local Emergency Planning Committee for each district. EPCRA provides requirements for emergency release notification, chemical inventory reporting, and toxic release inventories for facilities that handle chemicals.

3.7.3.2.6 Maritime Transportation Security Act

The MTSA of 2003 resulted in maritime security regulations in Title 33 CFR Parts 101-106. These regulations apply to all cargo terminals in the Port. Title 33 Part 105 requires that cargo terminals meet minimum security standards for physical security, access control, cargo handling security, and interaction with berthed vessels. These regulations require that terminal operators submit a Facility Security Plan 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 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 in non-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.

3.7.3.2.7 Transportation Worker Identification Credential Program

The Transportation Worker Identification Credential (TWIC) program is a Transportation Security Agency (TSA) and USCG initiative that includes 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 minimizes 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 includes a criminal history check and a citizenship or immigration status check of all applicants.

3.7.3.3 State Regulations

3.7.3.3.1 Hazardous Wastes Control Law, California Health and Safety Code (Chapter 6.5)

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

3.7.3.3.2 Hazardous Material Release Response Plans and Inventory Law

California's "right-to-know law" (California Health and Safety Code, Chapter 6.95) 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 ft 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 CUPA, which for the Port is the LAFD. The state has integrated the federal EPCRA reporting requirements into this law; and, once a facility is in compliance with the local administering agency requirements, submittals to other agencies are not required.

3.7.3.3.3 Marine Oil Terminal Engineering and Maintenance Standards

The MOTEMS were approved by the California Building Standards Commission on January 19, 2005 and are codified as part of CCR Title 24, Part 2, Marine Oil Terminals, Chapter 31F. These standards apply to all existing marine oil terminals in California and include criteria for inspection, structural analysis and design, mooring and berthing, geotechnical considerations, fire, piping, and mechanical and electrical systems. MOTEMS became effective on January 6, 2006 (CSLC 2005). The

MOTEMS are reviewed and updated every three years and all marine oil terminals are required to comply with the most recent version.

The MOTEMS require each marine oil terminal to conduct audits and inspections to determine the level of compliance and an evaluation of the continuing fitness-for-purpose. The MOTEMS audit process continues through the life of the marine oil terminal, including, but not limited to, above and below water inspections, maintenance of all equipment, and updated and new analyses. Above water inspections are due every three years, and underwater inspections are required every three to six years, depending on the results of the previous audit and structural characteristics. Subsequent audits are due every three years following the initial audit. Updated and new analyses and documentation are required for any significant changes to the facility. With the results of these investigations, marine oil terminal operators must then determine what compliance actions are necessary, and provide a schedule for implementation of deficiency corrections and/or rehabilitation.

The MOTEMS also require the marine oil terminal to establish Terminal Operating Limits (TOLs), which are berthing system operating limits primarily based on their audit assessments. These TOLs are terminal-specific restrictions, addressing vessel size, environmental, berthing, mooring, gravity loading and other operating limitations.

The MOTEMS require that each marine oil terminal have a Tsunami Plan that includes far-field versus near-field tsunami events, notifications and communications, tsunami warning system and notification details, tsunami response actions, tidal levels, currents and seiche conditions, loss of utilities, tsunami plan accessibility and training, and post-event inspection. The Tsunami Plan is to be revised at least every three years. The MOTEMS also require that each marine oil terminal consider the predicted sea level rise over the remaining life of a terminal.

3.7.3.3.4 Lempert-Keene-Seastrand Oil Spill Prevention and Response Act

Chapter 1248 of the Statutes of 1990 (SB 2040), the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act, established a comprehensive approach to prevention of and response to oil spills. The CSLC Marine Facilities Division is responsible for governing marine terminals. Through CCR Section 2300 - 2571, the Marine Facilities Division established a comprehensive program to minimize and prevent spills from occurring at marine terminals, and to minimize spill impact should one occur. These regulations established a comprehensive inspection-monitoring plan whereby CSLC inspectors monitor transfer operations on a continuing basis. The standards generated by MOTEMS provide specific requirements for subsequent audits and engineering inspections.

CSLC's marine terminal regulations are similar to, but more comprehensive than, federal regulations in terms of establishing an exchange of information between the terminal and vessels, information that must be contained in the Declaration of Inspection, requirements for transfer operations, and information that must be contained in the Operations Manual. All marine terminals are required to submit updated Operations Manuals to CSLC for review and approval. CSLC regulations

also require that prior to the commencement of oil transfer, a boom shall be deployed to contain any oil that might be released. Marine terminals subject to high velocity currents, where it may be difficult or ineffective to pre-deploy a boom, are required to provide sufficient boom, trained personnel, and equipment so that at least 600 feet of boom can be deployed for containment within 30 minutes.

A requirement that each marine oil terminal operator must implement a marine oil terminal security program is contained in Section 2430 of CCR Title 2, Division 3, Chapter 1, Article 5.1. At a minimum, each security program must:

- Provide for the safety and security of persons, property, and equipment on the terminal and along the dockside of vessels moored at the terminal;
- Prevent and deter the carrying of any weapon, incendiary, or explosive on or about any person inside the terminal, including within his or her personal articles;
- Prevent and deter the introduction of any weapon, incendiary, or explosive in stores or carried by persons onto the terminal or to the dockside of vessels moored at the terminal; and,
- Prevent or deter unauthorized access to the terminal and to the dockside of vessels moored at the terminal.

The Marine Facilities Division also has issued regulations on the following:

- Marine Terminal Personnel Training and Certification;
- Structural Requirements for Vapor Control Systems at Marine Terminals; and,
- Marine Oil Terminal Pipelines.

The OSPR was created within the CDFG to adopt and implement regulations and guidelines for spill prevention, response planning, and response capability. Final regulations regarding oil spill contingency plans for vessels and marine facilities were issued in November 1993, and last updated in 2012. These regulations are similar to, but more comprehensive than, the federal regulations. The regulations require that all tank vessels, barges, and marine facilities develop and submit their comprehensive oil spill response plans to OSPR for review and approval.

OSPR's regulations require that marine facilities and vessels be able to demonstrate that they have the necessary response capability on hand or under contract to respond to specified spill sizes, including a worst-case spill. The regulations also require that a risk and hazard analysis be conducted on each facility. This analysis must be conducted in accordance with procedures identified by the American Institute of Chemical Engineers.

SB 2040 (California Government Code Section 8670.1 *et seq.*) established financial responsibility requirements and requires that Applications for Certificate of Financial Responsibility be submitted to OSPR. California's requirement for financial responsibility is in excess of the federal requirements.

SB 2040 also requires the OSPR to develop a state OSCP. In addition, each major harbor was directed to develop a Harbor Safety Plan (HSP) addressing navigational safety, including tug escort for tankers.

Other navigation-related measures and regulations are discussed in Sections 3.12.2, Marine Vessel Transportation.

3.7.3.3.5 California Coastal Act of 1976

The CCA of 1976 (PRC Division 20) created the CCC, with the responsibility of granting development permits for coastal projects and for determining consistency between federal and state coastal management programs. Section 30232 of the CCA addresses hazardous materials spills and states that "Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur." In addition, the CCC reviews and acts on PMPs and amendments to them. Plans for port expansions to meet future growth needs require approval from the CCC.

Also in 1976, the California State Coastal Conservancy was established to preserve, enhance, and restore coastal resources and to address issues that regulation alone cannot resolve.

3.7.3.3.6 California Pipeline Safety Act of 1981

This Act gives regulatory jurisdiction to the California State Fire Marshal for the safety of all intrastate hazardous liquid pipelines and all interstate pipelines used for the transportation of hazardous or highly volatile liquid substances. The law establishes the governing rules for interstate pipelines to be the Federal Hazardous Liquid Pipeline Safety Act and federal pipeline safety regulations.

3.7.3.3.7 Aboveground Storage of Petroleum

California Health and Safety Code, Chapter 6.67 regulates construction, installation, operation, and monitoring of aboveground petroleum storage tanks. This law is designed to prevent release of hazardous materials into the environment by either leakage from tanks and associated pipelines or from overfilling and spillage. As such, the program works to reduce the occurrence of hazardous material releases.

3.7.3.4 Local Regulations

3.7.3.4.1 Los Angeles Municipal Code (Fire Protection and Public Property)

The LAMC (Fire Protection – Chapter 5, Section 57, Divisions 4 and 5) regulates and requires permits for the construction of buildings and other structures used to store flammable hazardous materials, and the storage of these same materials. These sections are intended to 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.

3.7.3.4.2 Los Angeles Municipal Code (Methane Seepage Regulations 37 Chapter IX, Article 1)

This portion of the LAMC regulates development in areas where methane intrusion emanating from sources such as landfills, oil wells, and underground gas storage facilities could occur. The code requires site specific testing and methane gas mitigation systems for the design of any paved area or inhabited structure located in an area identified as a potential methane hazard site.

The City of Los Angeles conducted a detailed study of methane levels in the city and created two zones, the Methane Buffer Zone and the Methane Zone. All developments within a Methane Buffer Zone are first subjected to a methane level assessment. Any property within the Methane Buffer Zone that is found to be free of methane may proceed without any additional methane mitigation plans. However, if the assessment testing proves methane is present, then the methane level is determined and a mitigation plan is designed to keep the methane from entering the building.

Developments within a Methane Zone itself are more stringent. All developments within the Methane Zone require the same assessment testing as the Buffer Zone, but require a minimum Mitigation Plan regardless of the methane levels discovered. The minimum plan required consists of a below grade passive venting network, complete with risers and an impervious membrane just below the slab and behind any below grade walls. Figure 3.7-2 shows the locations of the Methane Zone and Methane Buffer Zone in the vicinity of the Port based on a map prepared by the City of Los Angeles, Bureau of Public Works (2004).

3.7.3.4.3 City of Los Angeles General Plan Safety Element

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) (City of Los Angeles 1996). 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.

3.7.3.4.4 Port of Los Angeles Risk Management Plan

The Port's RMP contains rigorous policies to prevent or minimize risks associated with hazardous cargo transportation, storage, and handling in the Port. Siting is the main method of controlling risks, and the RMP precludes the siting of new hazardous liquid bulk facilities and modifications to existing facilities near vulnerable resources that could be impacted. The RMP also precludes vulnerable resources from being sited near existing hazardous liquid bulk facilities. Vulnerable resources include substantial residential, recreational, or visitor populations, as well as high-density working populations and critical impact facilities or facilities that are considered of major economic importance.

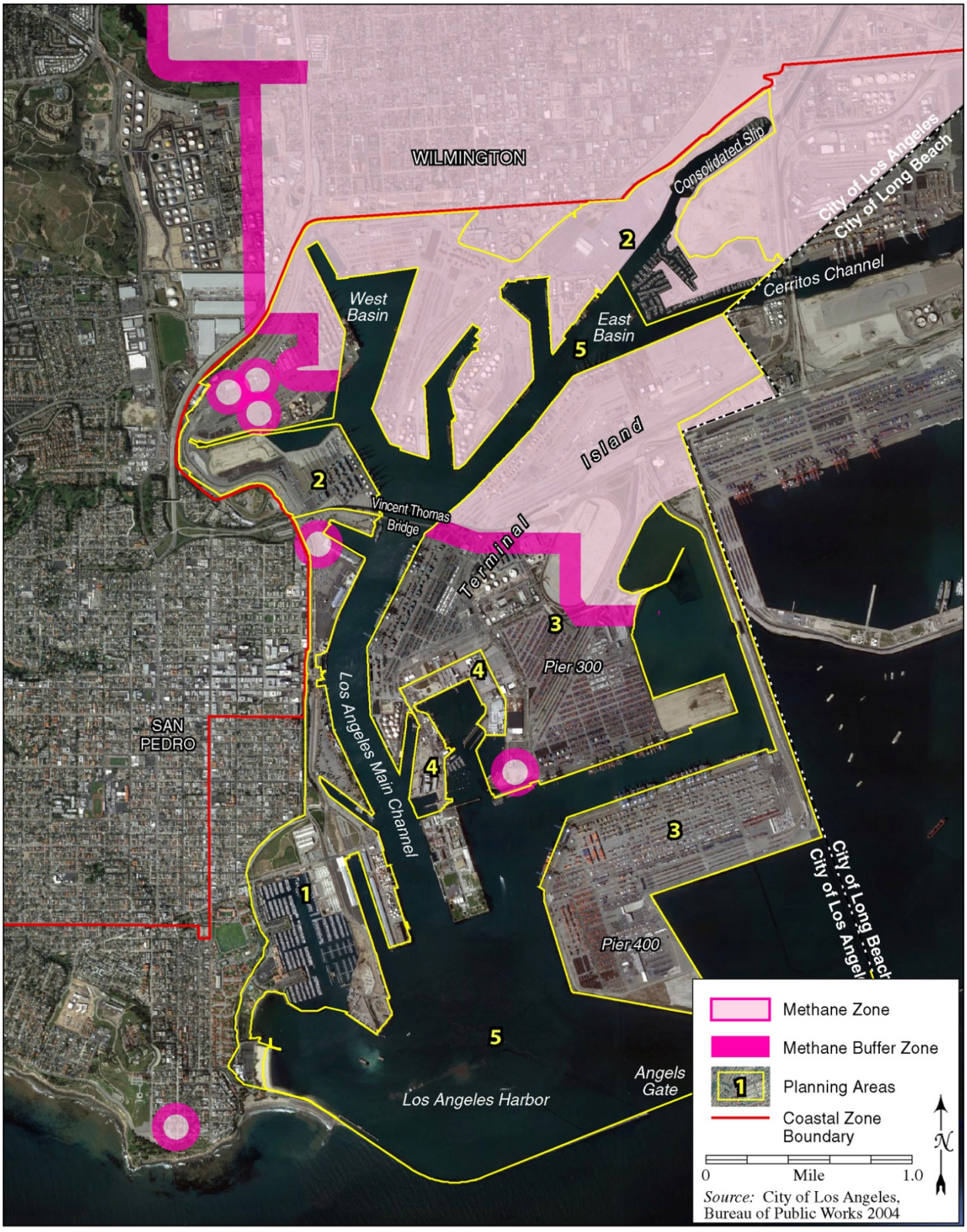

Figure 3.7-2. Methane Zone and Methane Buffer Zone

Specific policies of the RMP are intended to minimize or eliminate overlap between the footprints of facilities that store or handle hazardous cargo and vulnerable resources. The concept of hazard footprints was developed to identify the potential extent of, and a safe distance from potential damage due to an accident or casualty involving hazardous materials. Hazardous footprints define the zone or zones around a hazardous cargo facility for which radiant heat, hazardous gas or vapor, blast overpressure, or flying debris could result in injury or property damage. Each footprint consists of an outline drawn on a map showing the area around a facility within which unacceptable adverse impacts could occur should an accident happen at that facility. Hazard footprints account for land configuration, weather conditions, the type and amount of the substance, and type of incident. To demonstrate the hazard exposure due to each facility, several hazard footprints may be necessary to delineate the full range of possible events.

New hazardous liquid bulk cargo development which creates a hazard footprint that overlaps with existing, planned, or permitted vulnerable resources is not permitted.

Additionally, siting of new vulnerable resources within the hazard footprint of existing or approved facilities handling hazardous liquid bulk cargoes is not permitted. Improvements or modifications to existing hazardous liquid bulk facilities or operations which expand a hazard footprint resulting in an overlap with vulnerable resources are not permitted. Additionally, in areas of limited access, large volumes of hazardous materials, or proximity to vulnerable resources, it may be necessary to impose standards than are more stringent than existing regulations and codes. The adequacy of designed safety features and fire protection measures at hazardous liquid facilities is determined by the LAHD and its fire department on a case-by-case basis.

In some cases, such as for certain risks premised on highly improbable events (or series of events) and conclusions that are uncertain, highly speculative, or unavoidable regardless of the required application of all available mitigation measures, overriding conditions may apply. In these cases, the Board may grant a permit for development that would conflict with the policies of the RMP. The conditions for the application of overriding considerations in connection with permits for hazardous liquid bulk facilities under the RMP are intended to follow CEQA's recognition of this need and approach and, therefore, are intended to be consistent with the requirements of CEQA. As such, approval of overriding considerations must be supported by the following findings and statements:

- Long-term efficient land-use planning considerations will lead to the eventual overall reduction or elimination of hazard exposure, including the development permitted in this case. The permitting of this development at this time is consistent with long-term port land-use planning; and,
- Changes or additions to the permit conditions or criteria have been required for the project development which will result in additional risk mitigation measures such that the hazard imposed by or on the project is reduced to an acceptable minimum level. When such changes or additions are within the jurisdiction and responsibility or another public agency and not the Board, these changes or additions have been adopted, or can and should be adopted, by such other agency.

In order for the Board to consider the issuance of CDPs for a proposed project where an overriding consideration will be invoked, the following must occur:

- A public hearing must be conducted;
- All persons and or facilities lying within a proposed hazard footprint must be notified of the proposed hazard on the project and such notification will be in accordance with the provisions of the Guidelines for Implementation of the Certified PMP; and,
- When a proposed project creates a larger hazardous footprint that could impact an existing vulnerable resource, or where a new vulnerable resource is located within an existing hazardous footprint, a new site must be identified to move one of the incompatible facilities and an agreement must be executed with the Port which identifies the relocation site. Further, if a PMP Amendment is required for the relocation site, the CCC must certify an amendment for the relocation site before an overriding consideration is approved. If within an established time period "instituted as a condition of the permit issuance" the new site is no longer viable, then a new site or sites will be considered which are consistent with these risk management policies, or if no other options are available then one of the two permits will be revoked.

3.7.4 Impacts and Mitigation Measures

3.7.4.1 Methodology

3.7.4.2 Thresholds of Significance

The *L.A.CEQA Thresholds Guide* (City of Los Angeles 2006) is the basis for the following significance criteria and for determining significance of impacts on hazards and hazardous materials resulting from the proposed Program. The NOP/IS (Appendix B) concluded that the proposed Program would have no impact under the following thresholds; therefore, these significance criteria were not carried forward for detailed analysis:

- For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, the proposed Program would result in a safety hazard for people residing or working in the project area?
  - ❑ The PMPU area is not located within 2 miles of an airport land use plan or within 2 miles of an airport.
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?
  - ❑ The PMPU is not located within the vicinity of a private airstrip.
- Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildland?

- The PMPU area is urbanized and surrounded on all sides by industrial uses and by Port waters and no wildlands are adjacent to Port property.

Hazards and hazardous material impacts would be significant under the following conditions.

HAZ-1: The proposed Program would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

HAZ -2: The proposed Program would create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

HAZ-3: The proposed Program would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

HAZ-4: The proposed Program would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

3.7.4.3 Impacts and Mitigation

Impact HAZ-1: The proposed Program would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Planning Areas 2 - 4

The proposed appealable/fill projects under the proposed Program include the Berths 187-189 Liquid Bulk Relocation, Yang Ming Terminal Redevelopment, China Shipping Fill, Berth 300 Development, Tri Marine Expansion, 338 Cannery Street Adaptive Reuse, and Al Larson Marina.

The proposed appealable/fill projects and associated land use changes in Planning Area 2 would eliminate the Kinder Morgan liquid bulk facility at Berths 118-120 and relocate Vopak from Berths 187-189 to Berths 191-194. Vacant land at the optional land use site on Mormon Island (Planning Area 2) would be changed to liquid bulk or break bulk.

In Planning Area 3, the ExxonMobil liquid bulk facility at Berths 238-240 would remain, while the existing liquid bulk facility north of the TIWRP would be replaced with container uses. Vacant lands at Berths 206-209 and dry bulk uses at Berths 210-211 would be changed to mixed use (container, dry bulk, and/or break bulk and container and/or dry bulk, respectively) and areas near Fish Harbor would be changed to container use. Berth 301 would have the option of changing from maritime support to container cargo uses or liquid bulk; the liquid bulk option would require wharf upgrades to make the berth MOTEMS compliant.

Planning Area 4 would be designated primarily as break bulk, maritime support, and commercial fishing.

Construction

Construction activities, whether conducted under the existing PMP or the PMPU, would essentially be the same and would be conducted using BMPs in accordance with city guidelines, as detailed in the *Development Best Management Practices Handbook* (City of Los Angeles 2011), and the LAMC regulations (Chapter 5, Section 57, Division 4 and 5; Chapter 6, Article 4). Federal and state regulations that govern the storage of hazardous materials (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. Standard BMPs would be used during construction and demolition activities to minimize runoff of contaminants and clean-up any spills, in compliance with the State General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order 99-08-DWQ) and any appealable/fill project-specific SWPPP. 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.

It is unlikely that construction and demolition activities would involve the use of substantial quantities of hazardous materials, with the most likely source of these materials being from vehicles at the site. Thus, the most likely spills or releases of hazardous materials during construction would involve petroleum products, such as diesel fuel, gasoline, oils, and lubricants. Construction/demolition-related spills are not uncommon, however, such spills are typically small, short-term, and localized. This is attributable to the fact that the volume in any single source vehicle is generally less than 50 gallons and fuel trucks that might be present at the site are limited to 10,000 gallons or less. Implementation of the noted construction and demolition standards would minimize the potential for an accidental release of petroleum products, hazardous materials, and/or explosion during construction/demolition activities associated with the proposed appealable/fill project and land use changes. Standards include, in addition to prevention measures, procedures designed to quickly and effectively clean up spills and immediately implement remedial actions. Thus, the potential consequence of such construction-related accidents is not expected to impact the public.

Operations

Marine terminals handling hazardous liquid bulk are governed by several federal, state, and local regulations (refer to Section 3.7.3, Applicable Regulations) that are aimed at preventing releases and accidents, and ensuring the capability to respond in the event of an accident. Transportation of hazardous liquid materials by pipeline is also regulated. These safety regulations that govern the shipping, transport, storage, and handling of hazardous materials (i.e., USCG, LAFD, and USDOT regulations and requirements) would limit the severity and frequency of potential releases of hazardous materials resulting in increased exposure of people to health hazards For example, as discussed in Section 3.7.3.2.4, Federal Regulations, and summarized below, the USCG maintains a Hazardous Materials Standards Division, under the

jurisdiction of the federal Department of Homeland Security (33 CFR Part 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, USDOT 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 projects in the Port.

Terminal operations involving hazardous materials are also governed by the LAFD in accordance with regulations of federal and state departments of transportation (49 CFR Part 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). The hazardous materials inventory (HMI) control and spill prevention controls associated with these regulations limit both the frequency and severity of potential releases of hazardous materials by specifying packaging and storage requirements and response measures for the materials being handled.

Terminal maintenance activities can also 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 a Release Response Plan (RRP) and HMI. Implementation of increased inventory accountability and spill prevention controls associated with the required RRP and HMI would limit both the frequency and severity of potential releases of hazardous materials. All of the measures described here would be applicable to the operation of all new facilities handling hazardous materials within the Port.

Impact Determination

Construction

With the numerous regulations in place to govern the transportation, use, and storage of hazardous materials during construction, the potential risk to the public through the routine transport, use, or disposal of hazardous materials would be less than significant.

Operations

The transportation, storage, and use of hazardous materials are extensively regulated. The primary purpose of the existing regulations is to prevent releases and accidents, and ensure the capability to respond in the event of an accident. With these stipulations in place, operation of the proposed appealable/fill projects and land use changes would not present a significant risk to the public through the routine transport, use, or disposal of hazardous materials. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Residual impacts would be less than significant.

Impact HAZ-2: The proposed Program would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Planning Areas 2 - 4

The proposed appealable/fill projects and associated land use changes in Planning Area 2 would relocate Vopak from Berths 187-189 to Berths 191-194. Vacant land at the optional land use site on Mormon Island (Planning Area 2) would be changed to liquid bulk or break bulk. In Planning Area 3, there would be the option of changing Berth 301 from maritime support to container cargo uses or liquid bulk.

Methane zones within the Port boundaries are shown in Figure 3.7-2. One isolated methane zone has been identified in each of Planning Areas 1 and 3. No methane zones have been identified in Planning Area 4. In contrast, much of Planning Area 2, including portions of the East and West Basins and Terminal Island, is within a methane zone.

Construction

Construction impacts would be the same as described under Impact HAZ-1.

Operations

As discussed above under Impact HAZ-1, marine terminals handling hazardous liquid bulk are governed by several federal, state, and local regulations that are aimed at preventing releases and accidents and ensuring the capability to respond in the event of an accident. Transportation of hazardous liquid materials by pipeline is also regulated. These safety regulations that govern the shipping, transport, storage, and handling of hazardous materials are intended to limit the severity and frequency of potential releases of hazardous materials that could result in exposure of people to health hazards. However, even with these regulations and required response systems and procedures in place there remains a limited residual risk of public exposure to hazardous materials from reasonably foreseeable accidents and upsets.

Risks to the public and other resources from operations of facilities handling hazardous materials would be evaluated in project-specific environmental documents after sufficient details on the proposed projects become available. These evaluations are expected to consider volumes of material that would be handled and stored at the facility, physical characteristics of the project site (e.g., wind and current speeds) that could affect the risk of a spill, the types and configuration of spill containment and drainage structures, and incorporation of best available technology into the facility

design. Evaluations also may include modeling of potential spill scenarios, as well as the effectiveness of mitigation measures to reduce the risk or severity of possible accidents or spill events.

As discussed in Section 3.7.3.4.4, Port of Los Angeles Risk Management Plan, the Port's RMP governs the siting of new hazardous liquid bulk facilities and modifications to existing facilities that preclude such facilities from being located near vulnerable resources.

As discussed in Section 3.7.3.3.3, Marine Oil Terminal Engineering and Maintenance Standards, all marine oil terminals are required to comply with MOTEMS, which include audits and inspections to determine the level of compliance and an evaluation of the continuing fitness-for-purpose. The MOTEMS regulations are extensive and detailed and require regular inspections and the correction of deficiencies on a timely basis, along with periodic audit reports. In particular, annual walk-down inspections must be completed at all marine oil terminals. In addition, MOTEMS related audits must be completed every 3 years for above water structures; every 1 to 6 years for underwater structures (based on the results of the annual inspection); and following significant events, such as earthquakes, flooding, fire, or vessel impact. Structural upgrades would subsequently occur, as necessary, based on the results of the audits and according to follow-up action schedules included in the audit documentation. Updated and new analyses and documentation are required for any significant changes to the facility. With the results of these investigations, marine oil terminal operators must then determine what compliance actions are necessary, and provide a schedule for implementation of deficiency corrections and/or rehabilitation.

MOTEMS regulations also require monitoring and inspection of sources of lubricant, fuel, or oil leaks on a routine basis to prevent the release of hazardous materials into the marine environment. In addition, routine inspections of transfer hoses, loading arms, and connections as well as the integrity of product pipelines are required and are intended to identify vulnerabilities before an accident occurs. Secondary containment is required for all flanged connections and welded connections are required for pipes over water.

The seepage of methane gas into structures can present a health, fire, and explosive hazard. The City of Los Angeles has enacted Methane Seepage Regulations (Section 3.7.3.4.2, LAMC Methane Seepage Regulations 37 Chapter IX, Article 1) to mitigate potential issues. These measures include an assessment of the methane levels present and the development and implementation of a Mitigation Plan if necessary.

Impact Determination

Construction

With the numerous regulations in place to govern the transportation, use, and storage of hazardous materials during construction, the potential risk to the public from an upset or accident would be less than significant.

Operations

With implementation of the requirements of the City of Los Angeles Methane Seepage Regulations (Section 3.7.3.4.2, LAMC Methane Seepage Regulations 37 Chapter IX, Article 1), the potential risk to the public from methane seepage would be less than significant.

The Port's RMP prohibits the siting of hazardous liquid bulk facilities near vulnerable resources that could be impacted. Therefore, onshore accidents or upsets that result in releases would not represent a substantial risk to the public or other resources. Compliance with existing regulations and requirements would limit the risk to the public from an upset or accident involving hazardous materials associated with onshore operation of the proposed appealable/fill projects and land use changes.

In-water operations have a small potential for hazardous material releases into harbor waters from accidents or upsets. For example, human error and adverse weather situations can result in the accidental release of petroleum products, fuel, or lubricants. Commercial fishing, recreational boating, and visitor-serving commercial land uses within the Port would be adversely affected in the event of a hazardous materials spill released to harbor waters. Vessel loading and unloading operations would also be adversely affected if they occurred in the vicinity of a release. The foreseeable risks of upset resulting in hazardous material releases to the environment are very small. As noted, risks of hazardous material releases would be evaluated in project-specific environmental documents when sufficient project details (e.g., tank volumes, throughput, construction specifications, and operating parameters) become available. In the event of an upset or release, impacts would be significant if containment systems (e.g., floating booms, berms, and other designed containment structures) were ineffective and clean-up procedures were not sufficient to prevent dispersion of spilled materials to areas supporting sensitive resources.

Mitigation Measures

The following mitigation measures would provide further safeguards against hazardous materials releases and would be implemented, as applicable, for the proposed appealable/fill projects and land use changes under the proposed Program.

MM HAZ-1: General Mitigation Measure. For projects involving hazardous liquid bulk facilities with in-water operations, the LAHD shall require project proponents to review, in terms of feasibility and benefits, any LAHD-identified or other new spill prevention or response technology. If the technology is determined by the LAHD to be feasible in terms of cost and technical and operational feasibility, the project proponent shall work with the LAHD to implement such technology as soon as practicable.

The effectiveness of this measure cannot be quantified in this PEIR because it depends on the advancement of new technologies and the outcome of future feasibility or pilot studies.

MM HAZ-2: Hazards and Operability Studies. For projects involving hazardous liquid bulk facilities with in-water operations, the project proponent shall provide the LAHD with all Hazards and Operability Studies performed for the facility to enable

the LAHD to independently assess the potential hazards posed by facility operations. The project proponent shall cooperate with the LAHD to resolve any identified risks or deficiencies identified.

Residual Impacts

Residual impacts would be less than significant.

Impact HAZ-3: The proposed Program would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

Planning Areas 2 - 4

Section 3.7.2.1, Regional Setting, presents a list of schools within approximately one-quarter mile of the Port boundary.

Five schools are located within one-quarter mile of Planning Area 2: Harbor Occupational Center, Dana Strand Senior High School, the Gang Alternative Program, Wilmington Skill Center, and the Li'l Cowpoke Preschool. However, no new projects or land use changes involving hazardous materials in this planning area are within one-quarter mile of these schools.

There are no schools located with one-quarter mile of Planning Areas 3 or 4.

Construction

The discussion under Impact HAZ-1 above identifies the measures in place that would minimize the impact of incidents involving hazardous materials during construction activities. As stated, the volume in any single source vehicle is generally less than 50 gallons and fuel trucks that might be present at the site are limited to 10,000 gallons or less, thereby limiting the consequences and areal extent of a spill.

Operations

The proposed Berths 187-189 Liquid Bulk Relocation Project and the change associated with converting vacant land at the optional land use site on Mormon Island to liquid bulk are both more than one-quarter mile from existing schools. There are no other areas designated as liquid bulk under the PMPU within one-quarter mile of an existing school. In addition, there are no areas designated as liquid bulk within one-quarter mile of the Port's boundary. Therefore, these facilities would not be within one-quarter mile of a proposed school. Similarly, the PMPU would not designate any new container terminal land uses or expand an existing container terminal within one-quarter mile of an existing school.

Impact Determination

Construction

Because of the regulations in place governing the transportation, storage, and use of hazardous materials during construction, and because of the small amount of hazardous materials used during construction, impacts to schools from releases or emissions of such materials would be less than significant.

Operations

The development of new hazardous liquid bulk facilities, new container terminals, or expansion of existing terminals would not occur within one-quarter mile of a school. Therefore, potential impact to schools would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Residual impacts would be less than significant.

Impact HAZ-4: The proposed Program would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Planning Areas 2 – 4

The proposed appealable/fill projects under the proposed Program (i.e., Berths 187-189 Liquid Bulk Relocation, Yang Ming Terminal Redevelopment, China Shipping Fill, Berth 300 Development, Tri Marine Expansion, 338 Cannery Street Adaptive Reuse, and Al Larson Marina) and development associated with the proposed land use changes would be required to meet the requirements identified below.

Construction

Emergency response and evacuation planning is a shared responsibility among the LAPD, LAFD, Port Police, and the USCG. Project construction would occur primarily onsite or within the immediate vicinity of the construction site, and would not be expected to interfere with emergency responses or evacuation plans. As a standard procedure for activities occurring on Port property and within the Port area, the contractor would coordinate with the agencies responsible for the emergency response and evacuation planning: the LAPD, LAFD, Port Police, and USCG. Construction and demolition activities would be subject to emergency response and evacuation systems implemented by LAFD.

During construction and demolition activities associated with the proposed appealable/fill projects, the LAFD would require that adequate vehicular access to the construction site and vicinity be provided and maintained. Prior to commencement of construction/demolition activities, all plans would be reviewed by

the LAFD to ensure adequate access is maintained throughout construction/demolition. Traffic control equipment would be in place to direct local traffic around the work area. During construction, emergency access would be maintained to all surrounding facilities. The construction site would incorporate planning to assure that possible interference with emergency response and evacuation plans does not occur. As such, emergency access to these sites would not be adversely impacted during construction.

Operations

While the PMPU would change allowable land uses in some areas, it would not interfere with an adopted emergency response plan or emergency evacuation plan. Any and all plans for construction, change in roadways, access, etc. would be reviewed by the applicable City of Los Angeles departments (e.g., LAFD for access and LADPW for road changes). No changes resulting in physical interferences with an adopted emergency response plan or emergency evacuation plan would be allowed.

Impact Determination

Construction and Operations

While some land use designations would change with the implementation of the PMPU, construction activities would be similar regardless of the type of project. Because construction contractors would be required to adhere to all LAFD emergency response and evacuation regulations, ensuring compliance with existing emergency response plans, construction/demolition activities associated with the proposed appealable/fill projects and land use changes would not substantially interfere with an existing emergency response or evacuation plan or increase the risk of injury or death. Similarly, during operation of the proposed appealable/fill projects and land use changes, no conditions would be allowed that would physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

Residual impacts would be less than significant.

3.7.5 Summary Impact Determination

Table 3.7-7 summarizes the impact determinations of the proposed Program related to hazards and hazardous materials. Identified potential impacts are based on federal, state, and City of Los Angeles significance criteria, LAHD guidance/policy, and the scientific judgment of the report preparers.

For each type of potential impact, the table describes the impact, notes the CEQA impact determination, and notes the residual impacts (i.e., the impact remaining after mitigation). All impacts, whether significant or not, are included in the table.

Table 3.7-7. Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Program

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impact After Mitigation*
Construction			
HAZ-1: Construction of the proposed Program would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	Less than significant	No mitigation is required	Less than significant
HAZ-2: Construction of the proposed Program would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	Less than significant	No mitigation is required	Less than significant
HAZ-3: Construction of the proposed Program would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	Less than significant	No mitigation is required	Less than significant
HAZ-4: Construction of the proposed Program would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	Less than significant	No mitigation is required	Less than significant
Operations			
HAZ-1: Operation of the proposed Program would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	Less than significant	No mitigation is required	Less than significant

Table 3.7-7. Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Program

Environmental Impacts	*Impact Determination*	*Mitigation Measures*	*Impact After Mitigation*
HAZ-2: Operation of the proposed Program would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	Significant	**MM HAZ-1: General Mitigation Measure.** For projects involving hazardous liquid bulk facilities with in-water operations, the LAHD shall require project proponents to review, in terms of feasibility and benefits, any LAHD-identified or other new spill prevention or response technology. If the technology is determined by the LAHD to be feasible in terms of cost, technical and operational feasibility, the project proponent shall work with the LAHD to implement such technology as soon as practicable. **MM HAZ-2: Hazards and Operability Studies.** For projects involving hazardous liquid bulk facilities with in-water operations, the project proponent shall provide the LAHD with all Hazards and Operability Studies performed for the facility to enable the LAHD to independently assess the potential hazards posed by facility operations. The project proponent shall cooperate with the LAHD to resolve any identified risks or deficiencies identified.	Less than significant
HAZ-3: Operation of the proposed Program would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	Less than significant	No mitigation is required	Less than significant
HAZ-4: Operation of the proposed Program would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	Less than significant	No mitigation is required	Less than significant

3.7.6 Significant Unavoidable Impacts

No significant unavoidable impacts to hazards and hazardous materials would occur as a result of implementation of the proposed Program.