Chapter 3
Modifications to the Recirculated Draft EIS/EIR

This section of the document addresses modifications to the April 2008 Recirculated Draft EIS/EIR for the Berths 97-109 Container Terminal project (proposed Project) at the Port of Los Angeles (Port). It presents all revisions related to public comments, as determined necessary by the lead agencies, for the Executive Summary, Introduction, Project Description, and Environmental Analyses. Any revisions to supporting documentation such as the references, list of preparers, acronyms and abbreviations, and appendices are also presented. The numbering format from the Recirculated Draft EIS/EIR is maintained in the sections presented here, although only sections that had revisions based on the public comments are included; sections that had no revisions are not included. Readers are referred to the April 2008 Recirculated Draft EIS/EIR to view complete sections.

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Executive Summary

ES.2.3.1 CEQA Purpose

The overall objective of the LAHD for the proposed Project is threefold: (1) to provide a portion of the facilities needed to accommodate the projected growth in the volume of containerized cargo through the Port, (2) to comply with the Mayor's goal for the Port to increase growth while mitigating the impacts of that growth on the local communities and the Los Angeles region by implementing pollution control measures, including the elements of the Clean Air Action Plan (CAAP) specific to the proposed Project, and (3) to comply with the Port Strategic Plan to maximize the efficiency and capacity of terminals while raising environmental standards through application of all feasible mitigation measures.

Although these interrelated goals require increases in the cargo-handling efficiency and capacity of existing terminal facilities in the Port where feasible, the goals also reflect the need for the development of new container terminals in the Port complex to accommodate future cargo demands. To accomplish these basic objectives in a manner consistent with LAHD public trust responsibilities, supporting objectives need to be accomplished. The basic objective is to establish and expand a new container facility in the West Basin to the extent required to:

- Optimize the use of existing land and waterways and be consistent with the overall use of allowable uses under the Port Master Plan
- Accommodate foreseeable containerized cargo volumes through the Port
- Increase container-handling efficiency and create sufficient backland area for container terminal operations, including storage, transport, and on/off-loading of container ships in a safe and efficient manner
- Improve or construct container ship berthing and infrastructure capacity where necessary to accommodate projected containerized cargo volumes through the Port
- Provide access to land-based rail and truck infrastructure locations capable of minimizing surface transportation congestion or delays while promoting conveyance to local and distant cargo destinations

Provide needed container terminal accessory buildings and structures to support containerized cargo-handling requirements

ES.2.3.2 USACE Purpose and Need

The purpose of the USACE for the proposed Project under NEPA is described fully in Section 2.3.2. Briefly, the overall purpose of the proposed Project is to establish and ~~maximize~~ optimize the cargo-handling efficiency and capacity at Berths 97-109 in the West Basin to address the need to optimize Port lands and terminals for current and future containerized cargo handling. Other purposes of the proposed Project include establishing needed container-handling facilities that would ~~maximize~~ optimize the use of existing waterways and that would integrate into the overall use of the Port. The basic purpose of the proposed Project is maritime trade, which is a water-dependent activity.

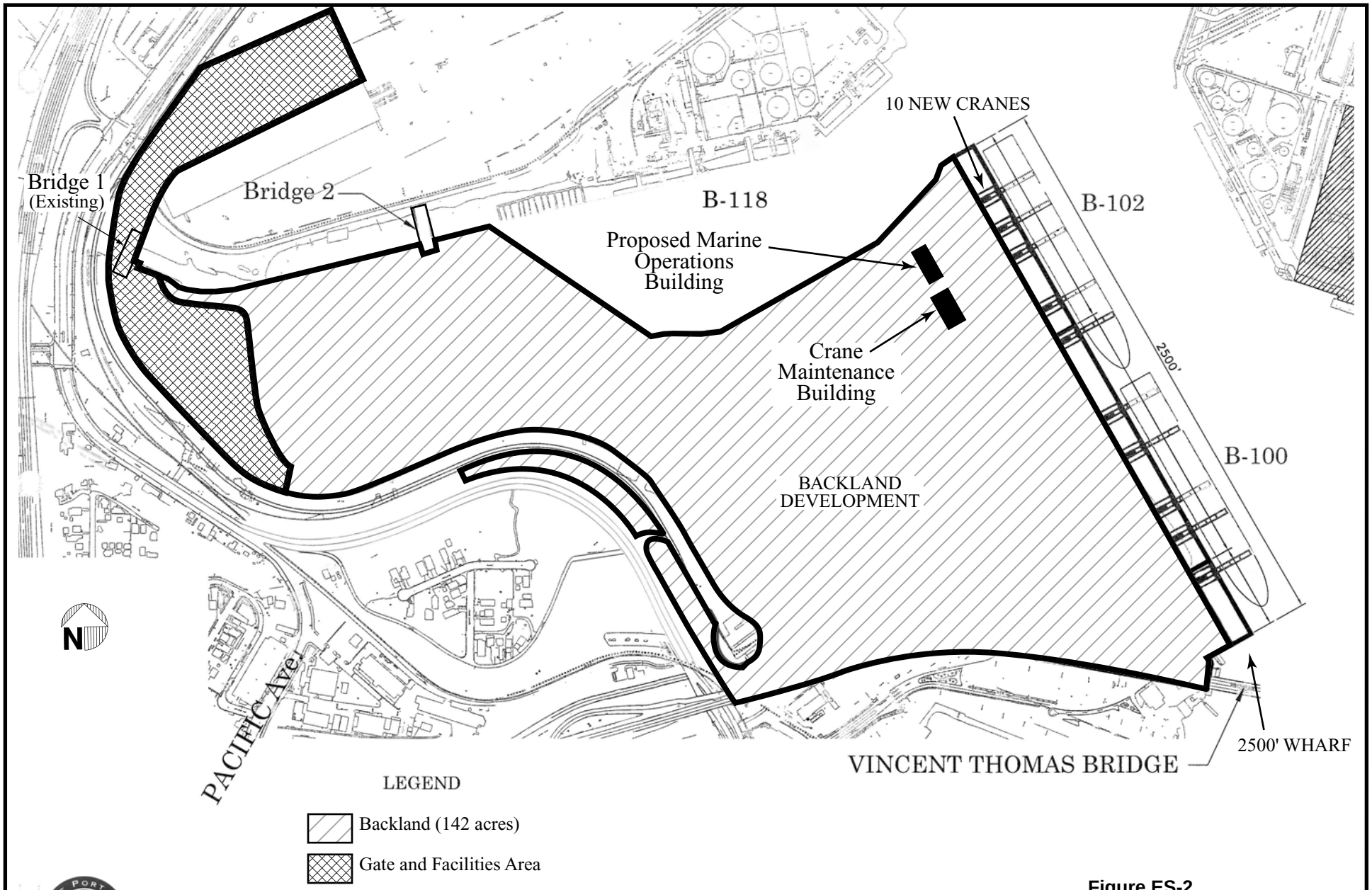
ES.4.3.4 Alternative 4 – Reduced Fill: No South Wharf Extension at Berth 100

This alternative would be similar to the proposed Project except that the proposed 375 feet of linear wharf south of Berth 100 and ~~12 of the 25 acres of~~ a large portion of the Phase III backlands behind Berth 100, as described under the proposed Project, would not be constructed or developed under Alternative 4. While a federal permit is not needed to construct backlands, the area behind Berth 100 would not be needed without the wharf extension project. The total length of wharf at the terminal would be 2,125 feet. As part of the Phase I construction, 1,200 feet of wharf at Berth 100 already has been constructed and was officially put into operation on June 21, 2004. The dredging of 41,000 yd^3 of fill already has occurred as part of Phase I construction, and this material was placed at the Anchorage Road soil storage site.

Alternative 4 would include construction of an additional 925 feet of wharf at Berth 102, to extend north of the existing wharf at Berth 100. No additional rock dike or fill would be required, but minor maintenance dredging may be required, with any dredge material disposed of at the Anchorage Road soil storage site. Five additional A-frame cranes would be installed at Berth 102 in Phase II for a total of nine cranes at the Berth 97-109 Container Terminal (four of the five new cranes were installed under Phase I of the proposed Project). Total throughput would be less than the proposed Project with an expected 1,392,000 TEUs by 2030. This would translate into 208 annual ship calls and 832 associated tugboat trips. In addition, Alternative 4 would result in up to 4,472 daily truck trips and up to 734 annual round-trip rail movements.

Figure ES-2 Proposed Project at Buildout

Figure ES-2 has been revised to reflect a more current location of the Marine Operations Building and the Crane Maintenance Building.



Source: POLA, 2003

Figure ES-2
Proposed Project at Buildout
Berth 97-109 Container
Terminal Project EIS/EIR

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Table ES-4 Summary of Potential Significant Impacts and Mitigation for the Proposed Project and Alternatives

The following has been added to Table ES-4 (under 3.3 Biological Resources) to reflect a request from the in National Marine Fisheries Service (NMFS)), or to make minor clarifications..

Proposed Project and Alternatives 3, 4, and 6.	**BIO-1a:** Wharf construction would not injure marine mammals.	CEQA: Less than significant impact	Mitigation not required; however, **MM BIO-3** would further reduce any potential for impact. **MM BIO-3:** At the beginning of each pile-driving event, and after breaks of more than 15 minutes, the soft start method will be employed for impact pile driving.	CEQA: Less than significant impact
		NEPA: Less than significant impact	Mitigation not required; however, **MM BIO-3** would further reduce any potential for impact.	NEPA: Less than significant impact
4.0 Cumulative Impacts (continued)				
Proposed Project and Alternatives 1~~3~~ through 7	**Utilities and Public Services:** The proposed Project or alternative would make a cumulatively considerable contribution to cumulatively significant impacts on demand for public services, specifically solid waste disposal (**PS-4**).	CEQA: Cumulatively considerable; impacts on solid waste disposal are avoidable with mitigation	No mitigation beyond the proposed Project mitigation described above is proposed for impacts on solid waste disposal (**MM PS-1 through MM PS-3**).	CEQA: Less than significant impact with mitigation.
		NEPA: Cumulatively considerable; impacts on solid waste disposal are avoidable with mitigation	No mitigation beyond the proposed Project mitigation described above is proposed for impacts on solid waste disposal (**MM PS-1 through MM PS-3**).	NEPA: Less than significant impact with mitigation

5.0 Environmental Justice (continued)				
Alternative 7	**Ground Transportation/Circulation (TRANS-2):** The project would result in a significant impact at 4 intersections in the Project vicinity.	Disproportionately high and adverse effects on minority and low-income populations	No mitigation beyond the proposed Project mitigation described above is proposed.	Disproportionately high and adverse effect on minority and low-income populations

Chapter 1
Introduction

1.4.1 Scope of Analysis

This Recirculated Draft EIS/EIR has been prepared in conformance with NEPA (42 U.S.C. Section 4321 *et seq.*), the USACE NEPA Implementing Regulations; the CEQ Guidelines; CEQA (PRC Section 21000 *et seq*.); the State CEQA Guidelines (14 CCR Section 15000 *et seq.*); and Port Guidelines for the Implementation of CEQA. This document includes all of the sections required by NEPA and CEQA.

The criteria for determining the significance of environmental impacts in this Recirculated Draft EIS/EIR analysis are described in the section titled "Significance Criteria" under each resource topic in Chapter 3. The threshold of significance for a given environmental effect is the level at which the LAHD or USACE finds a potential effect of the proposed Project or alternative to be significant.

"Threshold of significance" can be defined as a "quantitative or qualitative standard, or set of criteria, pursuant to which significance of a given environmental effect could be determined" (CEQA Guidelines, Section 15064.7 [a]). Except as noted in particular sections of the document, the Port of Los Angeles has adopted the City of Los Angeles *CEQA Thresholds Guide* (City of Los Angeles, 2006) for purposes of this Recirculated Draft EIS/EIR. The USACE has adopted the City of Los Angeles *CEQA Thresholds Guide* for purposes of this Recirculated Draft EIS/EIR to achieve its NEPA responsibilities, unless otherwise noted in particular sections of the document.

The NEPA NOI was published in the *Federal Register* (July 1, 2003) and the original CEQA NOP was mailed on July 1, 2003. A public scoping hearing was conducted on July 10, 2003. The comment period ended August 1, 2003. The scope of analysis and technical work plans developed as part of preparing this Recirculated Draft EIS/EIR were designed to ensure that the comments received from regulatory agencies and the public during the NOI/NOP review process would be addressed.

The scope of the federal review is normally defined by 33 *Code of Federal Regulations* (CFR) Part 325, Appendix B, which states:

> *…the district engineer should establish the scope of the NEPA document to address the impacts of the specific activity regarding the Department of the Army (DA) permit and those portions of the entire project over which the district engineer has sufficient control and responsibility to warrant Federal review.*

USACE regulations require the USACE to determine if their "scope of review" or "scope of analysis" should be expanded to account for indirect and/or cumulative effects of the issuance of a permit (Appendix B in 33 CFR 325). Typical factors considered in determining "sufficient control and responsibility" include:

- Whether or not the activity constitutes merely a link in a corridor-type project
- Whether aspects of the upland facility in the immediate vicinity of the regulated activity affect the location and configuration of the regulated activity

- Extent to which the entire project will fall within USACE jurisdiction
- Extent of federal cumulative control and responsibility

Based on 33 CFR Part 325, Appendix B, the appropriate scope of analysis for the federal review of the selected action includes: 1) activities specifically requiring a USACE permit (all work and structures in and over waters of the U.S., including dredging and associated ocean disposal activities, the construction of new wharves, the two bridges over the Southwest Slip, and the floating docks for the relocated Catalina Express); 2) portions of the entire Project for which USACE has sufficient control and responsibility (i.e., 25 acres currently used by Catalina Express because this area would be redeveloped only if the USACE authorizes the 375-foot southern extension of Berth 100 and the wharf at Berth 102; and other uplands within 100 feet of the shoreline that could be affected by temporary access, storage, and staging necessary to complete the work and structures in and over water); and 3) the additional increments of upland impact attributable to the federal action on the remaining 117 acres project upland acreage, which would include most of the resources or issues of concern evaluated in the EIS/EIR, such as air quality, traffic, aesthetics, and noise. The increments attributable to the federal action are usually determined by subtracting the impacts/condition reasonably expected under the NEPA baseline (i.e., absence of federal action) from the impacts/condition reasonably expected under the proposed Project. ~~consists of both permanent and temporary impact to waters of the U.S. associated with the construction of new wharves and bridges, construction-related activities such as temporary access occurring in uplands within 100 feet of proposed wharves required to complete in-water work and structures, and 12 of the 25 acres associated with the south extension of Berth 100.~~

Based on the Environmental Assessment Checklist, the USACE has identified potentially significant indirect and cumulative effects within the scope of federal control in uplands that could occur as a result of the proposed Project (directly traceable to the construction of wharves). While operational impacts in the uplands are outside the jurisdiction of the USACE, NEPA requires the USACE to fully disclose potentially significant indirect and cumulative impacts occurring as a result of a proposed permit action. Therefore, the USACE is preparing an EIS for the proposed action and its alternatives.

~~Normally, any ultimate permit decision would focus on direct impacts to the aquatic environment, as well as indirect and cumulative impacts in the uplands determined to be within the scope of federal control and responsibility as part of the required public interest review. These incremental impacts typically are defined by comparing the proposed Project to the NEPA baseline, which details the work and impacts that could occur without a permit from the USACE. The NEPA baseline is equivalent to the No Federal Action alternative.~~

Table 1-1. Agencies Expected to Use This EIS/EIR

Agency	Responsibilities, Permits, and Approvals
	Federal Agencies
USACE	Lead federal agency for implementation of NEPA. Responsible for navigational improvements in waters of the U.S., and permitting authority for work and structures in navigable waters and the discharge of dredged or fill material in waters of the U.S. A USACE permit pursuant to Section 404 of the Clean Water Act (CWA) and Section 10 of the River and Harbor Act (RHA) would be required for the proposed Project.
National Oceanographic and Atmospheric Agency (NOAA) Fisheries/National Marine Fisheries Service	Reviews and submits recommendations to USACE related to federal construction actions and issuance of permits in accordance with the Fish and Wildlife Coordination Act. Also responsible for Essential Fish Habitat (EFH) under the Magnuson-Stevens Fishery Conservation and Management Act. Provides EFH information, reviews potential effects of federal action on EFH, and provides conservation recommendations to USACE through consultation.
U.S. Coast Guard (USCG)	Has jurisdiction over marine facilities, bridges, and vessel transportation in harbor waters. Responsible for ensuring safe navigation and for preventing and responding to oil or hazardous materials releases in the marine environment. Under the authority of the General Bridge Act of 1946, as amended, the USCG will be responsible for permitting of the bridges over the Southwest Slip. In addition, the USCG would be a Cooperating Agency under NEPA.
U.S. Environmental Protection Agency (USEPA)	Has primary responsibility for implementing the Clean Air Act (CAA) and works with other federal agencies to implement conformity requirements. Reviews and submits recommendations for Spill Prevention Control and Countermeasure (SPCC) Plans for nontransportation-related onshore and offshore facilities engaged in storing, processing, refining, transferring, distributing, or consuming oil and gas products. Regulatory authority for determining suitability of dredged sediments for ocean disposal in accordance with Section 103 of the Maritime Protection, Research, and Sanctuaries Act (MPRSA). Reviews and submits recommendations to the USACE related to federal construction actions and issuance of permits.
U.S. Federal Railroad Administration	Reviews and approves changes in rail trackage, connections, signage, and bridges.
U.S. Fish and Wildlife Service	Reviews and submits recommendations to USACE related to federal construction actions and issuance of permits in accordance with the Fish and Wildlife Coordination Act and consultations pursuant to Section 7 of the Endangered Species Act (ESA).

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Chapter 2
Project Description

2.3 Project Purpose

Los Angeles Harbor Department operates the Port under legal mandates under the Port of Los Angeles Tidelands Trust (Los Angeles City Charter, Article VI, Sec. 601) and the Coastal Act (PRC Div 20 Section 30700 *et seq.*), which identify the Port and its facilities as a primary economic/coastal resource of the state and an essential element of the national maritime industry for promotion of commerce, navigation, fisheries and harbor operations. According to the Tidelands Trust, Port-related activities should be water dependent and should give highest priority to navigation and shipping, as well as provide necessary support and access facilities for accommodating the demands of foreign and domestic waterborne commerce.

The overall purpose of the proposed Project is to expand and ~~maximize~~ optimize[1] the cargo-handling efficiency and capacity of the Port at Berths 97-109 to address the need to optimize Port lands and terminals for current and future containerized cargo handling. This purpose would be accomplished through the construction of a marine terminal of approximately 142 acres that would accommodate an annual throughput of up to 1.5 million TEUs.

2.3.1 CEQA Project Objectives

The LAHD's overall objective for the proposed Project is threefold: (1) provide a portion of the facilities needed to accommodate the projected growth in the volume of containerized cargo through the Port; (2) comply with the Mayor's goal for the Port to increase growth while mitigating the impacts of that growth on the local communities and the Los Angeles region by implementing pollution control measures, including the elements of the Clean Air Action Plan (CAAP) applicable to the proposed Project; and (3) comply with the Port Strategic Plan to ~~maximize~~ optimize the efficiency and capacity of terminals while raising environmental standards through application of all feasible mitigation measures.

Although these interrelated goals require increases in the cargo-handling efficiency and capacity of existing terminal facilities in the Port where feasible, the goals also reflect the need for the development of new container terminals in the Port complex to accommodate future cargo demands. To accomplish these basic objectives in a manner consistent with LAHD public trust responsibilities, the following supporting objectives need to be accomplished:

[1] *To optimize* means to make as functional as possible; whereas, *to maximize* means use to the maximum extent possible. As part of the proposed Project, the Port seeks to develop the Berth 97-109 Terminal to allow the maximum cargo throughput in the most efficient manner (for example, the terminal at full buildout will be able to accommodate larger more efficient ships). For the purposes of this document, the word optimize will be used; however, the environmental analysis assumes the maximum throughput levels allowed based on the terminal's physical capacity. Actual throughput levels may be lower due to changes in consumer demand patterns and/or economic conditions

1. Establish and expand a new container facility in the West Basin to the extent required to:
   a) Optimize the use of existing land and waterways and be consistent with the overall use of allowable uses under the Port Master Plan
   b) Accommodate foreseeable containerized cargo volumes through the Port
   c) Increase container handling efficiency and create sufficient backland area for container terminal operations, including storage, transport, and on/offloading of container ships in a safe and efficient manner
   d) Improve or construct container ship berthing and infrastructure capacity where necessary to accommodate projected containerized cargo volumes through the Port
   e) Provide access to land-based rail and truck infrastructure locations capable of minimizing surface transportation congestion or delays while promoting conveyance to local and distant cargo destinations
   f) Provide needed container terminal accessory buildings and structures to support containerized cargo-handling requirements

2.3.2 USACE Purpose and Need

As discussed in Section 1.1.3, the USACE, along with the Ports of Los Angeles and Long Beach, prepared the 2020 Plan that determined the Ports would need to construct new land for new container terminals and to optimize their existing terminals to meet the forecasted cargo volumes arriving at West Coast ports. As discussed in Section 2.1.2 and shown in Figure 2-4, full implementation of the proposed Project improvements would still fall short of the demand. Therefore, a need exists to ~~maximize~~ optimize container-handling efficiency and container backlands, optimize and increase accommodations for container ship berthing, and provide optimized truck-to-rail container movements.

The overall purpose of the proposed Project is to establish and ~~maximize~~ optimize the cargo-handling efficiency and capacity at Berths 97-109 in the West Basin to address the need to optimize Port lands and terminals for current and future containerized cargo handling. Other proposed Project purposes include establishing needed container-handling facilities that would ~~maximize~~ optimize the use of existing waterways and that would integrate into the overall use of the Port. The basic purpose of the Project is maritime trade, which is a water-dependent activity.

Specifically, the Port of Los Angeles needs to:

- Construct sufficient berthing and infrastructure capacity to accommodate foreseeable increases in containerized cargo
- Provide the accessory buildings and structures at the terminal to support the anticipated cargo-handling requirements

2.4.3 Federal ~~Project~~Action

Based on the limits of federal jurisdiction, not all the elements of the proposed Project are subject to federal permit requirements. Thus, the scope of the federal review of the proposed Project is different from the scope of the CEQA review (see Section 1.4.1 as revised). The federal ~~project~~ action is indicated by shading in Figure 2-6. The federal ~~project~~ action consists of all dredging activities, the construction of new wharves, the two

bridges over the southwest slip (subject to the River and Harbor Act), and the floating docks to Catalina Express. Landside activities within 100 feet of the shoreline supporting in-water construction activities are also subject to USACE review and approval. ~~Twelve of the 25 acres~~ A portion of backland[2] development in Phase III extends beyond 100 feet of the shoreline, but the acreage is included in the federal ~~project~~ action because it is associated with the 375 feet of new wharf at Berth 100 (the southern extension of Berth 100), which is subject to USACE authorization. ~~The 12 acres of~~ A large portion of the backlands in Phase III would be constructed only if the Berth 100 southern extension is granted federal approval; the remainder would only be redeveloped as backlands with the federal approval of the wharf at Berth 102. The federal ~~project~~ action does not include the construction of buildings, gates, or rail facilities. Nor does it include installation of utilities (except on and near the wharves or water edges) or paving. However, the federal scope of analysis extends into the other project backlands/uplands for many issues/resources of concern, such as air quality, ground transportation, noise, and aesthetics (i.e., to evaluate the increment of a given project impact attributable to federal action).

2.5.1.2 Alternative 2 – No Federal Action Alternative

Alternative 2 would utilize the terminal site constructed as part of Phase I for container storage, and would further 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 acknowledges the completion of Phase I activities but seeks to return to pre-Phase I conditions to the maximum extent practicable through abandonment of structures and fills rather than removing them, which could require additional federal action.

The No Federal Action Alternative includes all of the construction and operational impacts likely to occur absent further USACE permits (e.g., air emissions and traffic likely to occur without issuance of permits to construct or modify wharves and bridges, or to dredge). Alternative 2 differs from the proposed Project in that container ship operations (loading and unloading), and direct truck and rail transport would not occur at the Berth 97-109 terminal. Under Alternative 2, the Yang Ming Terminal would operate the site as a supplemental container backlands area under a revocable permit. The Berth 97-109 backlands would be used to sort and store containers, and yard equipment would transport containers between the two terminals using an internal road (Berths 121-131 and Berths 97-109). The Yang Ming facility currently is berth limited. Under this alternative, the Yang Ming total throughput is assumed to remain the same with or without additional land at Berths 97-109; however, the additional land would allow Yang Ming to use more wheeled operations versus stacked operations. Wheeled operations are more efficient and cheaper than stacked, but terminals are often limited by their backlands area necessitating a certain amount of stacking.

The No Federal Action Alternative would not include terminal features that could only be implemented when additional federal permits or funding for either construction or operation were acquired. This alternative would not allow any new dredging (beyond

[2]The Recirculated Draft EIS/EIR stated that 12 of the 25 acres of backlands in Phase III would be constructed only if the Berth 100 southern extension was constructed, This statement has been changed to "a large portion of the backlands" in the Final EIS/EIR because more than 12 of the acres are likely not to be developed without a federal permit. The impact analyses for the Federal Action presented assume that more than 12 acres are not developed in both the Recirculated Draft and Final EIS/EIR.

what was previously approved with the Channel Deepening Supplemental EIS/EIR of 2000 and for Phase I), filling, or new wharf construction. Under the No Federal Action Alternative, however, further development of backlands could occur at the Project site, which does not require a federal action. The No Federal Action Alternative would allow construction and container storage use of all upland elements (existing lands and fill areas previously approved through permits or Channel Deepening) for backlands or other purposes for up to 117 acres, including 72 acres of existing backlands, and 45 additional acres proposed to be developed as backlands under Phase II of the Project. The No Federal Action Alternative would not include development of any backlands under Phase III of the Project because, even though no federal permit is required for that development, ~~12 of the 25 acres are~~ a large portion of Phase III backlands is associated with the Berth 100 south extension and the remainder is associated with the wharf development at Berth 102 that would not occur without a USACE permit, and because this acreage currently is being used by Catalina Express Terminal and that use would remain in place. The westerly bridge constructed during Phase I of the proposed Project would be abandoned. No wharves beyond the wharf at Berth 100 would be improved or constructed as part of this alternative. The 1.3 acres of fill added to waters of the U.S. during construction of Phase I of the proposed Project (as allowed under the ASJ and under USACE permit), which was fully mitigated by applying mitigation bank credit offsets and in-water construction BMPs during Phase I, would remain in place under Alternative 2.

The LAHD would take no further action necessary to accommodate wharf operations at Berths 100-102. Rather, the four existing A-frame cranes installed in Phase I would be removed and the existing wharf at Berth 100 would not be used for container loading and unloading activities. Under the No Federal Action Alternative, up to 632,500 TEUs from the Yang Ming Terminal could be stored on the 117 acres of backlands (as presented in Appendix I). Under this alternative, the Yang Ming total throughput is assumed to remain the same with or without additional land at Berths 97-109. The additional land would allow Yang Ming to operate more wheeled operations versus a stacked operation. Wheeled operations are more efficient and cheaper than stacked, but terminals are often limited by their backlands area necessitating a certain amount of stacking. No ship calls would occur at Berths 97-109 under this alternative. Additionally, because the terminal at Berths 121-131 is berth limited, use of Berths 97-109 by Yang Ming will not result in additional ship, truck, or rail trips at the Berth 121-131 terminal. This alternative, however, would result in daily yard-tractor trips transporting the containers to and from Berths 97-109 and terminal equipment to stack, sort and store containers at Berths 97-109 along an internal road connecting the two terminals.

When compared against the CEQA baseline, Alternative 2 would result in fewer environmental impacts than the proposed Project because its operational capacity would be lower and its level of capital development would be lower. These reduced environmental impacts under Alternative 2 include fewer aesthetic impacts (no cranes compared to 10 for the proposed Project), fewer air quality impacts (less construction and operational emissions), fewer ground traffic impacts (no truck trips), and fewer noise impacts (related to fewer truck trips and reduced construction).

When compared against the NEPA baseline, Alternative 2 would result in fewer environmental impacts than would result under the proposed Project. The decreased environmental impacts under Alternative 2 would occur from less-intensive construction activities and a lower level of terminal operations associated with the lower TEU throughput and lower direct ship, truck, and rail emissions. The NEPA baseline

represents project site conditions prior to construction of Phase I; however, the NEPA baseline, unlike the CEQA baseline, is not bound by statute to a "flat" or "no-growth" scenario. Therefore, the NEPA baseline includes the full range of construction and operational activities the applicant could implement and is likely to implement over the life of the project absent a permit from the USACE (e.g., air emissions and traffic likely to occur without issuance of a permit to modify wharves or dredge). Although Phase I has been built, this retrospective examination is necessary to ensure that all impacts associated with Phases I through III are fully considered. Similarly, Alternative 2 acknowledges the completion of Phase I activities, but seeks to return to pre-Phase I conditions to the maximum extent practicable through abandonment of structures and fills rather than removing them, which could require additional federal action. Alternative 2 would result in slightly higher impacts than the NEPA baseline because the Phase I in-water construction activity is applied to Alternative 2 but is not included in the NEPA baseline.

The No Federal Action Alternative assumes implementation of existing and future CAAP measures. Under this alternative, mitigation measures would be applied to reduce emissions from yard tractors and yard equipment used at Berths 97-109. In addition, any future Portwide CAAP measure would be applied to this alternative.

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

This alternative would be similar to the proposed Project except that the proposed 375 feet of linear wharf proposed south of Berth 100 and ~~12 of the 25 acres of backland~~ a large portion of the backlands behind Berth 100 would not be constructed or developed. Alternative 4 includes construction and operation of 13 acres in Phase III, compared to 25 acres for the proposed Project, to better match backlands capacity with wharf capacity. The total length of wharf at the terminal would be 2,125 feet. As part of the Phase I construction, 1,200 feet of wharf at Berth 100 already have been constructed and were officially put into operation on June 21, 2004. The dredging of 41,000 yd^3 of fill has already occurred as part of Phase I construction, and this material was placed at the Anchorage Road soil storage site.

This alternative would include construction of an additional 925 feet of wharf at Berth 102, to extend north of the existing wharf at Berth 100. No additional rock dike or fill would be required. Five additional A-frame cranes would be installed at Berth 102 in Phase II for a total of nine cranes at the Berth 97-109 Container Terminal (four currently exist). TEU throughput would be less than the proposed Project with an expected throughput of 1,392,000 TEUs by 2030. This would translate into 208 annual ship calls and 832 associated tugboat trips. In addition, this alternative would result in up to 4,472 daily truck trips, and up to 734 annual round-trip rail movements. With 130 acres of backlands, compared to the proposed Project, slightly less backland would be developed under Alternative 4.

When compared against the CEQA baseline, Alternative 4 would result in slightly fewer environmental impacts than the proposed Project because its operational capacity and its level of capital development would be slightly lower. These reduced environmental impacts include fewer aesthetic impacts (9 cranes compared to 10 for the proposed Project), slightly fewer air quality impacts (less construction and operational emissions), slightly fewer ground traffic impacts (fewer truck trips), and fewer noise impacts (related to fewer truck trips and reduced construction).

When compared against the NEPA baseline, Alternative 4 would result in fewer environmental impacts than those experienced under the proposed Project. The decreased environmental impacts would occur from fewer construction activities associated with the lower TEU throughput and direct ship, truck, and rail emissions.

The Reduced Fill, No South Wharf Extension Alternative assumes implementation of existing and future CAAP measures. Under this alternative, mitigation measures would be applied to reduce emissions from ships, trucks, rail, yard tractors, and yard equipment. In addition, any future Portwide CAAP measure would be applied to this alternative.

2.5.2.1 Use of West Coast Ports Outside Southern California

Compared to the proposed Project, this alternative would not meet the following Project objective: to expand and optimize the cargo-handling efficiency and capacity in the West Basin needed to accommodate increased movement of containerized goods through the Port of Los Angeles.

Under this alternative, the Port of Los Angeles would not develop Berths 97-109 with a container terminal, but would instead assume that the additional cargo would be accommodated by other West Coast ports outside Southern California (i.e., Oakland, Seattle, Tacoma, Portland, and Vancouver in British Columbia, Canada). It is important to note that the Port of Los Angeles has no authority to direct cargo to ports outside its jurisdictional boundaries. The Port could only refuse to provide the discretionary actions necessary to increase Port capacity within its own boundaries, thus providing shippers with an incentive to route cargo to other ports. Such a course is not consistent with the Tidelands Trust or Coastal Act.

To evaluate this alternative, it is important to recognize the current and expected role of the Port of Los Angeles in U.S. foreign trade. Between 40 and 45 percent of all the containers handled by U.S. ports come through the Port of Los Angeles (USACE and POLA, 2007) and more than 75 percent of all containers shipped through West Coast ports pass through the Ports of Los Angeles, Long Beach, and Oakland because those ports have the specialized facilities and navigational channels of sufficient depth to safely accommodate the new generation of deep-draft ships, some of which are as long as four football fields (over 1,200 feet) (USACE and LAHD, 2000). The value of goods handled by the Ports of Los Angeles and Long Beach was a combined $240.5 billion in 2004, whereas the value of goods handled by the Ports of Oakland, Seattle, and Tacoma was a combined $63.9 billion in the same year (United States Maritime Administration, 2005). As described in Section 1.1.3, the large population base of the Southwestern United States and the strong transportation connections to the rest of the country make the two San Pedro Bay ports prime destinations for foreign trade.

A survey of West Coast ports prepared for the Deep Draft Navigation Improvements Project showed that other West Coast ports are not capable of absorbing additional cargo diverted from the Port of Los Angeles without constructing new facilities (USACE and LAHD, 1992). The 1992 survey is still valid. A number of new studies on goods movement in California, such as the governor's *Goods Movement Action Plan* (CalEPA and the Business, Transportation, and Housing Agency, 2005), have identified capacity constraints at other West Coast ports. Other major West Coast ports are operating at or near current physical capacity, have recently expanded, or are undergoing expansion to accommodate their projected future throughput demand. Although small temporary diversions from the Port of Los Angeles can be accommodated, large permanent diversions would require further physical improvements at other major West Coast ports.

Improvements necessary to allow the other West Coast ports to accommodate the additional cargo would result in environmental impacts similar to or more pronounced than those associated with the proposed Project (LAHD, 1997a). Moreover, even with the expansion of other Ports, the Port of Los Angeles is expected to grow. Because use of other Ports would not achieve proposed Project objectives to ~~maximize~~ optimize the cargo-handling efficiency and capacity in the West Basin given the projected port-wide terminal capacity shortfall by 2030, and improve transportation infrastructure needed to accommodate increased movement of containerized goods through the Port of Los Angeles, this alternative is considered infeasible.

2.5.2.10 Development and Operation of Small Container Terminal

Compared to the proposed Project, this alternative would not meet the following Project objectives: to expand and optimize the cargo-handling efficiency and capacity in the West Basin needed to accommodate increased movement of containerized goods through the Port of Los Angeles.

Development and operation of a small container terminal (less than 72 acres of backlands) could result in reduced environmental impacts relative to the proposed Project due to substantially reduced operations and TEU throughput. Although a small container terminal would provide landside infrastructure that uses existing waterways, the small scale of this terminal alternative would not provide efficient container terminal operations in the long term. Such a reduced-scale container terminal would not meet project objectives of establishing a container facility that would ~~maximize~~ optimize the use of the waterfront land area of the Project site, and would not provide sufficient container berthing and infrastructure capacity to accommodate foreseeable cargo volumes. This alternative would not include the needed capacity to allow ships to offload containers in the long term, and could result in ship backlogs and conflicts with State Tidelands Trust obligations to fully develop Port operations at areas designated as a port by the State Coastal Plan and the Port Master Plan. Because of this, the small container alternative was eliminated from further consideration.

2.6.2 NEPA Baseline

The USACE typically uses the No Federal Action condition as the baseline for determining significance of impacts (that is, onsite conditions without the implementation of the federally approved or funded activities for the proposed Project). The NEPA baseline is typically equivalent to the No Federal Action Alternative. However, for this project, the NEPA baseline differs from the No Federal Action Alternative, described above. In addition, unlike the CEQA baseline, which is fixed by statute to conditions occurring at the site at the time the Notice of Preparation is issued, the NEPA baseline can change if environmental conditions at the site would change in the absence of federal action.

The NEPA baseline for this EIS represents Project site conditions without in-water construction. Although Phase I has been built, this retrospective examination is necessary to ensure that all impacts associated with Phases I through III are fully considered. For this Project, a variety of construction and operational activities and impacts would occur in the upland portions of the Project site even if a USACE permit were not issued. Because the USACE lacks federal control and responsibility over these activities and impacts, the impacts of these activities are included in the NEPA baseline. Moreover, because these activities and impacts change over time (for example, increases in cargo throughput, air emissions, and traffic), the NEPA baseline conditions also change.

The NEPA baseline does not include terminal features that could only be implemented when federal permits or funding for either construction or operation were acquired. The NEPA baseline does not include any new dredging (beyond what previously was approved for the Channel Deepening Supplemental EIS/EIR of 2000), filling, or new wharf or bridge construction.

The NEPA baseline assumes that in the absence of federal approval, there would likely be a Port action that does not require federal action to further develop backlands at the Project site. The NEPA baseline includes construction and container storage use of all upland elements (existing lands and fill areas previously approved through permits or channel deepening) for backlands or other purposes for up to 117 acres, including 72 acres of existing backlands, and 45 additional acres proposed to be developed as backlands under Phase II of the Project. The NEPA baseline does not include development of any backlands under Phase III of the Project. (This acreage currently is being used at the Catalina Express Terminal, which usage would remain in place and ~~12 of the 25 acres are~~ a large portion of the Phase III backlands is associated with the Berth 100 south extension and the remainder is associated with the wharf development at Berth 102 that would not occur without a USACE permit.) The in-water elements constructed under Phase I are not included in the NEPA baseline so that Phase I activities of the proposed Project and as applied to certain alternatives can be properly evaluated under NEPA. The NEPA baseline also includes dredging and filling that occurred under the previously approved Channel Deepening Supplemental EIS/EIR of 2000, that supplemented the 1998 Channel Deepening EIR. No wharf improvement or construction at Berths 97-109 is included in the NEPA baseline.

The NEPA baseline does not include any further federal action necessary to accommodate wharf operations at Berths 97-109.

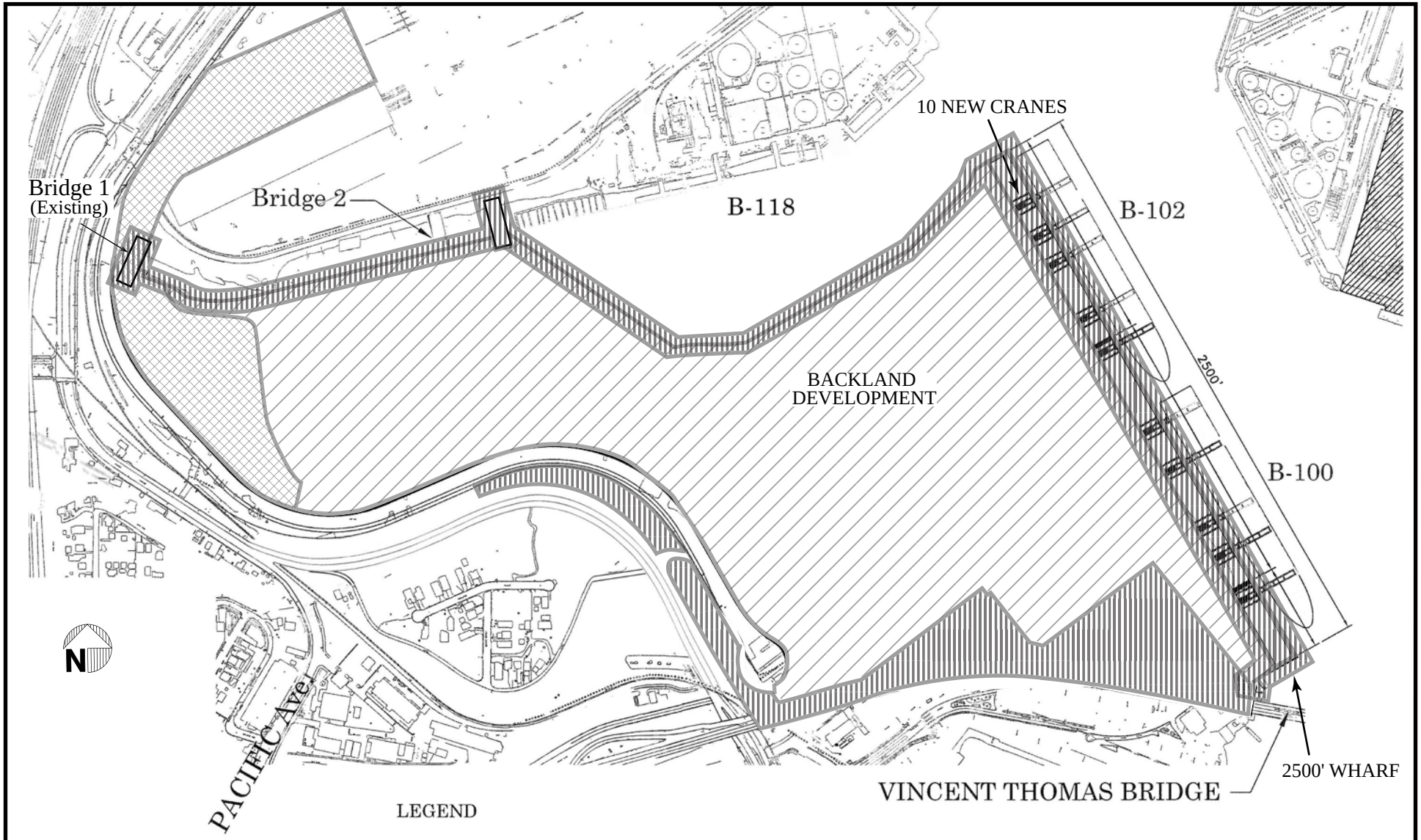
Under the NEPA baseline, up to 632,500 TEUs from the Yang Ming Terminal could be stored on the 117 acres of backlands. The Yang Ming facility currently is berth limited. Under this alternative, total throughput for Yang Ming is assumed to remain the same with or without additional land at Berths 97-109. The additional land will allow Yang Ming to operate more wheeled operations versus stacked operations. Wheeled operations are more efficient and cheaper than stacked, but terminals are often limited by their backland area, which results in a certain amount of stacking.

No ship calls at Berths 97-109 are included in the NEPA baseline. Additionally, because the Berth 121-131 terminal is berth limited under existing and all reasonably foreseeable future conditions, the NEPA baseline does not include additional ship, truck, or rail trips at the Berth 121-131 terminal due to use of Berth 97-109 backlands by Yang Ming. The NEPA baseline, however, does include daily yard tractor trips transporting the containers along the internal road between Berths 121-131 and Berths 97-109, as well as other terminal equipment to sort and store containers at Berths 97-109.

The NEPA baseline assumes implementation of existing and future CAAP measures. The NEPA baseline also assumes that mitigation measures would be applied to reduce emissions from yard tractors and yard equipment used at Berths 97-109. In addition, any future Portwide CAAP measure is assumed under the NEPA baseline.

Figure 2-6 Federal Action

Figure 2-6-2 has been revised to clarify the federal ~~project~~ action and the extent of NEPA analysis in the EIS.



Source: POLA, 2003

Figure 2-6
Federal Action
Berth 97-109 Container Terminal Project EIS/EIR

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Chapter 3
Environmental Analysis

Section 3.1
Aesthetics and Visual Resources

Proposed Project – Impact AES-1 (CEQA Criteria): Would the proposed Project have a demonstrable negative aesthetic effect?

The proposed Project would not remove or demolish any features that substantially contribute to the valued visual character of the area. The proposed Project would not require grading or development of any area of designated open space.

The proposed Project cranes and backland facilities would be consistent with the existing features of the Port landscape region, and would not contrast with the valued landscape features of the area. From several viewpoints, the presence of the cranes has the potential to interfere with views toward the Vincent Thomas Bridge, a valued landscape feature, and compete with it in the view. This impact is evaluated under Significance Criterion AES-2 below.

As described in the analysis of the changes in views by viewing area presented in Section 3.1.4.3.3.1, although the proposed Project would probably not be thought of as contributing to the aesthetic values of the area, for the most part, it would not substantially detract from them, either. The proposed Project would be visually consistent with the development in the surrounding areas of the Port, and its main effect would be to contribute to an intensification of the level of development in the area. This effect would not constitute a significant impact. Although the proposed Project would not result in significant impacts to the visual features along the roadways around the terminal, the Port has begun to landscape roadway areas for new development projects in an effort to "green" the Port, and MM AES-1 would define this landscaping around the terminal to further enhance its aesthetics. MM AES-1 provides for landscaping around the terminal boundary and gateways into the Port.

Mitigation Measures

The following mitigation measure will be implemented by the responsible parties identified in Section 3.1.4.6.

MM AES-1

1. **Reconfigure the fenceline bordering Front Street to create a 5-foot-wide planting strip alongside the edge of the street to be planted with low shrubs and some trees. Plant species used for this landscaping must be selected for their attractiveness, their relationship to existing planting themes in the surrounding area, and their environmental values. The plants installed must be of an adequate size to create an attractive planting composition within 5 years. Plants shall be monitored over the entire time frame of the lease. If any plants die, they must be replaced.**
2. **Implement the recommendations of the Northwest Harbor Beautification Plan as applicable and allowed under the State Tidelands Trust Guidelines. The recommendations include landscaping two gateways to the Port: the**

area adjacent to the Channel Street on- and off-ramps from I-110 and SR-47, and the Harbor Boulevard on- and off-ramps from SR-47 Freeway. Planting shall be designed to promote erosion control along all hillsides.

Residual Impacts

With implementation of measure MM AES-1, the impact would remain less than significant.

3.1.4.6 Mitigation Monitoring Program

AES-1: Although the proposed Project would not result in significant impacts to the visual features along the roadways around the terminal, the Port has begun to landscape roadway areas for new development projects in an effort to "green" the Port. MM AES-1 provides for landscaping around the terminal boundary and gateways into the Port.	
Mitigation Measure	**MM AES-1** 1. Reconfigure fence line bordering Front Street to create a 5-foot-wide planting strip alongside the edge of the street that will be planted with low shrubs and some trees. Plant species used for the relandscaping must be selected for their attractiveness, their relationship to existing planting themes in the surrounding area, and their environmental values. The plants installed must be of an adequate size to create an attractive planting composition within 5 years. 2. Implement the recommendations of the Northwest Harbor Beautification Plan as applicable. The recommendations include landscaping two gateways to the Port: the area adjacent to the Channel Street on- and off-ramps from I-110 and SR-47; and the Harbor Boulevard on- and off-ramps from SR-47. Planting shall be designed to promote erosion control along all hillsides.
Timing	Design and construction.
Methodology	The LAHD shall implement mitigation as described here.
Responsible Parties	LAHD, City of Los Angeles, Caltrans.
Residual Impacts	Less than significant before and after mitigation.

Section 3.2
Air Quality and Meteorology

3.2.3.1 Federal Regulations

Emission Standards for Marine Diesel Engines

To reduce emissions from Category 1 (at least 50 horsepower [hp] but < 5 liters per cylinder displacement) and Category 2 (5 to 30 liters per cylinder displacement) marine diesel engines, USEPA established emission standards for new engines, referred to as Tier 2 marine engine standards. The Tier 2 standards have been phased in from 2004 to 2007 (year of manufacture), depending on the engine size (USEPA, 1999). For the proposed Project, this rule is assumed to affect harbor craft but not oceangoing vessel auxiliary engines because the latter would likely be manufactured overseas and, therefore, would not be subject to the rule.

In March 2008, the USEPA adopted a regulation that introduces Tier 3 and Tier 4 standards, which apply to newly manufactured and remanufactured marine diesel Category 1 and Category 2 engines. For newly built engines, the Tier 3 standards apply to those engines used in commercial, recreational, and auxiliary power applications (including those below 37 kW that were previously covered by nonroad engine standards). Based on after-treatment, Tier 4 standards apply to engines above 600 kW (800 hp) on commercial vessels. For remanufactured engines, the standards apply to commercial marine diesel engines above 600 kW when these engines are remanufactured (DieselNet, 2008). For the proposed Project, this regulation is assumed to affect harbor craft but not necessarily oceangoing vessel auxiliary engines because the latter likely would be manufactured overseas and, therefore, not be subject to the rule. Because this regulation was promulgated after the quantitative air quality analysis was completed, the emission benefits associated with the Tier 3 and 4 standards are not included in the emission estimates in this EIS/EIR.

Emission Standards for Locomotives

To reduce emissions from switch and line-haul locomotives, USEPA established a series of increasingly strict emission standards for new or remanufactured locomotive engines. Tier 0 standards apply to engines manufactured or remanufactured from 1973 to 2001. Tier 1 standards apply from 2002 to 2004. Tier 2 standards apply starting in 2005 (DieselNet, 2005b).

In March 2008, USEPA introduced more stringent emission requirements for locomotives. Tier 3 standards, to be achieved by engine design methods, become effective from 2011/12. Tier 4 standards, which are expected to require exhaust gas after-treatment technologies, become effective from 2015. The 2008 regulation also includes more stringent emission standards for remanufactured Tier 0 to Tier 2 locomotives (DieselNet, 2008). Because this regulation was promulgated after the quantitative air quality analysis was completed, the emission benefits associated with the Tier 3 and Tier 4 standards are not included in the emission estimates in this EIS/EIR.

General Conformity Rule

Section 176(c) of the CAA states that a federal agency cannot support an activity unless the agency determines that the activity will conform to the most recent USEPA-approved SIP. This means that projects using federal funds or requiring federal approval must not: (1) cause or contribute to any new violation of a NAAQS; (2) increase the frequency or severity of any existing violation; or (3) delay the timely attainment of any standard, interim emission reduction, or other milestone.

On November 30, 1993, USEPA promulgated final general conformity regulations at 40 CFR Part 93 Subpart B for all federal activities except those covered under transportation conformity. On September 14, 1994, SCAQMD adopted these regulations by reference as part of Rule 1901. The general conformity regulations apply to a federal action in a nonattainment or maintenance area if the total of direct and indirect emissions of the relevant criteria pollutants and precursor pollutants caused by the federal action equal or exceed certain *de minimis* rates, thus requiring the federal agency to make a determination of general conformity. Even when the emissions of a federal action would be below *de minimis* rates, if this total represents 10 percent or more of the total emissions of that pollutant in the nonattainment or maintenance area, the federal action is considered regionally significant, and the federal agency must make a determination of general conformity. By requiring an analysis of direct and indirect emissions, USEPA intended the regulating federal agency to make sure that only those emissions that are reasonably foreseeable and that the federal agency can practicably control subject to that agency's continuing program responsibility will be addressed.

The general conformity regulations incorporate a stepwise process, beginning with an applicability analysis. According to USEPA guidance (EPA, 1994), before any approval is given for a federal action to go forward, the regulating federal agency must apply the applicability requirements found at 40 CFR Section 93.153(b) to the federal action and/or determine the regional significance of the federal action to evaluate whether, on a pollutant-by-pollutant basis, a determination of general conformity is required. The guidance states that the applicability analysis can be (but is not required to be) completed concurrently with any analysis required under the NEPA. If the regulating federal agency determines that the general conformity regulations do not apply to the federal action, no further analysis or documentation is required. If the general conformity regulations do apply to the federal action, the regulating federal agency must next conduct a conformity evaluation in accordance with the criteria and procedures in the implementing regulations, publish a draft determination of general conformity for public review, and then publish the final determination of general conformity.

The currently approved SIPs for the South Coast Air Basin are summarized below.

- O_3: SIP approved by USEPA on April 10, 2000 (65 FR 18903), based on the 1997 AQMP and a 1999 amendment to the 1997 AQMP.
- CO: SIP approved by USEPA on May 11, 2007 (72 FR 26718), based on 2005 redesignation request and maintenance plan. In this SIP approval, USEPA also redesignated the South Coast Air Basin from nonattainment to attainment/maintenance for CO.
- PM_{10}: SIP approved by USEPA on April 18, 2003 (68 FR 19315), based on the 1997 AQMP, amendments to the 1997 AQMP submitted in 1998 and 1999, and further modifications to the 1997 AQMP submitted in a status report to USEPA in 2002.

- $PM_{2.5}$: No USEPA-approved SIP.
- NO_2: SIP approved by USEPA on July 24, 1998 (63 FR 39747), based on the 1997 AQMP. In this SIP approval USEPA also redesignated the South Coast Air Basin from nonattainment to attainment/maintenance for NO_2.

~~On December 20, 2007, the USEPA proposed revisions to the General Conformity Regulations. The proposed revisions would clarify, streamline, and improve conformity determination and review processes, and provide transition tools for making conformity determinations for new NAAQS standards. The proposed revisions would also allow federal facilities to negotiate a facility-wide emission budget with the applicable air pollution control agencies, and to allow the emissions of one precursor pollutant to be offset by the emissions of another precursor pollutant. These revisions have not yet been promulgated.~~

Based on the ~~current General Conformity rule and~~ existing attainment status of the South Coast Air Basin, a federal action would conform to the SIP if its annual emissions remain below 100 tons of CO or $PM_{2.5}$, 70 tons of PM_{10}, or ~~10~~ 25 tons of NO_X or VOC. However, the United States Court of Appeals ruled in December 2006 that areas in nonattainment of the 1-hour O_3 NAAQS that were superseded by the 8-hour nonattainment classifications must also consider the 1-hour requirements in conformity analyses (South Coast Air Quality Management District v. EPA, 472 F.3d 882 [D.C.Cir. 2006]). Hence, 10 tons per year of NO_X or VOCs also are applicable conformity *de minimis* thresholds for the South Coast Air Basin.~~These *de minimis* thresholds apply to both proposed Project construction and proposed Project operations. (For proposed Project operations, the thresholds are compared to the net change in emissions relative to the NEPA baseline.) If the proposed action exceeds one or more of the *de minimis* thresholds, a more rigorous conformity determination is the next step in the conformity evaluation process.~~

For purposes of the general conformity determination, the applicable SIP will be the most recent USEPA-approved SIP at the time of the release of the final general conformity determination. The Draft Conformity Determination is included in Appendix P of the Final EIS/EIR.

Conformity Statement

The Southern California Association of Governments (SCAG) serves the Project area as the Metropolitan Planning Organization (MPO) for Los Angeles, Orange, San Bernardino, Riverside, Ventura and Imperial counties. As the designated MPO, SCAG is mandated by the federal government to research and draw up plans for transportation and mobility portions of the SCAQMD air plan. SCAG performs the transportation conformity analysis as part of its approval of the Regional Transportation Plan (RTP). The last RTP was approved in 2004 and amended in 2006.

The Port of Los Angeles regularly provides SCAG with its Portwide cargo forecasts for development of the AQMP. Cargo projections from Port activities have been included in the Regional Transportation Plan (RTP) of the Metropolitan Planning Organization (MPO) and, thus, were included in the most recent EPA-approved 1997/1999 SIP and the 2003 SIP, should USEPA approve this. These same projections have also been included in the more recent 2007 RTP and SIP, which will also be submitted for USEPA approval. This has been acknowledged by SCAG, which is the MPO for the region.

As part of the environmental review of the federal action, the USACE will conduct a general conformity evaluation pursuant to 40 CFR Part 93 Subpart B. The federal action, which is only a portion of the overall proposed Project, includes approval of all in-water and over-water work and structures, as well as temporary access, staging, and storage activities within 100 feet of the water needed to complete the in- and over-water work and structures. The proposed Project also includes 25 acres of upland adjacent to Berth 100 that would be redeveloped as backlands during Phase III (hereinafter the "federal action"). Consistent with the General Conformity Rule and Guidance, including USACE Guidance dated April 20, 1994 (see Appendix P), the USACE determined that other construction and operational activities and emissions associated with the proposed Project are not within USACE continuing program responsibility and control; therefore, they were not included. The general conformity regulations apply at this time to any actions at the Port requiring USACE approval because the South Coast Air Basin, where the Port of Los Angeles is situated, is a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$, and a maintenance area for NO_2 and CO. The USACE will conduct the general conformity evaluation following all regulatory criteria and procedures and in coordination with USEPA and SCAG.

3.2.4.3 Proposed Project Impacts and Mitigation

Proposed Project – Impact AQ-1: The proposed Project would result in construction-related emissions that exceed an SCAQMD threshold of significance in Table 3.2-14.

Table 3.2-18 presents the maximum daily criteria pollutant emissions associated with construction of the proposed Project, before mitigation. Maximum emissions for each construction phase were determined by totaling the daily emissions from those construction activities that overlap in the proposed construction schedule (Table 2-2).

Table 3.2-18. Peak Daily Emissions Associated with Berth 97-109 Terminal Construction Activities – Proposed Project Without Mitigation

Emission Source	Daily Emissions (lb/day)					
	VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Phase I						
Construction of a 1,000-foot Wharf at Berth 100	*32*	*100*	*506*	*5.2*	*27*	*25*
Construction of a 200-foot North Extension of Wharf at Berth 100 [b]	42	139	502	5.2	27	25
Crane Delivery and Installation [e]	*48*	*128*	*1,316*	*1,453*	*154*	*124*
Berth 100 75-Acre Backlands Development	*29*	*102*	*226*	*1.4*	*205*	*51*
Construction of Bridge 1	8.3	39	69	0.42	3.4	3.1
Berth 121 Gate Modifications	3.3	9.0	21	0.14	1.2	1.1
Worker Trips	*20*	*264*	*34*	*0.26*	*20*	*2*
Peak Daily Phase I – CEQA Impact [i]	**129**	**594**	**2,082**	**1,460**	**407**	**202**
Peak Daily Phase I – NEPA Impact [i]	**80**	**229**	**1,822**	**1,458**	**182**	**149**
Thresholds	75	550	100	150	150	55
CEQA Significant?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
NEPA Significant?	**Yes**	**No**	**Yes**	**Yes**	**Yes**	**Yes**

Table 3.2-18. Peak Daily Emissions Associated with Berth 97-109 Terminal Construction Activities – Proposed Project Without Mitigation

Emission Source	Daily Emissions (lb/day)					
	VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Phase II						
Construct Berth 102	*15*	*57*	*149*	*0.15*	*5.8*	*5.2*
Construct Berth 100-109 Buildings	*7*	*25*	*56*	*0.06*	*2.9*	*2.7*
Construct 18 of 45-acre Backlands	*18*	*62*	*147*	*0.15*	*55*	*16*
Construct Bridge 2	6	22	51	0.05	2.2	1.9
Construct 17 of 45-acre Backland	17	58	137	0.15	52	15
Construct 10 of 45-acre Backlands (Behind Rear Berth 102)	17	58	137	0.15	33	11
Crane Delivery and Installation	*46*	*117*	*1,302*	*1,452*	*154*	*123*
Worker Trips	*2.15*	*27*	*3.6*	*0.020*	*4.6*	*0.9*
Peak Daily – Phase II	**88**	**287**	**1,657**	**1,453**	**222**	**148**
Phase III						
South Extension of Berth 100	*21*	*63*	*442*	*0.27*	*19*	*18*
Construct 25-acre Backlands (Behind Berth 100)	*16*	*55*	*127*	*0.15*	*73*	*19*
Crane Delivery and Installation	*46*	*116*	*1,300*	*1,452*	*154*	*123*
Worker Trips	*2.0*	*25*	*3.3*	*0.02*	*4.6*	*0.90*
Peak Daily Emissions– Phase III	**85**	**259**	**1,872**	**1,453**	**250**	**161**
Peak Daily – Phases II and III Combined – CEQA Impact [c,i]	**88**	**287**	**1,872**	**1,453**	**250**	**161**
Peak Daily – Phases II and III Combined – NEPA Impact [c,i]	**64**	**161**	**1,646**	**1,453**	**212**	**150**
Thresholds	75	550	100	150	150	50
CEQA Significant?	**Yes**	**No**	**Yes**	**Yes**	**Yes**	**Yes**
NEPA Significant?	**No**	**No**	**Yes**	**Yes**	**Yes**	**Yes**

Notes:

a) Only the emissions shown in italics are included in the maximum daily emissions for each phase. All other emissions would occur at other times and, therefore, would not contribute to the maximum daily emissions.

b) CO emissions for a 200-foot wharf extension are higher than for a 1,000-foot wharf extension because the 200-foot wharf extension includes dredge and dike filling. The 1,000-foot extension mainly is rebuilding an existing wharf.

c) Maximum daily emissions of VOC and CO from Phases II and III combined represent the sum of the emissions from the following activities assumed to occur on the same day: Construction of Berth 102 (Phase II), Construction of Berth 100-109 Buildings (Phase II), Construct 18 of 45-Acre Backlands Improvements at Berth 100 (Phase II), Crane Delivery and Installation (Phase II), and Worker Trips (Phase II).

d) Maximum daily emissions of NO_X, PM_{10}, and $PM_{2.5}$ from Phases II and III combined represent the sum of the emissions from the following activities: South Extension of Berth 100 (Phase III), Construct 25 acre Backlands behind Berth 100 (Phase III), Crane Delivery and Installation (Phase III), and Worker Trips (Phase III).

e) Emissions of PM_{10} and $PM_{2.5}$ assume that fugitive dust is controlled in accordance with SCAQMD Rule 403 by watering disturbed areas 3 times per day.

f) One general cargo ship delivered four shoreside cranes in Phase I; two general cargo ships would deliver five cranes in Phase II, and one general cargo ship would deliver one crane in Phase III. Without mitigation, the crane delivery ships were assumed not to observe the VSRP.

g) Emissions might not add precisely due to rounding. For more explanation, refer to the discussion in Section 3.2.4.1.

h) The emission estimates presented in this table were calculated using the latest available data, assumptions, and emission factors at the time this document was prepared. Future studies might use updated data, assumptions, and emission factors that are not currently available.

i) The CEQA Impact equals total Project construction emissions minus CEQA baseline construction emissions (which are zero). The NEPA impact equals total Project construction emissions minus NEPA baseline construction emissions as reported in Table 3.2-9.

In the case where more than one possible combination of activities would occur during the course of a construction phase, total daily emissions were calculated for all possible combinations, and the combination producing the greatest emissions was reported in Table 3.2-18. The emissions shown in italics represent the construction activities that

combine to produce the maximum daily emissions for each construction phase. For example, in Phase II, five of the eight construction activities would combine to produce maximum daily emissions: Construction of Berth 102, construction of Berth 100-109 buildings, construct 18 of 45-acre backlands improvements at Berth 100, crane delivery and installation, and worker trips (Phase II). The other three construction activities would not be active during this time.

In addition, because Phases II and III overlap each other in the construction schedule, maximum emissions for combined Phases II and III were also determined in the same manner. By contrast, Phase I, which was completed in 2003, does not overlap any other construction phase and, therefore, was evaluated separately.

As shown in Table 3.2-18, the unmitigated peak daily construction emissions during Phase I exceeded the SCAQMD daily emission thresholds for VOC, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ under CEQA. These unmitigated peak daily construction emissions exceeded the thresholds for VOC, NO_X, SO_X, PM_{10}, and PM_{25} under NEPA.

The unmitigated combined peak daily construction emissions during Phases II and III would exceed the SCAQMD daily emission thresholds for VOC, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ under CEQA. Under NEPA, the unmitigated peak daily construction would exceed the thresholds of NO_X, SO_X, PM_{10}, and $PM_{2.5}$.

The largest contributors to peak daily construction emissions include transit and hoteling of general cargo vessels during crane delivery (a total of one ship for Phase I, two ships for Phase II, and one ship for Phase III), dredging activities during wharf construction, tugboats hauling barges to and from Catalina Island and Berth 205, and grading during backlands construction (fugitive dust).

CEQA Impact Determination

Without mitigation, the proposed Project would exceed the daily construction emission thresholds for VOC, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ during construction of Phase I, and would exceed the thresholds for VOC, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ during construction of Phases II and III. Therefore, significant impacts under CEQA would occur.

NEPA Impact Determination

Without mitigation, the proposed Project would exceed the daily construction emission thresholds for VOC, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ during construction of Phase I, and would exceed the thresholds for NO_X, SO_X, PM_{10}, and $PM_{2.5}$ during construction of Phases II and III. Therefore, significant impacts under NEPA would occur.

Mitigation Measures

Mitigation measures for proposed Project construction were derived, where feasible, from the proposed NNI measures, Port Community Advisory Committee (PCAC) recommended measures, and the CAAP and in consultation with the Port. A complete proposed Project feasibility review of the NNI and PCAC measures under the proposed Project is included in Appendix C. Table 3.2-19 summarizes all construction mitigation measures and regulatory requirements assumed in the mitigated emission calculations.

Table 3.2-19. Regulations, Agreements, and Mitigation Measures Assumed in the Construction Emissions with Mitigation

Off-Road Construction Equipment	On-Road Trucks	Tugboats	General Cargo Ships	Fugitive Dust
PART 1. Regulations and Agreements Included in the Mitigated Emission Calculations				
Emission Standards for Nonroad Diesel Engines – Tier 1, 2, 3, and 4 standards gradually phased in over all years due to normal construction equipment fleet turnover. **California Diesel Fuel Regulations** – 15-ppm sulfur starting September 1, 2006.	**Emission Standards for Onroad Trucks** – Tiered standards gradually phased in over all years due to normal truck fleet turnover. **California Diesel Fuel Regulations** – 15-ppm sulfur starting September 1, 2006. **Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling** – Diesel trucks are subject to idling limits starting 2/1/05.	**California Diesel Fuel Regulations** – 500-ppm sulfur starting January 1, 2006, and 15-ppm sulfur starting September 1, 2006.	None	**SCAQMD Rule 403 Compliance** – 75 percent reduction in fugitive dust due to watering three times per day.
PART 2. Mitigation Measures Included in the Mitigated Emission Calculations				
AQ-1: Emulsified Fuels for Derrick Barges – applies to Phase I of construction. **AQ-4: Fleet Modernization for Construction Equipment** – Applies to Phases II and III only. This measure is more stringent than Emission Standards for Nonroad Diesel Engines (above) for equipment subject to this mitigation measure during Phases II and III.	**AQ-3: Fleet Modernization for On-Road Trucks** – applies to Phases II and III only. This measure is more stringent than Emission Standards for Onroad Trucks (above).	**AQ-1: Repowered Harborcraft –** applies to Phases II and III only.	**AQ-2: Expanded VSR Program** – applies to Phases II and III only.	**AQ-6: Additional Fugitive Dust Control** – applies to Phases II and III only. Achieve 90 percent reduction.
PART 3. Mitigation Measures Not Included in the Mitigated Emission Calculations[a]				
AQ-5: Best Management Practices – applies to Phases II and III only**.** **AQ-7: General Mitigation Measure –** applies to Phases II and III only**.** **AQ-8: Special Precautions near Sensitive Sites –** applies to Phases II and III only.				

[a]These mitigation measures were not included in the calculations because their effectiveness has not been established.

1

The following mitigation measures would reduce criteria pollutant emissions associated with Project construction. **Mitigation Measure (MM) AQ-1** as it pertains to derrick barges was implemented during Phase I of construction. **MM AQ-1** as it pertains to harbor craft would apply to Phases II and III of construction. All other mitigation measures **(MM AQ-2** through **MM AQ-8**) would apply to Phases II and III of construction. These mitigation measures would be implemented by the responsible parties identified in Section 3.2.4.5.

MM AQ-1 ***Harbor Craft used during construction***

Phase I: All diesel-powered derrick barges used for pile driving shall use emulsified diesel fuel.

Phases II and III: All harbor craft used during the construction phase of the project shall be, at a minimum, repowered to meet the cleanest existing marine engine emission standards or USEPA Tier 2. Additionally, where available, harbor craft shall meet the proposed USEPA Tier 3 (which are proposed to be phased-in beginning 2009) or cleaner marine engine emission standards.

The above harbor craft measure shall be met unless one of the following circumstances exists and the contractor is able to provide proof that any of these circumstances exists:

- A piece of specialized equipment is unavailable in a controlled form within the State of California, including through a leasing agreement.
- A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the project, but the application is not yet approved, or the application has been approved, but funds are not yet available.
- A contractor has ordered a control device for a piece of equipment planned for use on the project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must attempt to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the project has the controlled equipment available for lease.

MM AQ-2: ***Cargo Ships***

Phases II and III:

1. **All cargo ships used for terminal crane deliveries shall comply with the expanded VSRP of 12 knots from 40 nm from Point Fermin to the Precautionary Area.**

   The general cargo ship used to deliver cranes in Phase I is assumed not to have observed the VSRP.

MM AQ-3: ***Fleet Modernization for On-Road Trucks***

Phases II and III:

1. **Trucks hauling materials such as debris or fill shall be fully covered while operating off Port property.**

2. **Idling shall be restricted to a maximum of 5 minutes when not in use.**

3. **USEPA Standards:**

   All on-road heavy-duty diesel trucks with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater used onsite or to transport materials to and from the site shall comply with EPA 2004 on-road PM emission standards and be the cleanest available NO_X (0.10 grams per brake horsepower-hour [g/bhp-hr] PM_{10} and 2.0 g/bhp-hr NO_X). In addition, all on-road trucks shall be outfitted with Best Available Control Technology (BACT) devices certified by CARB. Any emissions-control device used by the contractor shall achieve emissions reductions no less than what could be achieved by a Level 3 diesel emissions control strategy for a similar-sized engine as defined by CARB regulations.

   A copy of each unit's certified, USEPA rating, BACT documentation, and each unit's CARB or SCAQMD operating permit, shall be provided at the time of mobilization of each applicable unit of equipment.

   The above USEPA Standards measures shall be met, unless one of the following circumstances exists and the contractor is able to provide proof that any of these circumstances exists:

   - A piece of specialized equipment is unavailable in a controlled form within the State of California, including through a leasing agreement.
   - A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the project, but the application is not yet approved, or the application has been approved, but funds are not yet available.
   - A contractor has ordered a control device for a piece of equipment planned for use on the project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must attempt to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the project has the controlled equipment available for lease.

MM AQ-4: ***Fleet Modernization for Construction Equipment***

Phases II and III:

1. **Construction equipment shall incorporate, where feasible, emissions-savings technology such as hybrid drives and specific fuel economy standards.**
2. **Idling shall be restricted to a maximum of 5 minutes when not in use.**
3. **Tier Specifications:**
   a. **<u>January 1, 2009, to December 31, 2011</u>: All off-road diesel-powered construction equipment greater than 50 hp, except derrick barges and marine vessels, shall meet Tier 2 off-road emissions standards. In addition, all construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions-control device used by the Contractor shall achieve emissions reductions no less than what could be achieved by a Level 2 or Level 3 diesel emissions control strategy for a similar-sized engine as defined by CARB regulations.**
   b. **<u>Post January 1, 2012</u>: All off-road diesel-powered construction equipment greater than 50 hp, except derrick barges and marine vessels, shall meet Tier 3 off-road emissions standards. In addition, all construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions-control device used by the Contractor shall achieve emissions reductions no less than what could be achieved by a Level 2 or Level 3 diesel emissions-control strategy for a similar-sized engine as defined by CARB regulations.**

   A copy of each unit's certified Tier specification, BACT documentation and each unit's CARB or SCAQMD operating permit, shall be provided at the time of mobilization of each applicable unit of equipment.

The above "Tier Specifications" measures shall be met, unless one of the following circumstances exist, and the contractor is able to provide proof that any of these circumstances exists:

- A piece of specialized equipment is unavailable in a controlled form within the State of California, including through a leasing agreement.
- A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the project, but the application is not yet approved, or the application has been approved, but funds are not yet available.
- A contractor has ordered a control device for a piece of equipment planned for use on the project, or the contractor has ordered a new piece of controlled equipment to replace the

uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must attempt to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the project has the controlled equipment available for lease.

MM AQ-5: ***Best Management Practices***

Phases II and III:

The following types of measures are required on construction equipment (including on-road trucks):

1. **Use of diesel oxidation catalysts and catalyzed diesel particulate traps**
2. **Maintain equipment according to manufacturers' specifications**
3. **Restrict idling of construction equipment and on-road heavy-duty trucks to a maximum of 5 minutes when not in use**
4. **Install high-pressure fuel injectors on construction equipment vehicles**
5. **Maintain a minimum buffer zone of 300 meters between truck traffic and sensitive receptors**
6. **Improve traffic flow by signal synchronization**
7. **Enforce truck parking restrictions**
8. **Provide onsite services to minimize truck traffic in or near residential areas, including, but not limited to, services such as meal or cafeteria services and automated teller machines.**
9. **Re-route construction trucks away from congested streets or sensitive receptor areas**
10. **Provide dedicated turn lanes for movement of construction trucks and equipment on- and offsite.**
11. **Use electric power in favor of diesel power where available.**

LAHD shall implement a process to select additional BMPs to further reduce air emissions during construction. The LAHD shall determine the BMPs once the contractor identifies and secures a final equipment list. ~~The LAHD shall implement a process to add BMPs to reduce air emissions from all LAHD-sponsored construction~~

~~**LAHD shall implement a process by which to select additional BMPs to further reduce air emissions during construction. The LAHD shall determine the BMPs once the contractor identifies and secures a final equipment list.**~~

MM AQ-6: ***Additional Fugitive Dust Controls.*** **The calculation of fugitive dust (PM10) from Project earth-moving activities assumes a 75 percent reduction from uncontrolled levels to simulate rigorous watering**

of the site and use of other measures (listed below) to ensure Project compliance with SCAQMD Rule 403.

The construction contractor shall further reduce fugitive dust emissions to 90 percent from uncontrolled levels. The construction contractor shall designate personnel to monitor the dust control program and to order increased watering, as necessary, to ensure a 90 percent control level. Their duties shall include holiday and weekend periods when work may not be in progress.

The following measures, at minimum, must be part of the contractor Rule 403 dust control plan:

- **Active grading sites shall be watered one additional time per day beyond that required by Rule 403.**
- **Contractors shall apply approved non-toxic chemical soil stabilizers according to manufacturer's specifications to all inactive construction areas or replace groundcover in disturbed areas (previously graded areas) inactive for 10 days or more.**
- **Construction contractors shall provide temporary wind fencing around sites being graded or cleared.**
- **Trucks hauling dirt, sand, or gravel shall be covered ~~or shall maintain at least 2 feet of freeboard~~ in accordance with Section 23114 of the California Vehicle Code.**
- **Construction contractors shall install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off tires of vehicles and any equipment leaving the construction site.**
- **The grading contractor shall suspend all soil disturbance activities when winds exceed 25 mph or when visible dust plumes emanate from a site; disturbed areas shall be stabilized if construction is delayed.**
- **Pave road and road shoulders.**
- **Require the use of clean-fueled sweepers pursuant to SCAQMD Rule 1186 and Rule 1186.1 certified street sweepers. Sweep streets at the end of each day if visible soil is carried onto paved roads onsite or roads adjacent to the site to reduce fugitive dust emissions.**
- **Appoint a construction relations officer to act as a community liaison concerning onsite construction activity including resolution of issues related to PM_{10} generation.**
- **Traffic speeds on all unpaved roads shall be reduced to 15 mph or less.**
- **Provide temporary traffic controls such as a flag person, during all phases of construction to maintain smooth traffic flow.**

- **Schedule construction activities that affect traffic flow on the arterial system to off-peak hours to the extent practicable.**

MM AQ-7: ***General Mitigation Measure.*** **For any of the above mitigation measures (MM AQ-1 through AQ-6), if a CARB-certified technology becomes available and is shown to be as good as or better in terms of emissions performance than the existing measure, the technology could replace the existing measure pending approval by the Port.**

MM AQ-8: ***Special Precautions near Sensitive Sites.*** **All construction activities located within 1,000 feet of sensitive receptors (defined as schools, playgrounds, daycares, and hospitals) shall notify each of these sites in writing at least 30 days before construction activities begin.**

Residual Impacts

While changes to **MM AQ-5** and **MM AQ-6** are expected to further reduce emissions, construction emissions are still expected to remain significant under both CEQA and NEPA.

Proposed Project – Impact AQ-3: The proposed Project would result in operational emissions that exceed 10 tons per year of VOCs or an SCAQMD threshold of significance in Table 3.2-16.

Table 3.2-23 presents the unmitigated average daily criteria pollutant emissions associated with operation of the proposed Project. The average daily emissions represent the annual emissions divided by 365 days per year. Average daily emissions are a good indicator of terminal operations over the long term since terminal operations can vary substantially from day-to-day depending on ship arrivals. Emissions were estimated for 4 Project study years: 2005, 2015, 2030, and 2045. Comparisons to the CEQA and NEPA baseline emissions are presented to determine CEQA and NEPA significance, respectively.

The operational emissions associated with the proposed Project assume the following activity levels:

- Annual container volumes for Berths 97-109 are estimated to be 403,200 TEUs in 2005; 1,164,400 TEUs in 2015; and 1,551,000 TEUs in 2030 and 2045.

Annual ship calls to Berths 97-109 were 52 visits in 2005; and are estimated to be 182 visits (3 weekly + 1 biweekly) in 2015, and 234 visits (4 weekly + 1 biweekly) in 2030 and 2045.

Table 3.2-23. Average Daily Operational Emissions Without Mitigation – Proposed Project

Emission Source	Average Daily Emissions (lb/day)					
	VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Project Year 2005						
Ships – Transit and Anchoring	31	65	725	419	64	51
Ships – Hoteling	16	42	548	472	49	39
Tugboats	1	3	19	1	1	1
Trucks	189	894	1,663	12	129	86
Trains	23	64	444	29	15	14
Rail Yard Equipment	11	40	114	1	5	5
Terminal Equipment	154	553	1,502	13	73	67
Worker Trips	6	71	9	0	8	2
Total – Project Year 2005	**431**	**1,732**	**5,024**	**946**	**344**	**265**
CEQA Impacts						
CEQA Baseline Emissions	60	225	566	10	31	29
Project minus CEQA Baseline	371	1,507	4,458	936	313	236
Thresholds	55	550	55	150	150	55
Significant?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
NEPA Impacts						
NEPA Baseline Emissions	183	2,701	1,074	4	20	19
Project minus NEPA Baseline	248	-969	3,949	942	325	246
Thresholds	55	550	55	150	150	55
Significant?	**Yes**	**No**	**Yes**	**Yes**	**Yes**	**Yes**
Project Year 2015						
Ships – Transit and Anchoring	117	245	2,713	1,561	240	192
Ships – Hoteling	31	83	1,080	924	96	77
Tugboats	1	10	56	0	2	2
Trucks	302	1,290	2,577	5	235	112
Trains	52	181	932	1	28	26
Rail Yard Equipment	3	126	107	0	3	3
Terminal Equipment	63	1,635	1,421	4	48	44
Worker Trips	7	88	12	0	24	5
Total – Project Year 2015	**576**	**3,660**	**8,898**	**2,495**	**676**	**461**
CEQA Impacts						
CEQA Baseline Emissions	60	225	566	10	31	29
Project minus CEQA Baseline	516	3,434	8,332	2,484	645	432
Thresholds	55	550	55	150	150	55
Significant?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
NEPA Impacts						
NEPA Baseline Emissions	7	852	72	0	3	3
Project minus NEPA Baseline	569	2,808	8,826	2,495	674	458
Thresholds	55	550	55	150	150	55
Significant?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

Table 3.2-23. Average Daily Operational Emissions Without Mitigation – Proposed Project

Emission Source	Average Daily Emissions (lb/day)					
	VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Project Year 2030						
Ships – Transit and Anchoring	160	336	3,711	2,127	328	263
Ships – Hoteling	35	96	1,243	1,055	110	88
Tugboats	2	13	54	0	2	2
Trucks	169	721	1,521	6	215	61
Trains	52	226	951	1	26	23
Rail Yard Equipment	2	145	20	0	1	1
Terminal Equipment	30	1,958	322	6	8	8
Worker Trips	5	53	6	0	29	6
Total – Project Year 2030	**456**	**3,548**	**7,828**	**3,196**	**719**	**451**
CEQA Impacts						
CEQA Baseline Emissions	60	225	566	10	31	29
Project minus CEQA Baseline	396	3,323	7,262	3,186	688	422
Thresholds	55	550	55	150	150	55
Significant?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
NEPA Impacts						
NEPA Baseline Emissions	8	889	76	0	3	3
Project minus NEPA Baseline	448	2,659	7,752	3,196	717	448
Thresholds	55	550	55	150	150	55
Significant?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Project Year 2045						
Ships – Transit and Anchoring	160	336	3,711	2,127	328	263
Ships – Hoteling	35	96	1,243	1,055	110	88
Tugboats	2	13	54	0	2	2
Trucks	158	676	1,440	6	212	58
Trains	46	226	882	1	22	20
Rail Yard Equipment	2	145	20	0	1	1
Terminal Equipment	30	1,958	322	6	8	8
Worker Trips	4	45	4	0	29	6
Total – Project Year 2045	**439**	**3,494**	**7,677**	**3,196**	**713**	**445**
CEQA Impacts						
CEQA Baseline Emissions	60	225	566	10	31	29
Project minus CEQA Baseline	379	3,269	7,111	3,186	681	416
Thresholds	55	550	55	150	150	55
Significant?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
NEPA Impacts						
NEPA Baseline Emissions	8	868	75	0	3	3
Project minus NEPA Baseline	431	2,626	7,601	3,196	710	442

Table 3.2-23. Average Daily Operational Emissions Without Mitigation – Proposed Project

Emission Source	Average Daily Emissions (lb/day)					
	VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Thresholds	55	550	55	150	150	55
Significant?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

Notes:

a) Emissions represent annual emissions divided by 365 days per year of operation.

b) Truck, train, ship, and worker commute emissions include transport within the South Coast Air Basin.

c) For the NEPA significance determination in this table, NEPA baseline emissions include as Project elements the terminal equipment measures in the Amended Stipulated Judgment, implementation of CAAP Measure CHE-1 starting in 2009, and 100 percent alternative-fueled toppicks starting in 2009.

d) Emissions might not precisely add due to rounding. For further explanation, refer to the discussion in Section 3.2.4.1.

e) The emission estimates presented in this table were calculated using the latest available data, assumptions, and emission factors at the time this document was prepared. Future studies might use updated data, assumptions, and emission factors that are not currently available.

- Without mitigation, the VSRP compliance rate was assumed to be 68 percent in 2005, 2015, 2030, and 2045. This represents the actual China Shipping compliance rate in 2005 (pers. comm., Maggay, 2005).
- The fraction of all TEUs moving through on-dock rail (Berth 121-131 ICTF) is estimated to be 19.5 percent in 2005, 20.3 percent in 2015, and 16.9 percent in 2030 and 2045. The fraction of all TEUs moving through off-dock rail yards (Carson ICTF, Los Angeles rail yards, or Inland Empire rail yards) is estimated to be 19.1 percent in 2005, 18.3 percent in 2015, and 19.6 percent in 2030 and 2045. The fraction of all TEUs hauled by truck to nonrail-yard destinations is estimated to be 61.4 percent in 2005, 61.4 percent in 2015, and 63.5 percent in 2030 and 2045.
- The proposed Project would generate 1,529; 4,364; 5,055; and 5,055 peak daily truck trips in 2005, 2015, 2030, and 2045 respectively.
- The Project would generate 448; 1,296; 1,634; and 1,634 annual one-way train trips in 2005, 2015, 2030, and 2045 respectively.

Table 3.2-24 summarizes peak daily unmitigated emissions estimated for the proposed Project operations in years 2005, 2015, 2030, and 2045. Peak daily emissions represent theoretical upper-bound estimates of activity levels at the terminal. Therefore, in contrast to average daily emissions, peak daily emissions would occur infrequently and are based upon a lesser known and therefore more theoretical set of conservative assumptions. Comparisons to the CEQA and NEPA baseline emissions are presented to determine CEQA and NEPA significance, respectively.

Table 3.2-24. Peak Daily Operational Emissions Without Mitigation – Proposed Project

Emission Source	Peak Daily Emissions (lb/day)					
	VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Project Year 2005						
Ships – Transit and Anchoring	133	278	3,266	3,179	385	308
Ships – Hoteling	35	94	1,249	2,294	194	156
Tugboats	2	10	68	5	3	3
Trucks	252	1,194	2,222	16	172	115
Trains	100	274	1,904	124	66	61
Rail Yard Equipment	37	131	371	3	18	16
Terminal Equipment	379	1,359	3,693	31	179	165
Worker Trips	8	87	12	0	10	2
Total – Project Year 2005	**945**	**3,428**	**12,785**	**5,651**	**1,027**	**824**
CEQA Impacts						
CEQA Baseline Emissions	161	607	1,523	28	85	78
Project minus CEQA Baseline	784	2,822	11,262	5,622	942	747
Thresholds	55	550	55	150	150	55
Significant?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
NEPA Impacts						
NEPA Baseline Emissions	492	7,268	2,890	11	53	50
Project minus NEPA Baseline	453	-3,840	9,894	5,640	974	774
Thresholds	55	550	55	150	150	55
Significant?	**Yes**	**No**	**Yes**	**Yes**	**Yes**	**Yes**
Project Year 2015						
Ships – Transit and Anchoring	303	643	7,587	7,362	888	710
Ships – Hoteling	74	200	2,653	4,811	411	329
Tugboats	3	21	112	0	4	4
Trucks	403	1,724	3,443	6	313	150
Trains	78	269	1,383	1	42	38
Rail Yard Equipment	4	143	121	0	4	3
Terminal Equipment	159	4,164	3,620	11	123	113
Worker Trips	9	107	14	0	29	6
Total – Project Year 2015	**1,033**	**7,272**	**18,933**	**12,192**	**1,814**	**1,353**
CEQA Impacts						
CEQA Baseline Emissions	161	607	1,523	28	85	78
Project minus CEQA Baseline	871	6,665	17,410	12,164	1,729	1,275
Thresholds	55	550	55	150	150	55
Significant?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
NEPA Impacts						
NEPA Baseline Emissions	20	2,291	193	1	7	7
Project minus NEPA Baseline	1,013	4,981	18,740	12,191	1,807	1,346

Table 3.2-24. Peak Daily Operational Emissions Without Mitigation – Proposed Project

Emission Source	Peak Daily Emissions (lb/day)					
	VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Thresholds	55	550	55	150	150	55
Significant?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Project Year 2030						
Ships – Transit and Anchoring	315	668	7,876	7,625	921	737
Ships – Hoteling	74	200	2,653	4,811	411	329
Tugboats	3	21	84	0	4	3
Trucks	207	883	1,861	8	263	74
Trains	123	539	2,265	2	61	56
Rail Yard Equipment	4	258	36	1	1	1
Terminal Equipment	71	4,536	747	13	20	18
Worker Trips	6	65	7	0	35	7
Total – Project Year 2030	**802**	**7,170**	**15,528**	**12,460**	**1,716**	**1,225**
CEQA Impacts						
CEQA Baseline Emissions	161	607	1,523	28	85	78
Project minus CEQA Baseline	641	6,564	14,005	12,432	1,631	1,147
Thresholds	55	550	55	150	150	55
Significant?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
NEPA Impacts						
NEPA Baseline Emissions	22	2,393	205	1	8	8
Project minus NEPA Baseline	780	4,777	15,323	12,460	1,708	1,217
Thresholds	55	550	55	150	150	55
Significant?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Project Year 2045						
Ships – Transit and Anchoring	315	668	7,876	7,625	921	737
Ships – Hoteling	74	200	2,653	4,811	411	329
Tugboats	3	21	84	0	4	3
Trucks	194	828	1,762	8	259	71
Trains	110	539	2,100	2	52	47
Rail Yard Equipment	4	258	36	1	1	1
Terminal Equipment	71	4,536	747	13	20	18
Worker Trips	5	55	5	0	35	7
Total – Project Year 2045	**775**	**7,105**	**15,263**	**12,460**	**1,703**	**1,213**
CEQA Impacts						
CEQA Baseline Emissions	161	607	1,523	28	85	78
Project minus CEQA Baseline	614	6,498	13,740	12,432	1,618	1,135
Thresholds	55	550	55	150	150	55
Significant?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

Table 3.2-24. Peak Daily Operational Emissions Without Mitigation – Proposed Project

Emission Source	Peak Daily Emissions (lb/day)					
	VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
NEPA Impacts						
NEPA Baseline Emissions	22	2,336	203	1	7	7
Project minus NEPA Baseline	754	4,768	15,060	12,460	1,695	1,206
Thresholds	55	550	55	150	150	55
Significant?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

Notes:

a) Emissions assume the simultaneous occurrence of maximum theoretical daily equipment activity levels. Such levels would rarely occur during day-to-day terminal operations.

b) Truck, train, ship, and worker commute emissions include transport within the South Coast Air Basin.

c) For the NEPA significance determination in this table, NEPA baseline emissions include as Project elements the terminal equipment measures in the Amended Stipulated Judgment, implementation of CAAP Measure CHE-1 starting in 2009, and 100 percent alternative-fueled toppicks starting in 2009.

d) Emissions might not precisely add due to rounding. For further explanation, refer to the discussion in Section 3.2.4.1.

e) The emission estimates presented in this table were calculated using the latest available data, assumptions, and emission factors at the time this document was prepared. Future studies might use updated data, assumptions, and emission factors that are not currently available.

The peak daily emission estimates for proposed Project operations include the following assumptions that were chosen to identify a maximum theoretical activity scenario:

- Ships at berth: The peak day scenario assumes that the largest combination of ships in the Project's fleet that could be simultaneously accommodated at the wharf would call at the terminal. The specific ship activity assumed for each analysis year is (a) in 2005, one 5,000 to 6,000 TEU capacity vessel arrives and hotels; (b) in 2010, one 5,000 to 6,000 TEU capacity vessel arrives and hotels, and another 5,000 to 6,000 TEU capacity vessel hotels and departs; (c) in 2015, one 8,000 to 9,000 TEU capacity vessel arrives and hotels, and a 5,000 to 6,000 TEU capacity vessel hotels and departs; (d) and in 2030 and 2045, one 9,000 to 11,000 TEU capacity vessel arrives and hotels, and a 5,000 to 6,000 TEU capacity vessel hotels and departs. The time each vessel is assumed to hotel equals 24 hours minus the ship's transit time between the South Coast Air Basin overwater boundary and the berth. Without mitigation, the emissions also assume that each ship uses residual fuel with a worst case sulfur content of 4.5 percent.

- Trains and rail yard equipment: (a) In 2005, 2010, and 2015, the peak day scenario for the Berth 121-131 (on-dock) rail yard assumes that the equivalent of one four-locomotive train carrying only Project-generated cargo arrives and is completely disassembled, and a second four-locomotive train carrying only Project-generated cargo is fully assembled and departs. The same assumption is also made for the off-dock rail yards in total. (b) In 2030 and 2045, the peak day scenario for the Berth 121-131 (on-dock) rail yard assumes that the equivalent of two four-locomotive trains carrying only Project-generated cargo arrive and are completely disassembled, and two additional four-locomotive trains carrying only Project-generated cargo are fully assembled and depart. The same assumption is also made for the off-dock rail yards in total.

- Trucks: Peak day truck trips generated by the proposed Project were provided by the traffic study for each analysis year. The peak day represents a weekday during a peak month of container throughput. This equates to about 33 percent more truck trips on the peak day compared to an average day for 2005, 2010, and 2015, and about 22 percent more truck trips than an average day for 2030 and 2045. The peaking factor is lower in 2030 and 2045 because port activities are assumed to be more evenly spread out during the year because of the higher throughput (that is, all months are assumed to be equally busy).
- Terminal equipment: A peak day factor for cargo-handling equipment was developed by determining the maximum number of TEUs that could be moved in a day relative to the annual TEU throughput. The maximum daily TEU throughput is a composite of the peak day activity at the wharf (ship loading and unloading), gate (truck trips), and Berth 121-131 (on-dock) rail yard (train loading and unloading). Peak daily container throughput at the wharf was calculated assuming all available cranes at the wharf would be simultaneously loading and unloading containers from ships. The number of available cranes would be 4 in 2005, 9 in 2010, and 10 in 2015 and beyond. Peak daily container throughputs at the gate and on-dock rail yard were determined based on the peak daily truck and train trips, described in the preceding paragraphs. The resulting peak day factors for terminal equipment, relative to an average day of activity, were estimated to be 2.5 for 2005, 3.8 for 2010, 2.5 for 2015, and 2.3 for 2030 and 2045.

Due to the lengthy construction period of Phases II and III, operational activities would substantially overlap with construction activities. The SCAQMD has requested that total Project emissions be estimated during a year when construction and operational activities substantially overlap. Year 2010 was chosen as a representative year during which construction and operation activities would overlap. Table 3.2-25 shows the combined total of peak daily construction and operational emissions for year 2010.

The net changes in combined (construction plus operational) emissions relative to the CEQA and NEPA baseline emissions are compared to the SCAQMD operational thresholds.

Table 3.2-25. Peak Daily 2010 Construction and Operational Emissions – Proposed Project without Mitigation

	Peak Daily Emissions (lb/day)					
Project Year 2010	VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Construction						
Phase II						
Construct Berth 102	15	57	–	–	–	–
Construct Berth 100-109 Buildings	7	25	–	–	–	–
Construct 18 of 45-acre Backlands	18	62	–	–	–	–
Crane Delivery and Installation	46	117	–	–	–	–
Worker Trips	2	27	–	–	–	–
Phase III						
South Extension of Berth 100	–	–	442	0	19	18
Construct 25-acre Backlands (Behind Berth 100)	–	–	127	0	73	19

Table 3.2-25. Peak Daily 2010 Construction and Operational Emissions – Proposed Project without Mitigation

	Peak Daily Emissions (lb/day)					
Project Year 2010	VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Crane Delivery and Installation	–	–	1,300	1,452	154	123
Worker Trips	–	–	3	0.02	5	0.9
Maximum Daily Emissions – Construction Phases 2 and 3 Combined[a]	**88**	**287**	**1,872**	**1,453**	**250**	**161**
Operation						
Ships – Transit and Anchoring	255	544	6,425	6,273	753	602
Ships – Hoteling	70	190	2,516	4,621	392	313
Tugboats	3	21	126	0	4	4
Trucks	435	1,959	3,787	4	286	172
Trains	84	269	1,481	31	48	45
Rail Yard Equipment	4	134	115	0	3	3
Terminal Equipment	149	3,051	2,794	8	95	87
Worker Trips	9	109	14	0	20	4
Maximum Daily Emissions – Operation	**1,009**	**6,276**	**17,258**	**10,938**	**1,601**	**1,230**
Total – Construction & Operation – Project Year 2010	**1,097**	**6,563**	**19,130**	**12,391**	**1,851**	**1,391**
CEQA Baseline Emissions[b]	161	607	1,523	28	85	78
CEQA Impact[c]	**936**	**5,956**	**17,607**	**12,363**	**1,766**	**1,313**
NEPA Baseline Emissions[d]	894	16,187	3,532	1.3	95	66
NEPA Impact[c]	**203**	**-9,624**	**15,598**	**12,390**	**1,756**	**1,325**
Thresholds[e]	55	550	55	150	150	55
CEQA Significant?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
NEPA Significant?	**Yes**	**No**	**Yes**	**Yes**	**Yes**	**Yes**

Note:

a) Maximum emissions from Phases II and III combined assume simultaneous occurrence of construction of Berth 102, Berth 100-109 Buildings, 18 of the 45-acre backlands, and crane delivery for VOC and CO; and simultaneous occurrence of construction of Berth 100, construction of 25-acre backlands, and crane delivery for NO_X, PM_{10}, and $PM_{2.5}$.

b) CEQA baseline emissions include peak daily CEQA operational emissions from April 2000 – March 2001, as reported in Table 3.2-5. There are no construction emissions associated with the CEQA baseline.

c) The CEQA Impact equals total Project construction plus operational emissions minus CEQA baseline emissions. The NEPA impact equals total Project construction plus operational emissions minus NEPA baseline emissions.

d) NEPA baseline emissions include peak daily NEPA construction emissions during Phase II, as reported in Table 3.2-9, plus peak daily NEPA operational emissions in 2010, as reported in Table 3.2-11.

e) The SCAQMD operational thresholds are used in the significance determinations.

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CEQA Impact Determination

From a CEQA perspective, proposed Project unmitigated peak daily emissions would exceed CEQA baseline emissions for all criteria pollutants in all four proposed Project study years. These increases would exceed the SCAQMD daily emission thresholds and the 10 tons per year VOC threshold for all pollutants in all four proposed Project study years. Therefore, from a CEQA perspective, the unmitigated air quality impacts associated with proposed Project operations would be significant for VOC, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ in 2005, 2015, 2030, and 2045.

The year 2010 was chosen as the year that best represents a time when construction and operation activities would overlap. During this year, the increase in emissions relative to the CEQA baseline would be significant for all criteria pollutants.

NEPA Impact Determination

From a NEPA perspective, proposed Project unmitigated peak daily emissions would exceed NEPA baseline emissions for all criteria pollutants in all four proposed Project study years, with the exception of CO in 2005. These increases would exceed the SCAQMD daily emission thresholds for all criteria pollutants in all four proposed Project study years, with the exception of CO in 2005. The 10-ton/year VOC threshold would also be exceeded in all four proposed Project study years. Therefore, from a NEPA perspective, the unmitigated air quality impacts associated with proposed Project operations would be significant for VOC, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ in 2005, and for VOC, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ in 2015, 2030, and 2045.

The year 2010 was chosen as the year that best represents a time when construction and operation activities would overlap. During this year, the increase in emissions relative to the NEPA baseline would be significant for all criteria pollutants except CO. Emissions of CO would decrease relative to the NEPA baseline.

Mitigation Measures

The Superior Court of California in Los Angeles County issued an Amended Stipulated Judgment in March 2004 that identifies how China Shipping, in concert with the container terminal operator and the LAHD, will implement measures to mitigate air emissions from sources associated with the operation of the Berth 97-109 Container Terminal. Portions of **MM AQ-9**, **MM AQ-15**, and **MM AQ-17** represent the Project-level mitigation measures required by the Amended Stipulated Judgment. Although the other mitigation measures identified in this document are not required by the Amended Stipulated Judgment, they are nonetheless included for proposed Project operations based on potentially feasible NNI measures, PCAC recommended measures, San Pedro Bays Ports CAAP, and additional consultation with the Port. Table 3.2-27 summarizes all operational mitigation measures and regulatory requirements included in the mitigated emission calculations. Table 3.2-26 details how the Project mitigation measures compare to those identified in the San Pedro Bay Ports CAAP. A complete proposed Project feasibility review of the PCAC and NNI measures is included in Appendix C.

Table 3.2-26. Comparison between San Pedro Bay Ports CAAP Control Measures and Berth 97-109 Terminal EIS/EIR Proposed Mitigation Measures.

CAAP Measure #	CAAP Measure Name	CAAP Measure Description	EIS/EIR Mitigation Measure (MM)	Discussion
HDV-1	Performance Standards for On-Road Heavy-Duty Vehicles (HDVs)	All frequent caller trucks and semi-frequent caller container trucks model year (MY) 1992 and older will meet or be cleaner than the EPA 2007 Heavy-Duty Highway Rule on-road emissions standard (0.015 g/bhp-hr for PM) and the cleanest available NO_X at time of replacement. Semi-frequent caller container trucks MY1993-2003 will be equipped with the maximum CARB verified emissions reduction technologies currently available.	**MM AQ-19:** Fleet Modernization for On-Road Trucks. Heavy-duty diesel trucks entering the Berth 97-109 terminal shall meet the USEPA 2007 emission standards for on-road heavy-duty diesel engines (USEPA 2001) in the following percentages: 50% in 2009, 70% in 2010, 90% in 2011, 100% in 2012 and thereafter. **MM AQ-20:** Heavy-duty diesel trucks entering the Berth 97-109 Terminal shall be LNG-fueled in the following percentages: 50% in 2012 and 2013, 70% in 2014 through 2017, and 100% in 2018 and thereafter.	**MM AQ-19** and **MM AQ-20** comply with the overall truck modernization program described in the CAAP. The Port is largely responsible for this mitigation measure through a truck program being developed as part of the CAAP. The phase-in of LNG trucks goes beyond HDV-1. The terminal operator will be responsible for ensuring gate restrictions and tracking.
HDV-2	Alternative Fuel Infrastructure for Heavy-Duty Natural Gas Vehicles	Construct LNG or compressed natural gas (CNG) refueling stations.	No applicable measure.	This measure will be implemented directly by the Ports. The Port of Long Beach, in conjunction with the Port of Los Angeles, recently released a RFP seeking proposals to design, construct and operate a public LNG fueling and maintenance facility on Port of Los Angeles property.
OGV-1	OGV Vessel Speed Reduction (VSR)	OGVs that call at the SPB Ports shall not exceed 12 knots (kts) within 20 nautical miles (nm) of Point Fermin (extending to 40 nm in future).	**MM AQ-10:** Vessel Speed Reduction Program. Vessels that call at the Berth 97-109 terminal shall comply with the expanded VSRP of 12 kts within 40 nm of Point Fermin and the Precautionary Area – 100% starting January 1, 2009.	**MM AQ-10** complies with OGV-1. The CAAP targets a 95% compliance rate through lease provisions.
OGV-2	Reduction of At-Berth OGV Emissions	Each Port will develop the infrastructure required to provide shore-power capabilities to all container and cruise ship berths. On a case-by-case basis, other vessel types, like specially outfitted tankers or reefer terminals, will be evaluated for the application of shore-power.	**MM AQ-9:** Alternative Maritime Power (AMP). Ships calling at the Berth 97-109 terminal shall use AMP while hoteling in the Port in the following percentages: 60% from January 1 to June 30, 2005; 70% starting July 1, 2005; 90% starting January 1, 2010; and 100% starting January 1, 2011.	**MM AQ-9** complies with OGV-2. The CAAP.

Table 3.2-26. Comparison between San Pedro Bay Ports CAAP Control Measures and Berth 97-109 Terminal EIS/EIR Proposed Mitigation Measures.

CAAP Measure #	CAAP Measure Name	CAAP Measure Description	EIS/EIR Mitigation Measure (MM)	Discussion
OGV-3	OGV Auxiliary Engine Fuel Standards	Require ship's auxiliary engines to operate using MGO fuels with sulfur content ≤0.2% S in their auxiliary engines, while inside the VSR zone (described in CAAP-OGV1). The program would start out at 20 nm from Point Fermin and would be expanded to 40 nm from Point Fermin	**MM AQ-11:** All ships (100%) calling at Berth 97-109 shall use low-sulfur fuel (maximum sulfur content of 0.2 %) in auxiliary engines, main engines, and boilers within 40 nm of Point Fermin (including hoteling for non-AMP ships) beginning on Day 1 of operation. Ships with mono-tank systems or having technical issues prohibiting use of low-sulfur fuel would be exempt from this requirement. The tenant shall notify the Port of such vessels prior to arrival and shall make every effort to retrofit such ships within 1 year. ~~Vessels that call at the Berth 97-109 terminal shall use low-sulfur fuel (maximum sulfur content of 0.2%) in auxiliary engines, main engines, and boilers within 40 nm of Point Fermin (including hoteling for non-AMP ships) at the following annual participation rates: 30% in 2009, 50% in 2010, and 100% in 2013 and thereafter.~~	**MM AQ-11** complies with OGV-3 and OGV-4. The CAAP assumes full compliance of OGV-3 and OGV-4 pending technical feasibility and fuel availability. The phase-in schedule for **MM AQ-11** ~~allows time for technical equipment upgrades, including installing new tanks and piping, on ships. These measures~~ goes beyond the pending CARB regulation by requiring ≤0.2% S MGO (prior to 2010) in both auxiliary and main engines, instead of requiring ≤0.5% S MDO or MGO for only OGV auxiliary engines.
OGV-4	OGV Main Engine Fuel Standards	Require ship's main engines to operate using MGO fuels with sulfur content ≤0.2% S in their main engines, while inside the VSR zone (described in CAAP-OGV1). The program would start out at 20 nm from Point Fermin and would be expanded to 40 nm from Point Fermin	**MM AQ-11:** All ships (100%) calling at Berth 97-109 shall use low-sulfur fuel (maximum sulfur content of 0.2 %) in auxiliary engines, main engines, and boilers within 40 nm of Point Fermin (including hoteling for non-AMP ships) beginning on Day 1 of operation. Ships with mono-tank systems or having technical issues prohibiting use of low-sulfur fuel would be exempt from this requirement. The tenant shall notify the Port of such vessels prior to arrival and shall make every effort to retrofit such ships within 1 year. ~~Vessels that call at the Berth 97-109 terminal shall use low-sulfur fuel (maximum sulfur content of 0.2%) in auxiliary engines, main engines, and boilers within 40 nm of Point Fermin (including hoteling for non-AMP ships) at the following annual participation rates: 30% in 2009, 50% in 2010, and 100% in 2013 and thereafter.~~	See above discussion for OGV-3.

Table 3.2-26. Comparison between San Pedro Bay Ports CAAP Control Measures and Berth 97-109 Terminal EIS/EIR Proposed Mitigation Measures.

CAAP Measure #	CAAP Measure Name	CAAP Measure Description	EIS/EIR Mitigation Measure (MM)	Discussion
OGV-5	OGV Main & Auxiliary Engine Emissions Improvements	Focus on reducing DPM, NO_X, and SO_X emissions from OGV main engines and auxiliary engines. The goal of this measure is to reduce main and auxiliary engine DPM, NO_X, and SO_X emissions by 90%. The first engine emissions reduction technology for this measure will be the use of MAN B&W slide valves for main engines.	**MM AQ-12:** Slide Valves in Ship Main Engines. Vessels that call at the Berth 97-109 terminal shall be equipped with slide valves or equivalent on main engines in the following percentages: ■ 25% in 2009, 50% in 2010, 75% in 2012, 100% in 2014 and thereafter. **MM AQ-14:** New Vessel Builds. All new vessel builds shall incorporate NO_X and PM control devices on auxiliary and main engines. NO_X and PM control devices include, but are not limited to, the following technology where appropriate: (1) Selective Catalytic Reduction (SCR) technology, (2) exhaust gas recirculation, (3) in line fuel emulsification technology, (4) Diesel Particulate Filters (DPFs) or exhaust scrubbers, (5) common rail, (6) Low NO_X burners for boilers, (7) implementation of fuel economy standards by vessel class and engines, and (8) diesel-electric pod-propulsion system.	**MM AQ-12** and **MM AQ-14** fully comply with OGV-5.
CHE-1	Performance Standards for CHE	Sets fuel neutral purchase requirements for CHE, starting in 2007. Requires by 2010, all yard tractors operating at the ports will have the cleanest engines meeting USEPA Tier 4 non-road emission standards for PM and NO_X. All remaining CHE less than 750 hp will meet at a minimum the Tier 4 standards for PM and NO_X by 2012. Requires that all remaining CHE greater than 750 hp to meet Tier 4 standards for PM and NO_X by 2014 and prior to that, be equipped with the cleanest available Verified Diesel Emissions Control (VDEC).	**MM AQ-15:** Yard Tractors. All yard tractors operated at the Berth 97-109 terminal shall run on alternative fuel (LPG) beginning September 30, 2004, until December 31, 2014. Beginning January 1, 2015, all yard tractors operated at the Berth 97-109 terminal shall be the cleanest available NO_X alternative-fueled engines meeting 0.015 gm/hp-hr for PM. **MM AQ-16:** Yard Equipment (Rail Yard). Beginning January 1, 2009, all diesel-powered equipment operated at the Berth 121-131 terminal rail yard that handles containers moving through the Berth 97-109 terminal shall implement the following measures:	**MM AQ-15** complies with CHE-1. **MM AQ-16** complies with CHE-1.

Table 3.2-26. Comparison between San Pedro Bay Ports CAAP Control Measures and Berth 97-109 Terminal EIS/EIR Proposed Mitigation Measures.

CAAP Measure #	CAAP Measure Name	CAAP Measure Description	EIS/EIR Mitigation Measure (MM)	Discussion
			■ Beginning 1/1/2009, all equipment purchase shall be either (1) the cleanest available NO_X alternative-fueled engine meeting 0.015 gm/hr-hr for PM or (2) the cleanest available NO_X diesel-fueled engine meeting 0.015 gm/hp-hr for PM. If there are no engines available that meet 0.015 gm/hp-hr for PM, the new engines shall be the cleanest available (either fuel type) and will have the cleanest VDEC. ■ By the end of 2012, all equipment less than 750 hp shall meet the USEPA Tier 4 on-road or Tier 4 non-road engine standards. ■ By the end of 2014, all equipment shall meet USEPA Tier 4 non-road engine standards. **MM AQ-17:** Yard Equipment (Terminal). Beginning in September 30, 2004, all diesel-powered toppicks and sidepicks operated at the Berth 97-109 Terminal shall run on emulsified diesel fuel plus a DOC. DOCs plus emulsified fuel are assumed for 2004-2006. DOCs only are assumed from 2006-until they are turned over per the following: ■ Beginning in January 1, 2009, all diesel-powered terminal equipment (other than alternative-fueled yard tractors) at the Berth 97-109 terminal shall implement the following measures: ■ Beginning January 1, 2009, all RTGs shall be electric.	

Table 3.2-26. Comparison between San Pedro Bay Ports CAAP Control Measures and Berth 97-109 Terminal EIS/EIR Proposed Mitigation Measures.

CAAP Measure #	CAAP Measure Name	CAAP Measure Description	EIS/EIR Mitigation Measure (MM)	Discussion
			■ Beginning January 1, 2009, all toppicks shall have the cleanest available NO_X alternative fueled engines meeting 0.015 gm/hp-hr for PM. ■ Beginning in January 1, 2009, all equipment purchases other than yard tractors, RTGs, and toppicks shall be either (1) the cleanest available NO_X alternative-fueled engine meeting 0.015 gm/hp-hr for PM or (2) the cleanest available NO_X diesel-fueled engine meeting 0.015 gm/hp-hr for PM. If there are no engines available that meet 0.015 gm/hp-hr for PM, the new engines shall be the cleanest available (either fuel type) and will have the cleanest VDEC. ■ By the end of 2012, all non-yard tractor terminal equipment less than 750 hp other than yard tractors, RTGs, and top picks shall meet the USEPA Tier 4 on-road or Tier 4 non-road engine standards. ■ By the end of 2014, all terminal equipment other than yard tractors, RTGs, and top picks shall meet USEPA Tier 4 non-road engine standards. ■ In addition to the above requirements, the tenant at Berth 97-109 shall participate in a 1-year electric yard tractor [truck] pilot project. As part of the pilot project, two electric tractors will be deployed at the terminal within 1 year of lease approval. If the pilot project is successful in terms of operation, costs, and availability, the tenant shall replace half of the Berth 97-109 yard tractors with electric tractors within 5 years of the feasibility determination.	**MM AQ-17** complies with CHE-1.

Table 3.2-26. Comparison between San Pedro Bay Ports CAAP Control Measures and Berth 97-109 Terminal EIS/EIR Proposed Mitigation Measures.

CAAP Measure #	CAAP Measure Name	CAAP Measure Description	EIS/EIR Mitigation Measure (MM)	Discussion
HC-1	Performance Standards for Harbor Craft	This measure will focus on harbor craft that have not already been repowered/retrofitted (including construction related harbor craft like dredges and support vessels). When candidate vessels are identified, the Ports will assist/require the owner/operator to repower or retrofit propulsion and auxiliary engines. For nonconstruction related candidates, Ports staff will assist the owners in applying for Carl Moyer Program incentive funding for the cleanest available engine that meets the emissions and cost effectiveness requirements. It should be noted, that several tugs operating at the Port of Long Beach are home-ported on private property (not Port property) and therefore will not be affected by this measure.	No mitigation assumed	This measure is a Portwide measure. terminal operators and shipping lines do not have a direct contractual relationship with tugboat operators and may be limited in providing the infrastructure necessary to implement HC-1. The Ports of Los Angeles and Long Beach shall implement HC-1 through a Portwide Program as described in the CAAP. The Project air quality analysis assumes that a portion of the Port tugboat fleet will be re-powered through the CARB Carl Moyer Program.
RL-1	PHL Rail Switch Engine Modernization	A voluntary program initiated by the Ports in conjunction with PHL to modernize switcher locomotives used in Port service to meet Tier 2 locomotive engine standards and initiate the use of fuel emulsion in those engines. Also includes evaluation of alternative-powered switch engines including LNG and hybrid locomotives. In addition, a locomotive DOC and DPF will be evaluated and based on a successful demonstration, will be applied to all Tier 2 switcher locomotives. Also restricts future purchases to the cleanest locomotives available.	**MM AQ-18:** Beginning January 1, 2015, all yard locomotives at the Berth 121-131 Rail Yard that handle containers moving through the Berth 97-109 terminal shall be equipped with a diesel particulate filter (DPF).	Since the PHL Agreement is an existing program, the use of Tier 2 yard locomotives is assumed as part of the Project. The requirement for a DPF in **MM AQ-18** complies with RL-1.

Table 3.2-26. Comparison between San Pedro Bay Ports CAAP Control Measures and Berth 97-109 Terminal EIS/EIR Proposed Mitigation Measures.

CAAP Measure #	CAAP Measure Name	CAAP Measure Description	EIS/EIR Mitigation Measure (MM)	Discussion
RL-2	Existing Class 1 Railroad Operations	Effects only existing Class 1 railroad operations on Port property. Lays out stringent goals for switcher, helper, and long haul locomotives operating on Port properties. By 2011, all diesel-powered Class 1 switcher and helper locomotives entering Port facilities will be 90% controlled for PM and NO_X, will use 15-minute idle restrictors, and after January 1, 2007, the use of ultra-low sulfur diesel (ULSD) fuels. Starting in 2012 and fully implemented by 2014, the fleet average for Class 1 long haul locomotives calling at Port properties will be Tier III equivalent (Tier 2 equipped with DPF and SCR or new locomotives meeting Tier 3) PM and NO_X and will use 15-minute idle restrictors. Class 1 long haul locomotives will operate on ULSD while on Port properties by the end of 2007. Technologies to get to these levels of reductions will be validated through the Technology Advancement Program.	No mitigation assumed.	RL-2 affects only existing Class 1 rail yards (Class I rail yards are BNSF and UP). The Ports of Los Angeles and Long Beach shall implement RL-2 through a Portwide Program as described in the CAAP. The Port is meeting with the Class I rail yards to discuss implementation of the Portwide Program RL-3 effects all new or redeveloped rail yards. Mitigation for the Project on-dock rail yard is applied under RL-3 below.
RL-3	New and Redeveloped Rail Yards	New rail facilities, or modifications to existing rail facilities located on Port property, will incorporate the cleanest locomotive technologies, meet the requirements specified in CAAP-RL2, utilize "clean" CHE and HDV, and utilize available "green-container" transport systems.	No mitigation assumed.	The Project analysis assumes the Berth 121-131 rail yard remains at its current physical capacity.

Table 3.2-27. Regulations, Agreements, and Mitigation Measures Assumed as Part of the Project with Mitigation Emissions

Container Ships	Tugboats	Terminal Equipment	Trucks	Trains	Rail Yard Equipment
PART 1. Regulations and Agreements					
Vessel Speed Reduction Program – 68 percent historical compliance in 2005 (assumed to remain at this level until **MM AQ-10** takes effect in 2009).	**California Diesel Fuel Regulations** – 500-ppm sulfur starting January 1, 2006, and 15-ppm sulfur starting September 1, 2006. **Engine Standards for Marine Diesel Engines** – Tier 2 standards gradually phased in due to normal tugboat fleet turnover.	**Emission Standards for Nonroad Diesel Engines** – Tier 1, 2, 3, and 4 standards gradually phased in over all years due to normal terminal equipment fleet turnover. **California Diesel Fuel Regulations** – 15-ppm sulfur starting September 1, 2006.	**Emission Standards for Onroad Trucks** – Tiered standards gradually phased in over all years due to normal truck fleet turnover. **California Diesel Fuel Regulations** – 15-ppm sulfur starting September 1, 2006. **AB 2650** – On-terminal trucks are subject to idling limits. **Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling** – Diesel trucks are subject to idling limits	**Emission Standards for Locomotives** – Tier 0, 1, and 2 standards gradually phased in over all years due to normal locomotive fleet turnover. **2005 CARB/Railroad Statewide Agreement** – Reduced line haul locomotive idling times assumed to take effect starting in 2006. **Switch Locomotive Modernization Agreement** – Tier 2 switch locomotive starting in 2008. This supersedes the Emission Standards for Locomotives (above). Applies only to the Berth 121-131 rail yard switch locomotive. **Nonroad Diesel Fuel Rule** – 500-ppm sulfur starting June 1, 2007, and 15-ppm sulfur starting January 1, 2012. Applies to all line-haul locomotives. **California Diesel Fuel Regulations** – 15-ppm sulfur starting January 1, 2007. Applies to all switch locomotives.	**Emission Standards for Nonroad Diesel Engines** – Tier 1, 2, 3, and 4 standards gradually phased in over all years due to normal rail yard equipment fleet turnover. **California Diesel Fuel Regulations** – 15-ppm sulfur starting September 1, 2006. **Emulsified Fuels and Oxidation Catalysts** – This agreement applies to all toppicks at the Berth 121-131 rail yard starting in 2005.
PART 2. Mitigation Measures					
MM AQ-9: Alternative Maritime Power (AMP) – 60 percent compliance 1/1/05 – 6/30/05; 70 percent compliance starting 7/1/05; 90 percent compliance starting 1/1/10; and 100% of ship calls starting January 1, 2011. **MM AQ-10: Expanded VSR Program** – 100 percent compliance starting 1/1/09. **MM AQ-11: Low Sulfur Fuel** – ~~Phase in of low~~ Low-sulfur fuels (0.2% sulfur) in auxiliary engines, main engines, and boilers, starting 2009. The analysis assumed that low-sulfur fuel is phased in starting in 2009 and reaches 100 percent use of MGO with 0.2% sulfur by 2013. **MM AQ-12: Slide Valves on Ship Main Engines** – phase-in of ships with slide valves on main engines starting 2009 and reaching 100 percent by 2014.		**MM AQ-15: Alternative Fuel Yard Tractors** – Use of LPG beginning September 30, 2004 until December 31, 2014; beginning in January 1, 2015, all new yard tractors shall be the cleanest available NO_X alternative-fueled engine meeting 0.015 gm/hp-hr for PM. **MM AQ-17: Yard Equipment (Terminal)** – Starting in 9/30/04 – use of emulsified fuels and diesel oxidation catalysts for all toppicks and sidepicks.	**MMs AQ-19 and 20: Clean Truck Program –** Phase-in of trucks meeting EPA 2007 emission standards starting in 2009 and reaching 100 percent by 2012. **LNG Trucks** Phase-in of LNG trucks starting in 2012 and reaching 100 percent by 2018.	**MM AQ-18: Yard Locomotives at Berth 121-131 Rail Yard** – Requires diesel particulate filters on yard locomotives at the on-dock rail yard by 2015.	**MM AQ-16: Yard Tractors (Rail Yard)** – Applies to Berth 121-131 rail yard equipment handling Berth 97-109 containers. Beginning in January 1, 2009, all new yard tractors operated at the Berth 121-131 terminal rail yard that handle containers moving through the Berth 97-109 terminal shall be the cleanest available NO_X alternative-fueled engine meeting 0.015 gm/hp-hr for PM. By the end of 2012, all equipment less than 750 hp shall meet the USEPA Tier 4 on-road or Tier 4 non-road engine standards.

Table 3.2-27. Regulations, Agreements, and Mitigation Measures Assumed as Part of the Project with Mitigation Emissions

Container Ships	Tugboats	Terminal Equipment	Trucks	Trains	Rail Yard Equipment
		Starting in 1/1/09 – all RTGs are electric; all toppicks have cleanest available NO_X alternative-fueled engines meeting 0.015 gm/hp-hr for PM; application of cleanest available NO_X fuels and engines meeting 0.015 gm/hp-hr for PM for all other equipment except yard tractors, RTGs, and toppicks. By the end of 2012, all terminal equipment less than 750 hp except yard tractors, RTGs, and toppicks shall meet the USEPA Tier 4 on-road or Tier 4 non-road engine standards. By the end of 2014, application of Tier 4 non-road engine standards to all terminal equipment except yard tractors, RTGs, and toppicks.			By the end of 2014, all equipment shall meet USEPA Tier 4 non-road engine standards.

Table 3.2-27. Regulations, Agreements, and Mitigation Measures Assumed as Part of the Project with Mitigation Emissions

Container Ships	Tugboats	Terminal Equipment	Trucks	Trains	Rail Yard Equipment
PART 3. Mitigation Measures Not Included in the Emission Calculations[b]					
MM AQ-13: Reroute Cleaner Ships **MM AQ-14: New Vessel Builds** **MM AQ-22: Periodic Review of New Technology and Regulations** – potentially applies to all source types. **MM AQ-23: Throughput Tracking** – potentially applies to all source types. **MM AQ-24: General Mitigation Measure** – potentially applies to all source types.		**MM AQ-17: Yard Equipment (Terminal)** – The tenant at Berth 97-109 shall participate in a 1-year electric yard tractor [truck] pilot project. As part of the pilot project, two electric tractors will be deployed at the terminal within 1 year of lease approval. If the pilot project is successful in terms of operation, costs and availability, the tenant shall replace half of the Berth 97-109 yard tractors with electric tractors within 5 years of the feasibility determination.	**MM AQ-21: Truck Idling Reduction Measure**		

Notes:

a) Regional power plant emissions from AMP generation were calculated using emission factors provided by the SCAQMD. These factors were assumed constant for all Project study years and, therefore, do not assume any future changes in applicable regulations.

b) These mitigation measures were not included in the calculations because their effectiveness has not been established.

The following mitigation measures would reduce criteria pollutant emissions associated with proposed Project operations. These mitigation measures will be implemented by the responsible parties identified in Section 3.2.5. ~~Section 3.2.4.5.~~ Phase-in schedules for all mitigation measures assume the lease to China Shipping is reconsidered and signed by both the Port and the tenant prior to January 1, 2008. Delays to the assumed lease schedule may shift phase-in schedules for applicable mitigation measures.

SHIPS

MM AQ-9: ***Alternative Maritime Power (AMP).*** **China Shipping ships calling at Berths 97-109 must use AMP at the following percentages while hoteling in the Port:**

- **January 1 to June 30, 2005: 60 percent of total ship calls (ASJ Requirement)**
- **July 1, 2005: 70 percent of total ship calls (ASJ Requirement)**
- **January 1, 2010: 90 percent of ship calls**
- **January 1, 2011, and thereafter: 100 percent of ship calls***

*While the terminal is expected to meet 100 percent AMP, certain events such as equipment failure may mean less than 100 percent of ships would comply with this measure in certain years (the Port expects compliance to be 97 to 98 percent in such cases). A compliance change of 2 to 3 percent would not affect significance findings in this analysis.

Additionally, by 2010, all ships retrofitted for AMP shall be required to use AMP while hoteling at a 100 percent compliance rate, with the exception of circumstances when an AMP-capable berth is unavailable due to utilization by another AMP-capable ship.

Use of AMP would enable ships to turn off their auxiliary engines during hoteling, leaving the boiler as the only source of direct emissions. An increase in regional power plant emissions associated with AMP electricity generation is also assumed. Including the emissions from ship boilers and regional power plants, a ship hoteling with AMP reduces its criteria pollutant emissions 71 to 93 percent, depending on the pollutant, compared to a ship hoteling without AMP and burning residual fuel in the boilers.

MM AQ-10: ***Vessel Speed Reduction Program.*** **All ships calling at Berths 97-109 shall comply with the expanded VSRP of 12 knots between 40 nm from Point Fermin and the Precautionary Area in the following implementation schedule:**

- **2009 and thereafter: 100 percent**

Currently, the VSR program is a voluntary program. This mitigation measure requires China Shipping to participate in the VSR program at higher rates than it currently is achieving. The average cruise speed for a container vessel ranges from about 18 to 25 knots, depending on the size of a ship (larger ships generally cruise at

higher speeds). For a ship with a 24-knot cruise speed, for example, a reduction in speed to 12 knots reduces the main engine load factor from 83 percent to 10 percent, due to the cubic relationship of load factor to speed. The corresponding reduction in overall container ship transit emissions (main engine, auxiliary engines, and boiler), from the SCAQMD overwater boundary to the berth, is approximately 19 percent for VOC, 37 percent for CO, 56 percent for NO_X, 58 percent for SO_X, and 53 percent for PM_{10}.

MM AQ-11: ***Low-Sulfur Fuel.*** **All ships (100 percent) calling at Berth 97-109 shall use low-sulfur fuel (maximum sulfur content of 0.2 percent) in auxiliary engines, main engines, and boilers within 40 nm of Point Fermin (including hoteling for non-AMP ships) beginning on Day 1 of operation. Ships with mono-tank systems or having technical issues prohibiting use of low-sulfur fuel would be exempt from this requirement. The tenant shall notify the Port of such vessels prior to arrival and shall make every effort to retrofit such ships within 1 year.** ~~**Ships calling at Berths 97-109 shall use low-sulfur fuel (maximum sulfur content of 0.2 percent) in auxiliary engines, main engines, and boilers within 40 nm of Point Fermin (including hoteling for non-AMP ships) at the following annual participation rates:**~~

- ~~**2009: 30 percent of auxiliary engines, main engines, and boilers**~~
- ~~**2010: 50 percent of auxiliary engines, main engines, and boilers**~~
- ~~**2013 and thereafter: 100 percent of auxiliary engines, main engines, and boilers**~~

The use of 0.2 percent sulfur fuel would reduce emissions of NO_X, SO_X, PM_{10}, and $PM_{2.5}$ from ships by about 10 percent, 93 percent, 64 percent, and 64 percent, respectively, compared to 2.7 percent sulfur residual fuel.

Although this mitigation measure requires 100 percent use of low-sulfur fuel starting in 2009, the following participation rates were assumed in the air quality emission calculations, dispersion modeling, and health risk assessment, because some ships may have technical or operational issues with using low-sulfur fuel in the short term: 30 percent in 2009, 50 percent in 2010 to 2012, and 100 percent in 2013 and thereafter. As a result of these conservative assumptions, the 2010 mitigated ship emissions for proposed Project operations in Table 3.2-30 are conservative because these emissions assume 50 percent use of low-sulfur fuel instead of 100 percent. Similarly, the mitigated cancer risk results for the proposed Project in Tables 3.2-37 and 3.2-38 are slightly conservative because these risks assume partial use of low-sulfur fuel prior to 2013 instead of 100 percent use. Results in the equivalent tables for the mitigated project alternatives are conservative for the same reason.

MM AQ-12: ***Slide Valves.*** **Ships calling at Berths 97-109 shall be equipped with slide valves or equivalent on main engines in the following percentages:**

- **2009: 25 percent**
- **2010: 50 percent**
- **2012: 75 percent**
- **2014 and thereafter: 100 percent**

Slide valves would reduce emissions of NO_X, PM_{10}, and $PM_{2.5}$ from ship main engines by about 30 percent, 25 percent, and 25 percent, respectively, compared to a conventional engine (Starcrest, 2007).

MM AQ-13: ***Reroute Cleaner Ships.*** **When scheduling vessels for service to the Port of Los Angeles, Tenant shall ensure that 75 percent of all ship calls to the Berth 97-109 terminal meet IMO MARPOL Annex VI NO_X emissions limits for Category 3 engines.**

An Annex VI compliant ship would reduce NO_X emissions by 6 percent relative to current in-use ships.

MM AQ-14: ***New Vessel Builds.*** **The purchaser shall confer with the ship designer and engine manufacture to determine the feasibility of incorporating all emission reduction technology and/or design options and when ordering new ships bound for the Port of Los Angeles. Such technology shall be designed to reduce criteria pollutant emissions (NO_X, SO_X and PM) and GHG emission (CO, CH_4, O_3, and CFCs). Design considerations and technology shall include, but are not limited to:**

1. **Selective Catalytic Reduction Technology**
2. **Exhaust Gas Recirculation**
3. **In-line fuel emulsification technology**
4. **Diesel Particulate Filters (DPFs) or exhaust scrubbers**
5. **Common Rail**
6. **Low NO_X Burners for Boilers**
7. **Implement fuel economy standards by vessel class and engine**
8. **Diesel-electric pod propulsion systems**

This measure focuses on reducing DPM, NO_X, and GHG emissions from main engines and auxiliary engines. OGV engine standards have not kept pace with other engine standards such as trucks and terminal equipment. New vessels destined for California service should be built with these technologies. As new orders for ships are placed, the Port believes it is essential that the following elements be incorporated into future vessel design and construction:

1. Work with engine manufacturers to incorporate all emissions reduction technologies/options when ordering main and auxiliary

engines, such as slide valves, common rail, and exhaust gas recirculation.

2. Design in extra fuel storage tanks and appropriate piping to run both main and auxiliary engines on a separate/cleaner fuel.

3. Incorporate selective catalytic reduction (SCR) or an equally effective combination of engine controls. If SCR systems are not commercially available at the time of engine construction, design in space and access for main and auxiliary engines to facilitate installation of SCR or other retrofit devices at a future date.

YARD EQUIPMENT

MM AQ-15: ***Yard Tractors at Berth 97-109 Terminal***

All yard tractors operated at the Berth 97-109 terminal shall run on alternative fuel (LPG) beginning September 30, 2004, until December 31, 2014 *(ASJ Requirement)*.

Beginning in January 1, 2015, all yard tractors operated at the Berth 97-109 terminal shall be the cleanest available NO_X alternative-fueled engine meeting 0.015 gm/hp-hr for PM.

This mitigation measure is primarily aimed at reducing health risks by eliminating DPM emissions. From a criteria pollutant emissions standpoint, this measure would generally increase emissions of all criteria pollutants except SO_X prior to 2015, compared to diesel yard tractors. The increase in emissions is due to the aging LPG yard tractor fleet coupled with the phase-in of much more stringent engine standards for diesel engines. As a result, this mitigation measure would increase VOC, CO, NO_X, PM_{10}, and $PM_{2.5}$ emissions from approximately 2009-2014.

In 2015, this measure would require the alternative-fueled yard tractors to meet the equivalent of the Tier 4 diesel engine standards. This study assumes that this requirement would be met by replacing the LPG yard tractors with LNG yard tractors meeting the equivalent of the Tier 4 diesel engine standards (although LNG is not explicitly required by this measure). As a result, beginning in 2015, this measure would continue to provide a health risk benefit by eliminating DPM emissions, and the criteria pollutant emissions would be similar to diesel yard tractors for all pollutants.

MM AQ-16: ***Yard Equipment at Berth 121-131 Rail Yard.*** **All diesel-powered equipment operated at the Berth 121-131 terminal rail yard that handles containers moving through the Berth 97-109 terminal shall implement the following measures:**

- **Beginning January 1, 2009, all equipment purchases shall be either (1) the cleanest available NOX alternative-fueled engine meeting 0.015 gm/hp-hr for PM or (2) the cleanest available NOX diesel-fueled engine meeting 0.015 gm/hp-hr for PM. If there are no engines available that meet**

0.0150 gm/hp-hr for PM, the new engines shall be the cleanest available (either fuel type) and will have the cleanest VDECS.

- **By the end of 2012, all equipment less than 750 hp shall meet the USEPA Tier 4 on-road or Tier 4 non-road engine standards.**
- **By the end of 2014, all equipment shall meet USEPA Tier 4 non-road engine standards.**

This measure would provide a health risk benefit if some of the equipment purchased in accordance with this measure were alternative fueled. However, this study conservatively assumed that all equipment purchased in accordance with this measure would be diesel-fueled. For rail yard tractors and toppicks, this measure is predicted by OFFROAD2007 to have an effect similar to the CARB Regulation for Mobile Cargo-Handling Equipment (CHE) at Ports and Intermodal Rail Yards (discussed in Section 3.2.3.2 and assumed for the unmitigated Project), with some additional reductions for toppicks from 2013 to 2015.

MM AQ-17: ***Yard Equipment at Berth 97-109 Terminal.***

- **September 30, 2004: All diesel-powered toppicks and sidepicks operated at the Berth 97-109 terminal shall run on emulsified diesel fuel plus a DOC (ASJ Requirement).**
- **January 1, 2009:**
  - **All RTGs shall be electric.**
  - **All toppicks shall have the cleanest available NO_X alternative fueled engines meeting 0.015 gm/hp-hr for PM.**
  - **All equipment purchases other than yard tractors, RTGs, and toppicks shall be either (1) the cleanest available NO_X alternative-fueled engine meeting 0.015 gm/hp-hr for PM or (2) the cleanest available NO_X diesel-fueled engine meeting 0.015 gm/hp-hr for PM. If there are no engines available that meet 0.015 gm/hp-hr for PM, the new engines shall be the cleanest available (either fuel type) and will have the cleanest VDEC.**
- **By the end of 2012: all terminal equipment less than 750 hp other than yard tractors, RTGs, and toppicks shall meet the USEPA Tier 4 on-road or Tier 4 non-road engine standards.**
- **By the end of 2014: all terminal equipment other than yard tractors, RTGs, and toppicks shall meet USEPA Tier 4 non-road engine standards.**
- **In addition to the above requirements, the tenant at Berth 97-109 shall participate in a 1-year electric yard tractor [truck] pilot project. As part of the pilot project, two electric tractors will be deployed at the terminal within**

1 year of lease approval. If the pilot project is successful in terms of operation, costs, and availability, the tenant shall replace half of the Berth 97-109 yard tractors with electric tractors within 5 years of the feasibility determination.

This study assumed that, in response to this measure, DOCs plus emulsified fuel would be used on toppicks and sidepicks through 2006. However, starting in 2007, only DOCs were assumed because of an unanticipated shortage in emulsified fuel at the Port due to a lack of suppliers. For toppicks and sidepicks, the use of emulsified diesel fuel plus a DOC is verified by CARB as a Level 2 control strategy, which means that NO_X and PM_{10} emissions would be reduced by at least 20 and 50 percent, respectively, compared to conventional diesel fuel. This measure would also reduce emissions of VOC and CO by at least 40 percent, according to additional CARB documentation (CARB, 2000). SO_X emissions would not be affected.

Starting in 2009, this measure would eliminate onsite criteria pollutant emissions from RTGs by converting them to electric.

This measure would provide an additional health risk benefit in 2009 by converting toppicks to alternative fuel, which eliminates emissions of DPM. The effect on criteria pollutant emissions is less pronounced, with some pollutants increasing and others decreasing, depending on the year and the pollutant.

For other types of terminal equipment, this measure would provide a health risk benefit if some of the equipment purchased in accordance with this measure were alternative fueled. However, this study conservatively assumed that all equipment purchased in accordance with this measure would be diesel fueled. For diesel-fueled equipment, this measure would provide a short-term reduction in criteria pollutant emissions (roughly until 2015, although it varies by equipment type) compared to unmitigated emissions. For example, in 2015, OFFROAD2007 predicts an effectiveness of 70 percent for VOC, 52 percent for CO, 90 percent for NO_X, and 95 percent for PM_{10} and $PM_{2.5}$, compared to unmitigated emissions. Eventually, however, the CARB Regulation for Mobile Cargo-Handling Equipment (CHE) at Ports and Intermodal Rail Yards (discussed in Section 3.2.3.2) would cause the unmitigated fleet to "catch up" to the mitigated fleet, at which point there would be no substantial difference in emissions.

MM AQ-18: ***Yard Locomotives at Berth 121-131 Rail Yard.*** **Beginning January 1, 2015, all yard locomotives at the Berth 121-131 Rail Yard that handle containers moving through the Berth 97-109 terminal shall be equipped with a diesel particulate filter (DPF).**

This measure would reduce yard locomotive emissions of PM_{10} and $PM_{2.5}$ by 85 percent (pers. comm., Agrawal, 2008).

TRUCKS

MM AQ-19: ***Clean Truck Program*. The tenant shall comply with the Port's Clean Truck Program. Based on participation in the Clean Truck Program, Heavy-duty diesel trucks entering the Berth 97-109 terminal shall meet the USEPA 2007 emission standards for on-road heavy-duty diesel engines (USEPA, 2001) in the following percentages:**

- **2009: 50 percent USEPA 2007**
- **2010: 70 percent USEPA 2007**
- **2011: 90 percent USEPA 2007**
- **2012: 100 percent USEPA 2007**

This measure will be implemented through the Port's Clean Truck Program. The effectiveness of this measure was determined by using the EMFAC2007 emission factor model. The truck fleet mix for the Port was adjusted in the EMFAC2007 model to account for the required percentages of 2007-compliant trucks. The emission reductions varied depending on the pollutant, year, and vehicle speed. For example, in 2015 (3 years after full implementation of this measure), the emission reductions for trucks traveling at 25 mph would be 49 percent for VOC, 0 percent for CO, 57 percent for NO_X, 43 percent for SO_X, and 32 percent for PM_{10}.

MM AQ-20: ***LNG Trucks.* Heavy-duty trucks entering the Berth 97-109 terminal shall be LNG fueled in the following percentages.**

- **50 percent in 2012 and 2013**
- **70 percent in 2014 through 2017**
- **100 percent in 2018 and thereafter**

This measure would provide an additional health-risk benefit by converting diesel trucks to alternative fuel, which eliminates emissions of DPM. There would still be a small amount of DPM emissions because approximately 5 percent of the fuel would continue to be diesel to initiate the combustion process. Compared to the clean diesel trucks required under the first part of this measure, LNG trucks would provide temporary reductions in criteria pollutant emissions. For example, in 2015, the emission reductions would be approximately 11 percent for VOC, 36 percent for CO, 27 percent for NO_X, and no change for PM_{10}. SO_X emissions would be virtually eliminated. By 2030, however, clean diesel trucks would produce comparable, and in some cases, lower criteria pollutant emissions than LNG trucks.

MM AQ-21: ***Truck Idling Reduction Measure.*** **Within 6 months of the effective date and thereafter for the remaining term of the Berth 97-109 Permit and any holdover, the ~~The~~ Berth 97-109 terminal operator shall ensure that truck idling is reduced to less than 30 minutes in total or 10 minutes at any given time while on the Berth 97-109 terminal through measures that ~~at the terminal. Potential methods to reduce idling~~ include, but are not limited to, the following: (1) operator shall maximize the durations when the main gates are left open, including during off-peak hours (6 p.m. to 7 a.m.), (2) operator shall implement a container tracking and appointment-based truck delivery and pick-up system to minimize truck queuing (trucks lining up to enter and exit the terminal's gate), and (3) operator shall design the main entrance and exit gates to exceed the average hourly volume of trucks that enter and exit the gates (truck flow capacity) to ensure queuing is minimized.**

This measure could potentially reduce on-terminal truck idling emissions by reducing idling times during peak hours at the terminal. Because the effectiveness of this measure on overall average truck on-terminal idling times has not been established, this measure is not quantified in this study.

Residual Impacts

While changes to **MM AQ-11**, **MM AQ-17**, and **MM AQ-21** are expected to further reduce emissions, operational emissions are still expected to remain significant under both CEQA and NEPA.

3.2.5 Mitigation Monitoring

AQ-1: The Project would result in construction-related emissions that exceed an SCAQMD threshold of significance.	
Mitigation Measure	**MM AQ-1: Harbor Craft used during Construction.** Phase I: All diesel-powered derrick barges used for pile driving shall use emulsified diesel fuel. Phases II and III: All harbor craft used during the construction phase of the project shall be, at a minimum, repowered to meet the cleanest existing marine engine emission standards or U.S. EPA Tier 2. Additionally, where available, harbor craft shall meet the proposed U.S. EPA Tier 3 (which are proposed to be phased-in beginning 2009) or cleaner marine engine emission standards. The above harbor craft measure shall be met unless one of the following circumstances exists and the contractor is able to provide proof that any of these circumstances exists: 1. A piece of specialized equipment is unavailable in a controlled form within the state of California, including through a leasing agreement. 2. A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the project, but the application process is not yet approved, or the application has been approved, but funds are not yet available. 3. A contractor has ordered a control device for a piece of equipment planned for use on the project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must attempt to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the project has the controlled equipment available for lease. **MM AQ-2: Cargo Ships** Phases II and III: 1. All cargo ships used for terminal crane deliveries shall comply with the expanded VSRP of 12 knots from 40 nm from Point Fermin to the Precautionary Area. The general cargo ship used to deliver cranes in Phase I is assumed not to have observed the VSRP. **MM AQ-3: Fleet Modernization for On-Road Trucks:** Phases II and III: 1. Trucks hauling materials such as debris or fill shall be fully covered while operating off Port property 2. Idling shall be restricted to a maximum of 5 minutes when not in use 3. USEPA Standards: All on-road heavy-duty diesel trucks with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater used onsite or to transport materials to and from the site shall comply with EPA 2004 on-road PM emission standards and be the cleanest available NO_X (0.10 g/bhp-hr PM_{10} and 2.0 g/bhp-hr NO_X). In addition, all on-road trucks shall be outfitted with the Best Available Control Technology (BACT) devices certified by the California Air Resources Board (CARB). Any emissions control device used by the Contractor shall achieve emissions reductions no less than

	what could be achieved by a Level 3 diesel emissions control strategy for a similar sized engine as defined by CARB regulations. A copy of each unit's certified, USEPA rating, BACT documentation, and each unit's CARB or SCAQMD operating permit, shall be provided at the time of mobilization of each applicable unit of equipment The above "USEPA Standards" measures shall be met, unless one of the following circumstances exists and the contractor is able to provide proof that any of these circumstances exists: 1. A piece of specialized equipment is unavailable in a controlled form within the State of California, including through a leasing agreement. 2. A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the project, but the application process is not yet approved, or the application has been approved, but funds are not yet available. 3. A contractor has ordered a control device for a piece of equipment planned for use on the project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must attempt to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the project has the controlled equipment available for lease.
MM AQ-4:	**Fleet Modernization for Construction Equipment.** Phases II and III: 1. Tier Specifications: a. <u>January 1, 2009 to December 31, 2011</u>: All off-road diesel-powered construction equipment greater than 50 hp, except derrick barges and marine vessels, shall meet Tier 2 off-road emissions standards. In addition, all construction equipment shall be outfitted with the Best Available Control Technology (BACT) devices certified by the California Air Resources Board (CARB). Any emissions control device used by the Contractor shall achieve emissions reductions no less than what could be achieved by a Level 2 or Level 3 diesel emissions control strategy for a similar sized engine as defined by CARB regulations. b. <u>Post January 1, 2012</u>: All off-road diesel-powered construction equipment greater than 50 hp, except derrick barges and marine vessels, shall meet Tier 3 off-road emissions standards. In addition, all construction equipment shall be outfitted with Best Available Control Technology (BACT) devices certified by the California Air Resources Board (CARB). Any emissions control device used by the Contractor shall achieve emissions reductions no less than what could be achieved by a Level 2 or Level 3 diesel emissions control strategy for a similar sized engine as defined by CARB regulations. A copy of each unit's certified Tier specification, BACT documentation and each unit's CARB or SCAQMD operating permit, shall be provided at the time of mobilization of each applicable unit of equipment. The above "Tier Specifications" measures shall be met, unless one of the following circumstances exist and the contractor is able to provide proof that any of these circumstances exists:

i. A piece of specialized equipment is unavailable in a controlled form within the State of California, including through a leasing agreement.

ii. A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the project, but the application process is not yet approved, or the application has been approved, but funds are not yet available.

iii. A contractor has ordered a control device for a piece of equipment planned for use on the project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must attempt to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the project has the controlled equipment available for lease.

1. Construction equipment shall incorporate, where feasible, emissions savings technology such as hybrid drives and specific fuel economy standards.
2. Idling shall be restricted to a maximum of 5 minutes when not in use.

MM AQ-5: Best Management Practices.

Phase II and III:

The following types of measures are required on construction equipment (including on-road trucks):

- Use of diesel oxidation catalysts and catalyzed diesel particulate traps
- Maintain equipment according to manufacturers' specifications
- Restrict idling of construction equipment and on-road heavy-duty trucks to a maximum of 5 minutes when not in use
- Install high-pressure fuel injectors on construction equipment vehicles
- Maintain a minimum buffer zone of 300 meters between truck traffic and sensitive receptors
- Improve traffic flow by signal synchronization
- Enforce truck parking restrictions
- Provide onsite services to minimize truck traffic in or near residential areas, including, but not limited to, the following services: meal or cafeteria services, automated teller machines, etc.
- Re-route construction trucks away from congested streets or sensitive receptor areas
- Provide dedicated turn lanes for movement of construction trucks and equipment on- and offsite.
- Use electric power in favor of diesel power where available.

LAHD shall implement a process by which to select additional BMPs to further reduce air emissions during construction. The LAHD shall determine the BMPs once the contractor identifies and secures a final equipment list. ~~The LAHD shall implement a process to add BMPs to reduce air emissions from all LAHD-sponsored construction~~

~~1. Use of diesel oxidation catalysts and catalyzed diesel particulate traps~~

~~2. Maintain equipment according to manufacturers' specifications~~

~~3. Restrict idling of construction equipment to a maximum of 5 minutes when not in use~~

~~4. Install high-pressure fuel injectors on construction equipment vehicles~~

~~LAHD shall implement a process by which to select additional BMPs to further reduce air emissions during construction. The LAHD shall determine the BMPs once the contractor identifies and secures a final equipment list.~~

MM AQ-6: **Additional Fugitive Dust Controls.** The calculation of fugitive dust (PM_{10}) from Project earth-moving activities assumes a 75 percent reduction from uncontrolled levels to simulate rigorous watering of the site and use of other measures (listed below) to ensure Project compliance with SCAQMD Rule 403.

The construction contractor shall further reduce fugitive dust emissions to 90 percent from uncontrolled levels. The construction contractor shall designate personnel to monitor the dust control program and to order increased watering, as necessary, to ensure a 90 percent control level. Their duties shall include holiday and weekend periods when work may not be in progress.

The following measures, at minimum, must be part of the contractor Rule 403 dust control plan:

- Active grading sites shall be watered one additional time per day beyond that required by Rule 403.
- Contractors shall apply approved non-toxic chemical soil stabilizers according to manufacturer's specifications to all inactive construction areas or replace groundcover in disturbed areas (previously graded areas) inactive for ten days or more.
- Construction contractors shall provide temporary wind fencing around sites being graded or cleared.
- Trucks hauling dirt, sand, or gravel shall be covered ~~or shall maintain at least 2 feet of freeboard~~ in accordance with Section 23114 of the California Vehicle Code.
- Construction contractors shall install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off tires of vehicles and any equipment leaving the construction site
- The grading contractor shall suspend all soil disturbance activities when winds exceed 25 mph or when visible dust plumes emanate from a site; disturbed areas shall be stabilized if construction is delayed.
- Pave road and road shoulders.
- Require the use of clean-fueled sweepers pursuant to SCAQMD Rule 1186 and Rule 1186.1 certified street sweepers. Sweep streets at the end of each day if visible soil is carried onto paved roads onsite or roads adjacent to the site to reduce fugitive dust emissions.
- Appoint a construction relations officer to act as a community liaison concerning onsite construction activity including resolution of issues related to PM_{10} generation.
- Traffic speeds on all unpaved roads shall be reduced to 15 mph or less.
- Provide temporary traffic controls such as a flag person, during all phases of construction to maintain smooth traffic flow.
- Schedule construction activities that affect traffic flow on the arterial system to off-peak hours to the extent practicable.

- ~~Active grading sites shall be watered one additional time per day beyond that required by Rule 403.~~
- ~~Contractors shall apply approved nontoxic chemical soil stabilizers to all inactive construction areas or replace groundcover in disturbed areas.~~
- ~~Construction contractors shall provide temporary wind fencing around sites being graded or cleared.~~

	■ ~~Trucks hauling dirt, sand, or gravel shall be covered or shall maintain at least 2 feet of freeboard in accordance with Section 23114 of the California Vehicle Code.~~ ■ ~~Construction contractors shall install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off tires of vehicles and any equipment leaving the construction site.~~ ■ ~~The grading contractor shall suspend all soil disturbance activities when winds exceed 25 mph or when visible dust plumes emanate from a site; disturbed areas shall be stabilized if construction is delayed.~~ **MM AQ-7:** **General Mitigation Measure.** For any of the above mitigation measures (**MM AQ-1 t**hrough **MM AQ-6**), if a CARB-certified technology becomes available and is shown to be as good as or better in terms of emissions performance than the existing measure, the technology could replace the existing measure pending approval by the Port. **MM AQ-8:** **Special Precautions near Sensitive Sites.** All construction activities located within 1,000 feet of sensitive receptors (defined as schools, playgrounds, day cares, and hospitals), shall notify each of these sites in writing at least 30 days before construction activities begin.
Timing	During specified construction phases.
Methodology	The LAHD shall include **MM AQ-1** through **MM AQ-8** in the contract specifications for construction. LAHD shall monitor implementation of mitigation measures during construction.
Responsible Parties	LAHD.
Residual Impacts	Significant after mitigation for VOC, NO_X, SO_X, and PM_{10}.
AQ-3 **The Project would result in operational emissions that exceed 10 tons per year of VOCs or an SCAQMD threshold of significance.**	
Mitigation Measure	**SHIPS** **MM AQ-9:** **Alternative Maritime Power (AMP).** China Shipping ships calling at Berths 97-109 must use AMP at the following percentages while hoteling in the Port: ■ January 1 to June 30, 2005: 60 percent of total ship calls (ASJ Requirement) ■ July 1, 2005: 70 percent of total ship calls (ASJ Requirement) ■ January 1, 2010: 90 percent of ship calls ■ January 1, 2011 and thereafter: 100 percent of ship calls **MM AQ-10:** **Vessel Speed Reduction Program.** All ships calling at Berths 97-109 shall comply with the expanded VSRP of 12 knots between 40 nm from Point Fermin and the Precautionary Area in the following implementation schedule: ■ 2009 and thereafter: 100 percent **MM AQ-11:** **Low-Sulfur Fuel.** All ships (100 percent) calling at Berth 97-109 shall use low-sulfur fuel (maximum sulfur content of 0.2 percent) in auxiliary engines, main engines, and boilers within 40 nm of Point Fermin (including hoteling for non-AMP ships) beginning on Day 1 of operation. Ships with mono-tank systems or having technical issues prohibiting use of low sulfur fuel would be exempt from this requirement. The tenant shall notify the Port of such vessels prior to arrival and shall make every effort to retrofit such ships within 1 year. ~~Ships calling at Berths 97-109~~

~~shall use low-sulfur fuel (maximum sulfur content of 0.2 percent) in auxiliary engines, main engines, and boilers within 40 nm of Point Fermin (including hoteling for non-AMP ships) at the following annual participation rates:~~

- ~~2009: 30 percent of auxiliary engines, main engines, and boilers~~
- ~~2010: 50 percent of auxiliary engines, main engines, and boilers~~
- ~~2013 and thereafter: 100 percent of auxiliary engines, main engines, and boilers~~

MM AQ-12: Slide Valves. Ships calling at Berths 97-109 shall be equipped with slide valves or equivalent on main engines in the following percentages:

- 2009: 25 percent
- 2010: 50 percent
- 2012: 75 percent
- 2014 and thereafter: 100 percent

MM AQ-13: Reroute Cleaner Ships. When scheduling vessels for service to the Port of Los Angeles, Tenant shall ensure that 75 percent of all ship calls to the Berth 97-109 terminal meet IMO MARPOL Annex VI NO_X emissions limits for Category 3 engines**.**

MM AQ-14: New Vessel Builds. The purchaser shall confer with the ship designer and engine manufacture to determine the feasibility of incorporating all emission reduction technology and/or design options and when ordering new ships bound for the Port of Los Angeles. Such technology shall be designed to reduce criteria pollutant emissions (NO_X, SO_X, and PM) and GHG emission (CO, CH_4, O_3 and CFCs). Design considerations and technology shall include, but are not limited to:

1. Selective Catalytic Reduction Technology
2. Exhaust Gas Recirculation
3. In-line fuel emulsification technology
4. Diesel Particulate Filters (DPFs) or exhaust scrubbers
5. Common Rail
6. Low NO_X Burners for Boilers
7. Implement fuel economy standards by vessel class and engine
8. Diesel-electric pod propulsion systems

YARD EQUIPMENT

MM AQ-15: Yard Tractors at Berth 97-109 Terminal.

- All yard tractors operated at the Berth 97-109 terminal shall run on alternative fuel (LPG) beginning September 30, 2004, until December 31, 2014. (ASJ Requirement)
- Beginning in January 1, 2015, all yard tractors operated at the Berth 97-109 terminal shall be the cleanest available NO_X alternative-fueled engine meeting 0.015 gm/hp-hr for PM.

MM AQ-16: Yard Equipment at Berth 121-131 Rail Yard. All **diesel**-powered equipment operated at the Berth 121-131 terminal rail yard that handles containers moving through the Berth 97-109 terminal shall implement the following measures:

- Beginning January 1, 2009, all equipment purchases shall be either (1) the cleanest available NO_X alternative-fueled engine meeting 0.015 gm/hp-hr for PM or (2) the cleanest available NO_X diesel-fueled engine meeting 0.015 gm/hp-hr for PM. If there are no engines available that meet 0.0150 gm/hp-hr for PM, the new engines shall be

the cleanest available (either fuel type) and will have the cleanest VDECS.

- By the end of 2012, all equipment less than 750 hp shall meet the USEPA Tier 4 on-road or Tier 4 non-road engine standards.
- By the end of 2014, all equipment shall meet USEPA Tier 4 non-road engine standards.

MM AQ-17: Yard Equipment at Berth 97-109 Terminal.

- September 30, 2004: All diesel-powered toppicks and sidepicks operated at the Berth 97-109 terminal shall run on emulsified diesel fuel plus a DOC *(ASJ Requirement)*
- January 1, 2009:
  - All RTGs shall be electric.
  - All toppicks shall have the cleanest available NO_X alternative fueled engines meeting 0.015 gm/hp-hr for PM.
  - All equipment purchases other than yard tractors, RTGs, and toppicks shall be either (1) the cleanest available NO_X alternative-fueled engine meeting 0.015 gm/hp-hr for PM or (2) the cleanest available NO_X diesel-fueled engine meeting 0.015 gm/hp-hr for PM. If there are no engines available that meet 0.015 gm/hp-hr for PM, the new engines shall be the cleanest available (either fuel type) and will have the cleanest VDEC.
- By the end of 2012: all terminal equipment less than 750 hp other than yard tractors, RTGs, and toppicks shall meet the USEPA Tier 4 on-road or Tier 4 non-road engine standards.
- By the end of 2014: all terminal equipment other than yard tractors, RTGs, and toppicks shall meet USEPA Tier 4 non-road engine standards.
- In addition to the above requirements, the tenant at Berth 97-109 shall participate in a 1-year electric yard tractor [truck] pilot project. As part of the pilot project, two electric tractors will be deployed at the terminal within 1 year of lease approval. If the pilot project is successful in terms of operation, costs and availability, the tenant shall replace half of the Berth 97-109 yard tractors with electric tractors within 5 years of the feasibility determination.

MM AQ-18: Yard Locomotives at Berth 121-131 Rail Yard. Beginning January 1, 2015, all yard locomotives at the Berth 121-131 Rail Yard that handle containers moving through the Berth 97-109 terminal shall be equipped with a diesel particulate filter (DPF).

TRUCKS

MM AQ-19: Clean Truck Program. The tenant shall comply with the Port's Clean Truck Program. Based on participation in the Clean Truck Program, Heavy-duty diesel trucks entering the Berth 97-109 terminal shall meet the USEPA 2007 emission standards for on-road heavy-duty diesel engines (USEPA, 2001a) in the following percentages the following assumptions were made:

- 2009: 50 percent USEPA 2007
- 2010: 70 percent USEPA 2007
- 2011: 90 percent USEPA 2007
- 2012: 100 percent USEPA 2007

MM AQ-20: LNG Trucks. Heavy-duty trucks entering the Berth 97-109 Terminal shall be LNG-fueled in the following percentages.

- 50 percent in 2012 and 2013
- 70 percent in 2014 through 2017
- 100 percent in 2018 and thereafter

MM AQ-21: Truck Idling Reduction Measure. Within 6 months of the effective date and thereafter for the remaining term of the Berth 97-109 Permit and any holdover, the ~~The~~ Berth 97-109 terminal operator shall ensure that truck idling is reduced to less than 30 minutes in total or 10 minutes at any given time while on the Berth 97-109 terminal through measures that ~~at the terminal. Potential methods to reduce idling~~ include, but are not limited to, the following: (1) operator shall maximize the durations when the main gates are left open, including during off-peak hours (6 p.m. to 7 a.m.), (2) operator shall implement a container tracking and appointment-based truck delivery and pick-up system to minimize truck queuing (trucks lining up to enter and exit the terminal's gate), and (3) operator shall design the main entrance and exit gates to exceed the average hourly volume of trucks that enter and exit the gates (truck flow capacity) to ensure queuing is minimized.

NEW/ALTERNATIVE TECHNOLOGY

The following measures are lease measures that will be included in the lease for Berth 97-109 due to projected future emissions levels. The measures do not meet all of the criteria for CEQA mitigation measures but are considered important lease measures to reduce future emissions.

MM AQ-22: Periodic Review of New Technology and Regulations. The Port shall require the Berth 97-109 tenant to review, in terms of feasibility, any Port-identified or other new emissions-reduction technology, and report to the Port. Such technology feasibility reviews shall take place at the time of the Port's consideration of any lease amendment or facility modification for the Berth 97-109 property. If the technology is determined by the Port to be feasible in terms of cost, technical and operational feasibility, the tenant shall work with the Port to implement such technology.

Potential technologies that may further reduce emission and/**or** result in cost-savings benefits for the tenant may be identified through future work on the CAAP. Over the course of the lease, the tenant and the Port shall work together to identify potential new technology. Such technology shall be studied for feasibility, in terms of cost, technical and operational feasibility.

As partial consideration for the Port agreement to issue the permit to the tenant, the tenant shall implement not less frequently than once every 7 years following the effective date of the permit, new air quality technological advancements, subject to mutual agreement on operational feasibility and cost sharing, which shall not be unreasonably withheld.

MM AQ-23: Throughput Tracking. If the Project exceeds project throughput assumptions/projections anticipated through the years 2010, 2015, 2030, or 2045, staff shall evaluate the effects of this on the emissions sources (ship calls, locomotive activity, backland development, and truck calls) relative to the EIS/EIR. If it is determined that these emissions sources exceed EIS/EIR assumptions, staff would evaluate actual air emissions for comparison with the EIS/EIR and if the criteria pollutant emissions exceed those in the EIS/EIR, then new or additional mitigations would be applied through **MM AQ-22**.

MM AQ-24: General Mitigation Measure. For any of the above mitigation measures (**MM AQ-9** through **MM AQ-21**), if any kind of technology becomes **available** and is shown to be as good or as better in terms of emissions

	reduction performance than the existing measure, the technology could replace the existing measure pending approval by the Port of Los Angeles. The technology's emissions reductions must be verifiable through USEPA, CARB, or other reputable certification and/or demonstration studies to the satisfaction of the Port.
Timing	During operation for **MM AQ-9** through **MM AQ-23**.
Methodology	The LAHD shall include the mitigation measures in the lease agreements with the tenant.
Responsible Parties	LAHD (for 2007 and LNG trucks, VSRP monitoring, and plan approvals and monitoring) China Shipping (for AMP, Terminal Equipment, Low Sulfur Fuel, VSRP, Slide Valves, and gate operations).
Residual Impacts	Less than significant after mitigation in 2005 for CO and PM_{10}, but significant for VOC, NO_X, and SO_X. Less than significant after mitigation in 2015 for SO_X and PM_{10}, but significant for VOC, CO, and NO_X. Less than significant after mitigation in 2030 for SO_X and PM_{10}, but significant for VOC, CO, and NO_X.
AQ-9 **The proposed Project would produce GHG emissions that would exceed CEQA and NEPA baseline levels.**	
Mitigation Measure	**MM AQ-25: LEED.** The main terminal building shall obtain the Leadership in Energy and Environmental Design (LEED) gold certification level. LEED certification is made at one of the following four levels, in ascending order of environmental sustainability: certified, silver, gold, and platinum. The certification level is determined on a point-scoring basis, where various points are given for design features that address the following areas (U.S. Green Building Council, 2005): ■ Sustainable Sites ■ Water Efficiency ■ Energy and Atmosphere ■ Materials and Resources ■ Indoor Environmental Quality ■ Innovation and Design Process **MM AQ-26: Compact Fluorescent Light Bulbs.** All interior buildings on the premises shall exclusively use compact fluorescent light bulbs for ambient lighting within all terminal buildings. The tenant shall also maintain and replace any Port supplied compact fluorescent light bulbs. **MM AQ-27: Energy Audit.** The tenant shall conduct a third party energy audit every 5 years and install innovative power saving technology where feasible, such as power factor correction systems and lighting power regulators. Such systems help to maximize usable electric current and eliminate wasted electricity, thereby lowering overall electricity use. **MM AQ-28: Solar Panels.** The Port shall install solar panels on the main terminal building. **MM AQ-29: Recycling.** The tenant shall ensure a minimum of 40 percent of all waste generated in all terminal buildings is recycled by 2012 and 60 percent of all waste generated in all terminal buildings is recycled by 2015. Recycled materials shall include: (a) white and colored paper; (b) post-it notes; (c) magazines; (d) newspaper; (e) file folders; (f) all envelopes including those with plastic windows; (g) all cardboard boxes and cartons; (h) all metal and aluminum cans; (i) glass bottles and jars; and; (j) all plastic bottles **MM AQ-30: Tree Planting.** The applicant shall plant shade trees around the main terminal building and the tenant shall maintain all trees through the life of the lease.

Timing	During construction for **MM AQ-25** and **MM AQ-26**. During operation for **MM AQ-25** through **MM AQ-30**.
Methodology	The LAHD shall include the mitigation measures in the lease agreements with the tenant.
Responsible Parties	Tenant (**MM AQ-26, MM AQ-27, MM AQ-29** and **MM AQ-30**) and Port (**MM AQ-25**, **MM AQ-26**, **MM AQ-28**, and **MM AQ-30**)
Residual Impacts	Significant after mitigation.
AQ-3 (ALTERNATIVE 7 ONLY) **Alternative 7 would result in operational emissions that exceed 10 tons per year of VOCs or an SCAQMD threshold of significance.**	
Mitigation Measure	**MM AQ-31:** Offsite pedestrian facility improvements, such as overpasses and wider sidewalks, and onsite pedestrian facility improvements, such as building access that is physically separated from street and parking lot traffic and walk paths, shall be constructed.
Timing	During construction.
Methodology	The LAHD shall include the mitigation measure in the lease agreement with the tenant.
Responsible Parties	Tenant
Residual Impacts	Significant after mitigation.

Section 3.3
Biological Resources

3.3.4.3 Impacts and Mitigations

3.3.4.3.1 Proposed Project

3.3.4.3.1.1 Construction Impacts

Impact BIO-1a: Construction activities would not cause a loss of individuals or habitat of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat.

Dredging and filling, as well as backland improvements, wharf construction, bridge construction, and relocation of the Catalina Express Terminal would be unlikely to affect listed, candidate, or special concern species through temporary increases in noise, vibration, and turbidity, as well as the potential for displacement of individuals from the work area. No critical habitat for any federally listed species is present. The Inner Harbor, which includes the West Basin, is not considered an important area for California least tern or California brown pelican foraging based on survey information (see Sections 3.3.2.5.1 and 3.3.2.5.2). The proposed Project area also does not provide any other habitat values for the California least tern and provides only limited perching/resting sites for the California brown pelican. Dredging/filling activities and the resultant temporary turbidity would affect few, if any, individuals of these species because few could be present, and other foraging areas are available nearby in the West Basin and in other areas of the Harbor if construction disturbances cause them to avoid the work areas. Foraging in the proposed Project area could also continue with no adverse effects to either species. The peregrine falcon feeds on other birds (such as rock dove and starlings) and would not be affected by proposed Project activities because no prey would be lost and only a small amount of potential foraging area, far less than 1 percent of the total area available for foraging, would be affected temporarily. The peregrine falcon foraging area extends for miles, and thus covers much of the Harbor as well as land areas to the west and north (Grinnell and Miller, 1986). No known peregrine falcon nesting areas (Vincent Thomas and Schuyler F. Heim bridges) would be affected due to distance from the proposed Project activities or because nesting occurs at heights that would not be affected by terminal operations. The Vincent Thomas Bridge is adjacent to and south of the Project site, but terminal operations would be confined to the Project site. The Schuyler F. Heim Bridge is over 2 miles from Berth 100. The backland areas of the Project site are not used by sensitive species for resting, foraging (except potentially by the peregrine falcon), or breeding; thus, none of these species would be present to be affected by proposed Project construction activities. The *2000 Baseline Study* reported that two peregrine falcons were nesting at the Schuyler Heim Bridge and that the falcons were observed in the vicinity in 12 out of the 20 surveys conducted during 2000 (MEC Analytical Systems, 2001b).

Other sensitive species in the Harbor that could use the water surface and onshore facilities in the West Basin include the, black skimmer, elegant tern, and common loon. The black skimmer, long-billed curlew, and common loon are not common in the Harbor

while the other three species can be abundant in some seasons (MEC and Associates, 2002). No nesting habitat exists at the proposed Project site for any of these species so their presence at or near the proposed Project site would be for the purposes of feeding in the Harbor waters, resting on the water surface, or roosting on structures. These species would be able to use other areas in the West Basin or the Harbor if construction activities occurred when they were present and if the disturbances caused them to avoid the work area. Thus, no individuals would be lost, and their populations would not be adversely affected by construction activities.

Underwater noise levels during dredging could range between 111 and 175 dB at 33 feet, depending on dredge type (Dickerson et al., 2001 and Bassett Acoustics, 2005). Pile driving produces noise levels of 177 to 220 dB at 33 feet depending on material and size of piles (Hastings and Popper, 2005). With the exception of pile driving, underwater noise levels associated with construction activities would be below the Level A harassment (potential to injure) level of 180 dB_{rms} for marine mammals (*Federal Register*, 2005). Sound pressure waves in the water caused by pile driving could affect the hearing of marine mammals (e.g., sea lions) swimming in the West Basin. Observations during pile driving for the San Francisco-Oakland Bay Bridge East Span seismic safety project showed sea lions swam rapidly out of the area when the piles were being driven (Caltrans, 2001). Thus, sea lions, which are sometimes present in the West Basin, would be expected to avoid areas where sound pressure waves could affect them. Harbor seals are unlikely to be present considering that few have been observed in the West Basin (MEC and Associates, 2002). Any seals or sea lions present in the West Basin during construction (pile driving, wharf construction, and relocation of the Catalina Express Terminal docks) likely would avoid the disturbance areas and thus would not be injured. In 2001, there were three reported fatalities of sea lions in the harbor (Peretta, 2003) No other protected or sensitive marine species normally occur in the West Basin area.

Rock for construction of the new dikes in the vicinity of Berth 100 would be transported from a Catalina Island quarry by barge. The Berth 100 dike and fill work would require two barges per day for up to several months for each phase. These two activities would not occur concurrently. Two barges per day from Catalina Island to the West Basin would not adversely affect marine mammals in the ocean or in the Outer Harbor and Main Channel because few, if any, individuals would be present in these vessel traffic routes due to their sparse distribution in the open ocean (whales, porpoises/dolphins, seals, and sea lions) and in the Harbor (sea lions and harbor seals only), as well as because of their agility and ability to avoid damage by vessels. Barge towing speeds are very slow (no more than 5 to 6 knots), well below burst swim speeds for marine mammals allowing the animals ample time to avoid collisions. Ship interactions with marine mammals did not occur until the late 1800s (in the literature) until ships began traveling more than 13 to 15 knots (Laist et al., 2001).

The USACE has made a "no effect" determination for federally listed species in accordance with requirements of Section 7 of the ESA.

CEQA Impact Determination

Although Project construction would extend beyond the CEQA baseline area, as described above, construction activities on land and in the water would not result in a loss of individuals or habitat for rare, threatened, endangered, protected, or candidate species, or Species of Special Concern, and sound pressure waves from construction activities in the water would not injure marine mammals. Therefore, impacts would

be less than significant under CEQA. No critical habitat for federally listed species is present, and no impacts would occur.

Mitigation Measures

~~No mitigation is required.~~ Although no mitigation is legally required, in response to Comment 2-9 by the National Marine Fisheries Service, the following measure would be implemented during pile driving:

MM BIO-3: Noise Reduction during Pile Driving. The contractor shall be required to use sound abatement techniques to reduce both noise and vibrations from pile-driving activities. Sound abatement techniques shall include, but are not limited to, vibration or hydraulic insertion techniques, drilled or augured holes for cast-in-place piles, bubble curtain technology, and sound aprons where feasible. At the initiation of each pile driving event, and after breaks of more than 15 minutes, the pile driving shall also employ a "soft-start" in which the hammer is operated at less than full capacity (i.e., approximately 40 to 60 percent energy levels) with no less than a 1-minute interval between each strike for a 5-minute period.

In addition, a qualified biologist hired by the Port shall be required to monitor the area in the vicinity of pile driving activities for any fish kills during pile driving. If there are any reported fish kills, pile driving shall be halted and the USACE and NMFS shall be notified via the Port's Environmental Management Division. The biological monitor shall also note (surface scan only) whether marine mammals are present within 100 meters of the pile driving, and if any are observed, temporarily halt pile driving until the observed mammals move beyond this distance.

Residual Impacts

Residual impacts would be less than significant.

NEPA Impact Determination

As described above, in-water construction activities would not result in a loss of individuals or habitat for rare, threatened, endangered, protected, or candidate species, or Species of Special Concern, and sound pressure waves from construction activities in the water would not injure marine mammals. Therefore, impacts would be less than significant under NEPA. Backland construction activities under the proposed Project would be greater than the NEPA baseline (by 25 acres), but no sensitive species are located on the backlands that could be affected; thus, no impacts would occur under NEPA.

Mitigation Measures

Although no mitigation is legally required, in response to Comment 2-9 by the National Marine Fisheries Service, measure **MM BIO-3** would be implemented during pile driving.

Residual Impacts

Residual impacts would be less than significant for in-water work, and no residual impacts would occur for backlands construction.

MM BIO-3 would also apply to Impact BIO-1a under Alternatives 3, 4, and 6.

Impact BIO-5: Fill Placement in the West Basin would result in a permanent loss of marine habitat.

Table 3.3-5. Estimated Credits for Committed and Upcoming Port Projects

Projects		Credits
Committed Credits[a]		
~~Berths 136-147 (TraPac)~~		~~-4.75~~
Pier 300A		-71.5
Cabrillo SWH Expansion A		+27.0
Cabrillo Phase II		~~-1.2~~ +1.7
	Subtotal	~~-50.45~~ -42.80
Upcoming Projects[b]		
Berths 243-245 (Southwest Marine)		-4.0
NW Slip – 5-acre Fill		-2.5
Cabrillo SWH Expansion B		+22.5
Berths 121-131 (Yang Ming)		-14.0
Berths 136-147 (TraPac)		-4.75
~~Eelgrass Habitat Area~~		~~-13.5~~
~~Bridge to Breakwater~~San Pedro Waterfront		+4.4
	Subtotal	~~-7.1~~ 1.65
	Total	~~-57.55~~ -41.15

[a] Estimated number of credits required, relative to deep Outer Harbor credits.
[b] Not including Berths 97-109 (proposed Project)

3.3.4.3.3 Summary of Impact Determinations

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.3 Biological Resources				
Proposed Project	**BIO-1a:** Construction activities would not cause a loss of individuals or habitat of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat. Sound pressure waves from construction activities in the water would not injure marine mammals.	CEQA: Less than significant impact NEPA: Less than significant impact for in-water construction, and no impact for backland construction	Mitigation not required; however, **MM BIO-3** would further reduce any potential for impact Mitigation not required; however, **MM BIO-3** would further reduce any potential for impact	CEQA: Less than significant impact NEPA: Less than significant impact for in-water construction, and no impact for backland construction
Alternative 3	**BIO-1a:** Construction activities would not cause a loss of individuals or habitat of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat. Sound pressure waves from construction activities in the water would not injure marine mammals.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required; however, **MM BIO-3** would further reduce any potential for impact Mitigation not required; however, **MM BIO-3** would further reduce any potential for impact	CEQA: Less than significant impact NEPA: Less than significant impact
Alternative 4	**BIO-1a:** Construction activities would not cause a loss of individuals or habitat of a state- or federally listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or the loss of federally listed critical habitat. Sound pressure waves from construction activities in the water would not injure marine mammals.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required; however, **MM BIO-3** would further reduce any potential for impact Mitigation not required; however, **MM BIO-3** would further reduce any potential for impact	CEQA: Less than significant impact NEPA: Less than significant impact

Alternative	Environmental Impacts*	Impact Determination	Mitigation Measures	Impacts after Mitigation
3.3 Biological Resources (Continued)				
Alternative 6	**BIO-1a**: Construction activities would not result in a loss of individuals or habitat for rare, threatened, endangered, protected, or candidate species, or Species of Special Concern, and sound pressure waves from construction activities in the water would not injure marine mammals.	CEQA: Less than significant impact	Mitigation not required; however, **MM BIO-3** would further reduce any potential for impact	CEQA: Less than significant impact
		NEPA: Less than significant impact for in-water construction activities; no impact for backland construction.	Mitigation not required; however, **MM BIO-3** would further reduce any potential for impact	NEPA: Less than significant impact for in-water work; no impact for backland construction

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Section 3.4
Cultural Resources

3.4.2 Environmental Setting

A cultural resources survey was completed for the proposed improvements to the China Shipping Terminal, Berths 97-109, in 2003. Text in this section is drawn from that document and studies previously conducted for the Port. Previous studies for the Los Angeles-Long Beach Harbors include the Deep Draft Navigation Improvement EIS/EIR (USACE and LAHD, 1997), West Basin Entrance Widening Project EIR (LAHD, 1991b), Pier 400 (LAHD, 1999), Channel Deepening Project (USACE and LAHD, 2000), and recent historic evaluations of buildings and structures in the West Basin (Jones & Stokes, 2003, 2001, 2000a, and 2000b).

The following description of cultural resources incorporates information from all of these environmental documents. These studies are incorporated by reference and are used to describe baseline conditions and assess potential impacts. These studies are available for review at the Port of Los Angeles headquarters. Relevant sections of these reports are used throughout the Cultural Resources section.

An updated field survey of the buildings directly affected by this Project, the Catalina Express Terminal and the Princess Pavilion, was conducted November 27, 2007. The results can be found in Section 3.4.2.5.2.1 Historic Architectural Resources.

The Port received a letter from the NAHC (dated June 20, 2007) containing a list of Native American tribes and individuals interested in consulting on development projects. Each of these individuals/groups was subsequently contacted by letter on October 23, 2007. To date, only one response was received (from the Gabrielino Tongva Tribal Council), which requested that professional archaeological monitoring occur during ground disturbing activities, and that a treatment plan be developed in the event of an archaeological discovery. Mitigation Measure MM CR-1 addresses this request. In addition ~~to incorporation of the above referenced previous cultural resources studies~~, the Native American Heritage Commission (NAHC) was contacted by letter on October 29~~23~~, 2007, to request information about traditional cultural properties such as cemeteries and sacred places in the Project area. The NAHC completed the search, and in a November 1, 2007 letter, stated that the record search of the Sacred Lands file failed to indicate the presence of Native American cultural resources in the immediate Project area. ~~A letter dated June 20, 2007, was received from the NAHC containing a list of Native American tribes and individuals interested in consulting on development projects. Each of these individuals/groups was contacted by letter on October 23, 2007. As of December 14, 2007, no responses have been received.~~

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Section 3.6
Transportation/Circulation

3.6.3.1.5 Anticipated Transportation Improvements

The Port is currently planning a number of transportation projects slated for the West Basin area including improvements to freeway ramp/arterial interchanges along SR-47 and I-110. These projects were developed as part of the ongoing *Port of Los Angeles Roadway Transportation Study* (*Roadway Study*). The *Roadway Study* has not been finalized, but several of the transportation projects contained in the study have been reviewed by Caltrans. Caltrans is the agency that owns, operates and controls these transportation facilities. Thus, implementation of any improvements at those locations must be approved by Caltrans before they can proceed. A major project development milestone is called the Project Study Report (PSR), which outlines the need for the proposed Project, describes the project components, analyzes the project and assesses project alternatives. After approval of the PSR, transportation improvement projects are considered to be approved by Caltrans for purposes of proceeding to the development of geometric plans, right-of-way maps, environmental studies and then construction. All of the noted projects have been taken through the PSR process and the PSR documents were approved by Caltrans. Additionally, funds have been earmarked for these projects. Because these projects have been approved by Caltrans through the PSR process and have committed funding, the Port has determined that the environmental conditions that will be affected by the operational traffic impacts of the Project will include the following anticipated transportation improvement projects. Therefore, the analysis in this chapter of the EIS/EIR assumes that these projects will be in place during the period in which the Project will have operational transportation impacts.

The anticipated transportation improvement projects include:

Figueroa Street/C Street Interchange. The C Street/Figueroa Street interchange would reconfigure the northbound off-ramp to directly access Harry Bridges Boulevard, modify the northbound on-ramp, realign Harry Bridges Boulevard at this location, and combine the I-110 ramps/C Street/Figueroa Street intersection and the John S. Gibson Boulevard/Harry Bridges Boulevard intersections. Horizon year for completion is ~~2015~~ 2013.

South Wilmington Grade Separation. Implementation of this transportation improvement will not affect the traffic impacts of the proposed Project. An elevated grade separation would be constructed along a portion of Fries Avenue, over the existing rail line tracks, to eliminate vehicular traffic delays that would otherwise be caused by trains using the existing rail line and the new ICTF rail yard. The elevated grade would include a connection onto Water Street. There would be a minimum 24.5-foot clearance for rail cars traveling under the grade separation. Horizon year for completion is ~~2015~~ 2012.

John S. Gibson Boulevard Intersection at I-110 Ramps. This transportation improvement would widen the I-110 on-ramp from John S. Gibson Boulevard, and widen John S. Gibson Boulevard at its intersection with the I-110 ramps. An additional left-turn lane along southbound John S. Gibson Boulevard at the Yang Ming Terminal entrance would also be provided, as well as some striping modifications. Widening of the John S. Gibson Boulevard intersection at I-110

ramps would utilize adjacent Port and City property. Horizon year for completion is ~~2015~~ 2013. Caltrans is the lead agency for this project.

Additional Lane for SR-47 to Northbound I-110 Transition. Implementation of this transportation improvement will not affect the traffic impacts of the proposed Project. The existing ramp connecting westbound SR-47 to northbound I-110 would be widened by one lane to the north to the John S. Gibson Boulevard off-ramp. The new lane would be at-grade, consistent with the existing ramp. The widening would occur on state property. Horizon year for completion is ~~2015 2014~~ 2011/2012. Caltrans is the lead agency for this project.

Widening of SR-47/Harbor Boulevard Off-Ramp and Additional Right-Turn Lane. The approach of the existing off-ramp from eastbound SR-47 to Harbor Boulevard would be widened to the south to accommodate an additional right-turn lane. The approach would be restriped. This project would utilize state right-of-way. Horizon year for completion is ~~2015~~ 2011/2012. Caltrans is the lead agency for this project.

Additional Left-Turn Lane on Harbor Boulevard to Eastbound SR-47. Harbor Boulevard would be widened at its intersection with Swinford Street to accommodate an additional northbound left-turn lane from Harbor Boulevard to the existing eastbound SR-47 on-ramp. The widening would occur on ~~Port, Caltrans, or~~ City property, and the roadway would be restriped. Horizon year for completion is ~~2015~~ 2008.

Widening of Harbor Boulevard between Swinford Street and SR-47 ~~Northbound~~ Westbound On-Ramp. Harbor Boulevard between Swinford Street and the ~~northbound~~ westbound SR-47 on-ramp would be widened to accommodate an additional left-turn lane for the SR-47 northbound ramp and a new traffic signal installed. The widening would occur on Port or City property and the roadway would be restriped. Horizon year for completion is 2015.

3.6.3.3.1.2 Operational Impacts

Impact TRANS-2: Long-term vehicular traffic associated with the proposed Project would significantly impact six study intersection volume/capacity ratios, or level of service.

On-Dock Rail Usage. ~~Increased on~~ On-dock rail usage ~~due to expanded rail yard~~ is assumed to be as follows:

- Year 2005
  - Eastbound: 10.9 percent (of total throughput)
  - Westbound: 8.6 percent (includes 3 percent westbound empties)
- Year 2015
  - Eastbound: 11.4 percent (of total throughput)
  - Westbound: 8.9 percent (includes 3 percent westbound empties)
- Year 2030
  - Eastbound: 9.9 percent (of total throughput)
  - Westbound: 7.1 percent (includes 3 percent westbound empties)

- Year 2045
  - Eastbound: 9.9 percent (of total throughput)
  - Westbound: 7.1 percent (includes 3 percent westbound empties)

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Chapter 6
Comparison of Alternatives

6.3.2 CEQA Alternatives Comparison

Table 6-4 presents a summary of the results of the CEQA significance analysis for the resource areas that involve significant impacts from one or more of the alternatives, and identifies the alternatives that would result in unavoidable significant impacts under CEQA, as discussed in Chapter 3. A summary of the resources with unavoidable significant impacts or significant impacts that can be mitigated to less than significant is provided in Sections 6.4.1 and 6.4.2.

Table 6-4. Summary of CEQA Significance Analysis by Alternative

Environmental Resource Area*	Proposed Project	Alternatives						
		1	2	3	4	5	6	7
Aesthetics	S	L	L	S	S	S	S	M
Air Quality/Meteorology	S	S	S	S	S	S	S	S
Biological Resources	S	M	M	S	S	S	S	M
Geology	S	S	S	S	S	S	S	S
Ground Transportation	S	L	L	S	S	S	M	S
Groundwater and Soils	M	M	M	M	M	M	M	M
Hazardous Materials & Risk	L	L	L	L	L	L	L	L
Noise	S	S	S	S	S	S	S	S
Utilities/Public Services	M	M	M	M	M	M	M	M
Water Quality	S	L	L	S	S	S	S	L

Notes:

*Only environmental resources with unavoidable significant impacts or significant but mitigable impacts are included in the table and the analysis used to rank alternatives; the analysis includes project-level impacts, not cumulative effects.

S = Unavoidable significant impact

M = Significant but mitigable impact

L = Less than significant impact (not significant)

N = No impact

The proposed Project and Alternatives 3 through 6 have unavoidable significant impacts in the areas of Aesthetics, Air Quality/Meteorology, Biological Resources (potential invasive species), Geology, Ground Transportation, Noise (construction), and Water Quality. Alternatives 1 and 2 would result in unavoidable significant impacts in the areas of Air Quality, Geology, and Noise. Alternative 7 would result in unavoidable significance adverse impacts in the areas of Air Quality, Geology, Ground Transportation, and Noise (construction).

Table 6-5 ranks the alternatives on the basis of a comparison of their environmental impacts with those of the proposed Project. The ranking is based on the significance determinations for the resource areas contained in Table 6-4, as discussed in Chapter 3, and reflects differences in the levels of impact among alternatives. This ranking also takes into consideration the relative number of significant impacts that are mitigated to a

level below significance, and the number of impacts that remain significant after mitigation.

Table 6-5. Comparison of Alternatives* to the Proposed Project

Environmental Resource Area	Alternatives						
	1	2	3	4	5	6	7
Aesthetics and Visual	-2.0	-2.0	-1.0	-0.2	-1.2	-1.0	-2.0
Air Quality/Meteorology	-1.9	-1.8	-1.0	-0.2	-1.2	2.0	-2.0
Biological	-2.0	-2.0	-1.0	-0.5	-1.4	1.0	-1.8
Geology	-1.0	-1.0	0	0	0	0	1.0
Ground Transportation	-2.0	-2.0	-0.2	0	-1.5	0	2.0
Groundwater and Soils	-1.0	-0.4	0	-0.2	-1.0	0	-0.4
Hazards	-1.2	-1.0	-0.5	-0.2	-0.6	-0.7	1.0
Noise	-2.0	-1.6	-0.5	-0.7	-1.0	-0.2	-1.2
Utilities and Public Services	-0.4	-0.4	0	-0.1	-0.2	0	0.2
Water Quality/Sediments/ Oceanography	-2.0	-2.0	-1.0	-0.5	-1.4	1.0	-1.9
Total	-15.5	-14.2	-5.2	-2.6	-9.5	2.1	-5.1

Notes:

* Alternatives eliminated from further consideration are not included.

(-2) = Impact considered to be substantially less when compared with the proposed Project.

(-1) = Impact considered to be somewhat less when compared with the proposed Project.

(0) = Impact considered to be equal to the proposed Project.

(1) = Impact considered to be somewhat greater when compared with the proposed Project.

(2) = Impact considered to be substantially greater when compared with the proposed Project.

Where significant unavoidable impacts would occur across numerous alternatives but there are impact intensity differences between those alternatives, decimal points are used to differentiate alternatives (i.e., in some cases, there are differences at the individual impact level, such as differences in number of impacts or relative intensity).

Under *Aesthetics*, the significant unavoidable impact would be related to the blockage of important views caused by the A-frame cranes. The ranking reflects differences in blocked-view impacts between the alternatives. The proposed Project would have 10 A-frame cranes; whereas, Alternatives 1 and 2 would not have any cranes; Alternative 3 would have 5 A-frame cranes; Alternative 4 would have 9 A-frame cranes; Alternative 5 would have 4 A-frame cranes; and Alternative 6 would have 5 A-frame cranes. Alternative 7 would not have any cranes, but it would result in some view blockages of Port activities from the scenic highway (Front/Harbor), which would be mitigated.

Under *Air Quality*, health risk impacts to residential receptors, prior to mitigation, are used as a proxy to for evaluating the comparative impacts of the proposed Project and the alternatives (see Table 6-5). The proposed Project would result in an unmitigated project cancer risk of 85 in a million. The cancer risk of the other alternatives are: Alternative 1, 0.3 in a million; Alternative 2, 0.4 in a million; Alternative 3, 57 in a million; Alternative 4, 78 in a million; Alternative 5, 47 in a million; Alternative 6, 141 in a million; and Alternative 7, less than 10 in a million. The proposed Project would result in a mitigated project cancer risk of 11 in a million. The cancer risk of the other alternatives after mitigation are: Alternative 1, 0.3 in a million; Alternative 2, 0.4 in a million; Alternative 3, 8.4 in a million; Alternative 4, 11 in a million; Alternative 5, 7.1 in a million; Alternative 6, 83 in a million; and Alternative 7, less than 10 in a million.

Under *Biological Resources*, the significant unavoidable significant impact would be related to the potential introduction of invasive species to Harbor waters from foreign vessels and accidental spills from vessels. The ranking in Table 6-5 reflects the annual ship calls associated with each alternative relative to the proposed Project. Alternative 6 would have the most annual ship calls at 364, followed by the proposed Project (234 annual ship calls), Alternative 4 (208 annual ship calls), Alternative 3 (130 annual ship calls), and Alternative 5 (104 annual ship calls. Alternatives 1 and 2 would not have any annual ship calls. Alternative 7 would accommodate only recreational watercraft.

Under *Geology*, the significant unavoidable impact would be related to potential risks of injury or property damage due to seismic activity. Alternative 7 is deemed to have greater potential seismic risks compared to the proposed Project and other alternatives because it routinely would introduce visitors to the site, exposing them to potential seismic risks. Alternatives 1 and 2 are deemed to have slightly lower risks than the proposed Project because they would have not crane structures.

Under *Ground Transportation*, the potential mitigable impacts relate to reduced volume-to-capacity at various intersections. Alternative 7 would result in significant impacts to 12 intersections and I would remain significant after mitigation; the proposed Project, Alternative 4, and Alternative 6 would result in significant but mitigable impacts to 6 intersections; Alternative 3 would result in significant but mitigable impacts to 5 intersections; and Alternative 5 would result in significant but mitigable impacts to 1 intersection. Alternatives 1 and 2 would not result in additional trip generation, so they are ranked slightly higher.

Under *Groundwater and Soils*, impacts primarily relate to the potential to encounter existing subsurface contamination during construction. Alternatives 3 and 6 have the same size site as the proposed Project (142 acres). Alternative 4 has a slightly small site size (130 acres) than the proposed Project. Alternatives 2 and 7 would also have a smaller site size (117 acres) than the proposed Project. Alternatives 1 and 5 have the smallest site size, at 72 acres. Although there are differences between the alternatives in terms of how much excavation is required for Project construction, all impacts would be mitigated to a less than significant level. Alternatives 1 and 5 would not require additional subsurface construction so they are ranked slightly higher.

Under *Hazards*, Alternative 7 impacts would be related to the potential for the Regional Center to be considered a vulnerable resource that could be exposed to potential hazards from the Berths 118-120 liquid-bulk terminal. The potential impact would be mitigated so Alternative 7 is ranked slightly below the proposed Project and other alternatives. Alternatives 3 through 6 would handle different amounts of containers that may contain hazardous materials, so these alternatives are ranked based on throughput. Alternatives 1 and 2, which only would provide for supplemental storage for another container terminal, would not result in new annual TEU throughput.

Under *Noise*, the significant unavoidable impact would be related primarily to construction; however, traffic noise from operation would result in some noise impacts. The ranking in Table 6-5 reflects significant noise impacts from construction receptors in up to two areas (Knoll Hill and Pacific Avenue/Front Street) under the proposed Project and Alternatives 1 through 7. The ranking also reflects significant operational impacts under all Project alternatives, except Alternatives 1 and 2.

Under *Utilities and Public Services*, impacts would be related to potential effects to solid waste capacity. Although differences exist between the alternatives in terms of how much solid waste would be generated, they would all exceed solid waste capacity beyond

2030 if additional landfill capacity is not made available. The solid waste impacts would be mitigated to a less than significant level.

Under *Water Quality*, the significant unavoidable impact would be related to accidental spills, illegal discharges and the leaching of contaminants from coatings on vessel hulls. The ranking in Table 6-5 reflects the annual ship calls associated with each alternative relative to the proposed Project. Alternative 6 would have the most annual ship calls with 364, followed by the proposed Project (234 annual ship calls), Alternative 4 (208 annual ship calls), Alternative 3 (130 annual ship calls), and Alternative 5 (104 annual ship calls).

As shown in Table 6-5, Alternative 1 (the No Project Alternative) ranks as the environmentally superior alternative. However, the CEQA Guidelines (Section 15126) specify that when the No Project Alternative is the environmentally superior alternative, the EIR also shall identify an environmentally superior alternative among the other alternatives. Alternative 2 is ranked the second highest compared to the No Project Alternative. As such, Alternative 2 would be the environmentally superior alternative. Alternative 2 does not achieve the Project objectives.

- Regarding the objectives to optimize ~~maximize~~ the use of existing land and waterways and be consistent with the overall use of available shoreline, and accommodate foreseeable containerized cargo volumes through the Port, Alternative 2 would not accomplish this goal because it would serve only as supplemental backlands to an existing container terminal and would not accommodate projected future TEUs. In addition, Alternative 2 would not include wharf operations; therefore, it would not optimize the use of waterways.

- Regarding the objective to increase container-handling efficiency and to create sufficient backland area for container terminal operations, including storage, transport, and on/offloading of container ships in a safe and efficient manner, Alternative 2 would slightly improve the terminal efficiency of the Berth 121-131 Container Terminal by allowing that terminal to operate more wheeled containers. However, this increase in efficiency would be minimal compared to the overall container-handling efficiency improvements that would occur if the proposed Project were implemented. Because of this, Alternative 2 is deemed to slightly increase existing container-handling efficiency but would do nothing to optimize ~~maximize~~ or even improve Portwide container-handling efficiency.

- Regarding the objective to improve or construct container ship berthing and infrastructure capacity where necessary to accommodate projected containerized cargo volumes through the Port, Alternative 2 would not achieve this objective because it would not accommodate any projected future TEUs.

- Regarding the objective to provide access to land-based rail and truck infrastructure locations capable of minimizing surface transportation congestion or delays while promoting conveyance to local and distant cargo destinations, Alternative 2 would not handle any projected future TEUs; therefore, it would not achieve this objective.

Regarding the objective to provide needed container terminal accessory buildings and structures to support containerized cargo-handling requirements, Alternative 2 would only create new backlands to supplement existing container terminal operations (at Berths 121-131) and would not achieve this objective.

6.5 Environmentally Preferred and Superior Alternatives

Under the NEPA analysis, the No Federal Action Alternative (Alternative 2) is ranked the environmentally preferred alternative in terms of the fewest overall environmental impacts when compared to the NEPA Baseline. The CEQA analysis also determined that the No Federal Action Alternative (Alternative 2) is the environmentally superior alternative.

Under the No Federal Action Alternative, Phase I construction is applied, but no additional in-water development or construction would occur (i.e., no additional dredging, dike or fill placement, pile installation, or wharf construction), although backlands development would occur. Phase I has been applied to Alternatives 1, 2, and 7 because these alternatives would use portions of the Phase I elements or the same site as the legally constructed Phase I terminal. These three alternatives would result in in-water impacts beyond those included in the NEPA baseline solely because in-water impacts under Phase I are being applied to these alternatives. As a consequence, these alternatives result in impacts to the soft-bottom marine habitat from rock and fill placement, but the impacts have been mitigated. The backland acreage and terminal use under the No Federal Action Alternative would be the same as the NEPA baseline conditions. All other alternatives result in greater impacts than the No Project Alternative (the No Project Alternative is only considered under CEQA) and the No Federal Action Alternative; therefore, the No Federal Action Alternative would result in the fewest impacts under NEPA because its environmental conditions would be the closest to those of the NEPA baseline.

However, although the No Federal Action Alternative (Alternative 2) would result in fewer unavoidable significant adverse impacts or mitigated impacts than the proposed Project or Alternatives 3 through 7, it would not meet the Project's stated needs under NEPA to optimize ~~maximize~~ container efficiency and container backlands, optimize and increase accommodations for container ship berthing, or provide optimized truck-to-rail container movements (see Section 2.3.2). Nor would the No Project Alternative. In addition, neither Alternative 1 nor Alternative 2 would address the need to construct sufficient berthing and infrastructure capacity to accommodate foreseeable increases in containerized cargo, or provide the accessory buildings and structures at the terminal to support the anticipated container-handling requirements. Although Alternative 1 and Alternative 2 would include backland operations by serving as supplemental container storage for the adjacent Berths 121-131 Container Terminal, the Berth 121-131 Container Terminal is berth limited, and additional backlands would simply improve efficiency and not affect the ultimate capacity of the Berth 121-131 terminal. Because of this, neither the No Project Alternative nor the No Federal Action Alternative would meet the stated needs to optimize ~~maximize~~ container efficiency and container backlands, optimize and increase accommodations for container ship berthing, or provide optimized truck-to-rail container movements (see Section 2.3.2). Therefore, they are not considered to be viable project alternatives that could achieve the project objectives. It should be noted that even if terminal capacity were maximized throughout the Port, there would still be a shortfall in meeting future throughput demand.

The Reduced Fill, No Berth 102 Wharf Alternative (Alternative 3) would result in fewer environmental impacts than the proposed Project due to less wharf length (1,575 feet compared to 2,500 feet for the proposed Project) and a substantially lower annual

throughput (936,000 annual TEUs compared to 1.55 million annual TEUs for the proposed Project). Although Alternative 3 would have less wharf length than the proposed Project, it would result in the same loss of 2.54 acres of soft-bottom habitat as the proposed Project. Operationally, Alternative 3 would increase the number of vessel calls relative to the NEPA baseline by 130 annual ship calls but would decrease the number of ship calls compared to the 234 annual ship calls of the proposed Project. Given the Project purpose, Alternative 3 would not support the projected increase in throughput demand, would not optimize ~~maximize~~ container-handling capacity in the West Basin and at the Project site, and would not make the best use of the Project site as a water-dependent use. As a result, the proposed Project would better accomplish the Project goals and objectives compared to Alternative 3.

The Reduced Fill, No Berth 100 Southern Wharf Extension Alternative (Alternative 4) would result in slightly fewer environmental impacts than the proposed Project due to less wharf length (2,125 feet compared to 2,500 feet for the proposed Project) and a slightly lower annual throughput (1,392,000 annual TEUs compared to 1.55 million annual TEUs for the proposed Project). Operationally, Alternative 4 would increase the number of vessel calls relative to the NEPA baseline by 208 annual ship calls but would decrease the number of ship calls compared to the 234 annual ship calls of the proposed Project. Alternative 4 would handle approximately 10 percent fewer TEUs than the proposed Project and reduce the loss of soft-bottom habitat by approximately 50 percent compared to the proposed Project. Although Alternative 4 provides almost as much throughput as the proposed Project with approximately half the loss of soft-bottom habitat as the proposed Project, there is a need to optimize ~~maximize~~ terminal capacity to meet anticipated container demand in the Port, given the shortfall in container terminal capacity projected by 2030. As discussed in Section 1.1.3, the Port of Los Angeles anticipates that approximately 17.6 million TEUs could come through the Port of Los Angeles in 2020, and up to 31.6 million TEUs by 2030. Capacity modeling of container terminals at the Port shows that even with the expansion and modernization of terminals that were assumed, including the proposed Project, throughput at the Port will be constrained at 22.4 million TEUs starting approximately in 2030. As a consequence, a significant shortfall in the capacity of the container terminal in the Port of Los Angeles is expected and there is a need to ~~maximize and~~ optimize capacity at all terminal sites in the Port. However, given that all soft-bottom habitat losses would be fully mitigated through the application of mitigation bank credits (and the added rock and piles would provide comparable aquatic functions and values to the lost soft-bottom habitat), and given the need to meet the Project objective to establish and optimize ~~maximize~~ the cargo-handling efficiency and capacity at Berths 97-109 in the West Basin to address the need to optimize Port lands and terminals for current and future containerized cargo handling, Alternative 4 would not result in substantially fewer environmental impacts but would result in decreased container-handling capacity compared to the proposed Project. As a consequence, the proposed Project would better accomplish the Project goals and objectives than would Alternative 4.

The Reduced Construction and Operation: Phase I Construction Only Alternative (Alternative 5) would result in slightly fewer environmental impacts than the proposed Project due to less wharf length (1,200 feet compared to 2,500 feet for the proposed Project) and a substantially lower annual throughput (630,000 annual TEUs compared to 1.55 million annual TEUs for the proposed Project). Alternative 5 would result in the loss of 1.3 acres of soft-bottom habitat, which is greater than the NEPA baseline (no loss of soft-bottom habitat) but less than the loss under the proposed Project (2.54-acre loss of soft-bottom habitat). Operationally, Alternative 5 would increase the number of vessel

calls relative to the NEPA baseline by 104 annual ship calls, but would result in fewer ship calls compared to 234 annual ship calls of the proposed Project. Given the project purpose, Alternative 5 would not support the predicted increase in throughput demand, would not optimize ~~maximize~~ container-handling capacity in the West Basin and at the Project site, and would not make the best use of the Project site as a water-dependent use. As a result, the proposed Project would better accomplish the Project goals and objectives compared to Alternative 5.

The Omni-Cargo Alternative (Alternative 6) would result in approximately the same or slightly greater environmental impacts than the proposed Project because it would have the same terminal size (142 acres) and the same wharf length (2,500 feet) as the proposed Project. However, Alternative 6 would have different operational characteristics than the proposed Project. Annual container throughput under Alternative 6 (506,467) would be substantially lower than the proposed Project, but because it would also accommodate break-bulk cargo and automobiles, it would result in greater annual ship calls than the proposed Project (Alternative 6 would result in 364 annual ship calls). Alternative 6 would result in the loss of 2.54 acres of soft-bottom habitat, which is greater than the NEPA baseline (no loss of soft-bottom habitat) but the same amount as the proposed Project. Although Alternative 6 would also handle other cargo, automobiles and break-bulk commodities, the projected terminal capacity shortfall applies to container terminal capacity, not bulk commodities. Therefore, given the project purpose, Alternative 6 would provide substantially less container throughput than the proposed Project while resulting in the same or slightly higher operational impacts. As a result, the proposed Project would better accomplish the Project goals and objectives compared to Alternative 6.

The Nonshipping Alternative (Alternative 7) would result in fewer environmental impacts than the proposed Project because it would have fewer in-water impacts associated with the abandoned Phase I wharf compared to 2,500 feet of wharf for the proposed Project, and no annual throughput or associated activities. Because Alternative 7 would not accommodate any container throughput and would actually prevent a water-dependent use that would support cargo handling at the project site, it would not achieve any of the project goals. As a result, the proposed Project would better accomplish the Project goals and objectives compared to Alternative 7.

Based on the above, the proposed Project would best fulfill the overall project purposes and goals of the Port as discussed in Chapter 2, and is the Port's preferred alternative.

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Chapter 10
References

The following references should be added to the pertinent reference subsection in the Recirculated Draft EIS/EIR.

10.1 Chapter 1 Introduction

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10.3.11 Noise

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10.3.13 Public Services and Utilities

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10.3.14 Water Quality

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10.5 Chapter 5 Environmental Justice

United States Environmental Protection Agency (USEPA). 1994. *Federal Air Quality Conformance Guidance.*

Persons and Agencies Contacted

Add the following to the list of persons contacted.

Camp, Robyn. California Climate Action Registry. 2007. Personal communication. April 24.

Zhao, Charles. West Basin Container Terminal LLC. 2008. Personal communication. September 26.

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Chapter 12
Acronyms and Abbreviations

Add the following acronyms and corresponding definitions to the list appearing in Chapter 12 of the Recirculated Draft EIS/EIR.

ALECS	Advanced Locomotive Emissions Control System
AMECS	Advanced Maritime Emissions Control System
CHRIS	California Historical Resources Information system
DMMT	Dredged Material Management Team
FFS	free-flow speed
g/kWh	grams per kilowatt-hour
HCM	Highway Capacity Manual
JAMS	Judicial Arbitration and Mediation Services
JWD	Joint Working Draft
MMRP	Mitigation, Monitoring, and Reporting Program
MPA	Master Plan Amendment
RCTC	Riverside County Transportation Commission
San Pedro Bay Ports	Ports of Los Angeles and Long Beach
SLF	Sacred Lands File
TAP	Technological Advancement Program
TCIF	Trade Corridor Improvement Fund
VdB	vibration amplitude expressed in decibels
WBCT	West Basin Container Terminal LLC
WHO	World Health Organization

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Appendixes

Appendix E3

Health Risk Assessment for the Port of Los Angeles Berth 97-109 Container Terminal Project

7.2 Mitigated Project Health Impacts

This HRA evaluated the effect on health risks resulting from the implementation of the air quality mitigation measures identified in Section 3.2 of the EIS/EIR. A summary of the mitigation measures quantified in this HRA for project construction is as follows:

MM AQ-3: **Fleet Modernization for On-Road Trucks.** All on-road heavy-duty diesel trucks with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater used onsite or to transport materials to and from the site shall comply with EPA 2004 on-road PM emission standards and be the cleanest available NO_X (0.10g/bhp-hr PM_{10} and 2.0 g/bhp-hr NO_X). In addition, all on-road trucks shall be outfitted with the Best Available Control Technology (BACT) devices certified by the California Air Resources Board (CARB). Any emissions control device used by the Contractor shall achieve emissions reductions no less than what could be achieved by a Level 3 diesel emissions control strategy for a similar sized engine as defined by CARB regulations.

MM AQ-4: **Fleet Modernization for Construction Equipment.**

(a) January 1, 2009 to December 31, 2011: All off-road diesel-powered construction equipment greater than 50 hp, except derrick barges and marine vessels, shall meet Tier 2 off road emissions standards. In addition, all construction equipment shall be outfitted with the Best Available Control Technology (BACT) devices certified by the California Air Resources Board (CARB). Any emissions control device used by the Contractor shall achieve emissions reductions no less than what could be achieved by a Level 2 or Level 3 diesel emissions control strategy for a similar sized engine as defined by CARB regulations.

(b) Post January 1, 2012: All off-road diesel-powered construction equipment greater than 50 hp, except derrick barges and marine vessels, shall meet Tier 3 off road emissions standards. In addition, all construction equipment shall be outfitted with the Best Available Control Technology (BACT) devices certified by the California Air Resources Board (CARB). Any emissions control device used by the Contractor shall achieve emissions reductions no less than what could be achieved by a Level 2 or Level 3 diesel emissions control strategy for a similar sized engine as defined by CARB regulations.

A summary of the mitigation measures quantified in this HRA for Project operations for the proposed Project and Alternatives 3, 4, and 5 is as follows[3]:

MM AQ-9: Alternative Maritime Power (AMP)

China Shipping ships calling at Berth 97-109 must use AMP at the following percentages while hoteling in the Port:

- 60 percent of total ship calls at the terminal shall use AMP from January 1 to June 30, 2005
- 70 percent of total ship calls at the terminal shall use AMP starting July 1, 2005
- 90 percent of ship calls starting January 1, 2010
- 100 percent of ship calls starting January 1, 2011

MM AQ-10: Vessel Speed Reduction Program

All ships calling at Berth 97-109 shall comply with the expanded VSRP of 12 knots between 40 nm from Point Fermin and the Precautionary Area in the following implementation schedule:

- 100 percent starting January 1, 2009

MM AQ-11: Low-Sulfur Fuel

All ships (100 percent) calling at Berth 97-109 shall use low-sulfur fuel (maximum sulfur content of 0.2 percent) in auxiliary engines, main engines, and boilers within 40 nm of Point Fermin (including hoteling for non-AMP ships) beginning on Day 1 of operation. Ships with mono-tank systems or having technical issues prohibiting use of low sulfur fuel would be exempt from this requirement. The tenant shall notify the Port of such vessels prior to arrival and shall make every effort to retrofit such ships within 1 year. ~~Ships calling at Berth 97-109 shall use low-sulfur fuel (maximum sulfur content of 0.2 percent) in auxiliary engines, main engines, and boilers within 40 nm of Point Fermin (including hoteling for non-AMP ships) at the following annual participation rates:~~

- ~~Calendar Year (CY) 2009: 30 percent of auxiliary engines, main engines, and boilers~~
- ~~CY 2010: 50 percent of auxiliary engines, main engines, and boilers~~
- ~~CY 2013 and thereafter: 100 percent of auxiliary engines, main engines, and boilers~~

[3]Alternative 1, Alternative 2, and the NEPA baseline were assumed to include as project elements the following emission reduction measures: (a) the terminal equipment control measures in the Amended Stipulated Judgment; (b) implementation of CAAP Measure CHE-1 starting in 2009; and (c) 100 percent alternative fueled top picks starting in 2009. These project elements were assumed to be equivalent to MM AQ-15 in its entirety and MM AQ-17 without the requirement for electric RTGs.

MM AQ-12: Slide Valves

Ships calling at Berth 97-109 shall be equipped with slide valves or equivalent on main engines in the following percentages:

- 25 percent in CY 2009
- 50 percent in CY 2010
- 75 percent in CY 2012
- 100 percent in CY 2014 and thereafter

MM AQ-15: Yard Tractors at Berth 97-109 Terminal

All yard tractors operated at the Berth 97-109 terminal shall run on alternative fuel (LPG) beginning September 30, 2004 until December 31, 2014.

Beginning in January 1, 2015, all yard tractors operated at the Berth 97-109 terminal shall be the cleanest available Nitrogen Oxide (NO_X) alternative-fueled engine meeting 0.015 gm/hp-hr for PM.

MM AQ-16: Yard Equipment at Berth 121-131 Rail Yard

All diesel-powered equipment operated at the Berth 121-131 terminal rail yard that handles containers moving through the Berth 97-109 terminal shall implement the following measures:

- Beginning January 1, 2009, all equipment purchases shall be either (1) the cleanest available NO_X alternative-fueled engine meeting 0.015 gm/hp-hr for PM or (2) the cleanest available NO_X diesel-fueled engine meeting 0.015 gm/hp-hr for PM. If there are no engines available that meet 0.015 gm/hp-hr for PM, the new engines shall be the cleanest available (either fuel type) and will have the cleanest VDEC.
- By the end of 2012, all equipment less than 750 hp shall meet the USEPA Tier 4 on-road or Tier 4 nonroad engine standards.
- By the end of 2014, all equipment shall meet USEPA Tier 4 nonroad engine standards.

MM AQ-17: Yard Equipment at Berth 97-109 Terminal

Beginning September 30, 2004, all diesel-powered toppicks and sidepicks operated at the Berth 97-109 terminal shall run on emulsified diesel fuel plus a DOC.

Beginning January 1, 2009, all diesel-powered terminal equipment at the Berths 97-109 terminal other than yard tractors shall implement the following measures:

- Beginning January 1, 2009, all RTGs shall be electric.
- Beginning January 1, 2009, all top picks shall have the cleanest available NO_X alternative fueled engines meeting 0.015 gm/hp-hr for PM.

- Beginning in January 1, 2009, all equipment purchases other than yard tractors, RTGs, and top picks shall be either (1) the cleanest available NO_X alternative-fueled engine meeting 0.015 gm/hp-hr for PM or (2) the cleanest available NO_X diesel-fueled engine meeting 0.015 gm/hp-hr for PM. If there are no engines available that meet 0.015 gm/hp-hr for PM, the new engines shall be the cleanest available (either fuel type) and will have the cleanest VDEC.
- By the end of 2012, all terminal equipment less than 750 hp other than yard tractors, RTGs, and top picks shall meet the USEPA Tier 4 on-road or Tier 4 nonroad engine standards.
- By the end of 2014, all terminal equipment other than yard tractors, RTGs, and top picks shall meet USEPA Tier 4 nonroad engine standards.
- In addition to the above requirements, the tenant at Berth 97-109 shall participate in a 1-year electric yard tractor (truck) pilot project. As part of the pilot project, two electric tractors will be deployed at the terminal within 1 year of lease approval. If the pilot project is successful in terms of operation, costs and availability, the tenant shall replace half of the Berth 97-109 yard tractors with electric tractors within 5 years of the feasibility determination.

MM AQ-18: Yard Locomotives at Berth 121-131 Rail Yard

Beginning January 1, 2015, all yard locomotives at the Berth 121-131 Rail yard that handle containers moving through the Berth 97-109 terminal shall be equipped with a diesel particulate filter (DPF).

MM AQ-19: Clean Truck Program

Heavy-duty diesel trucks entering the Berth 97-109 terminal shall meet the USEPA 2007 emission standards for on-road heavy-duty diesel engines (USEPA, 2001a) in the following percentages:

- 50 percent in CY 2009
- 70 percent in CY 2010
- 90 percent in CY 2011
- 100 percent in CY 2012 and thereafter

MM AQ-20: LNG Trucks

Heavy-duty trucks entering the Berth 97-109 terminal shall be LNG fueled in the following percentages:

- 50 percent in CY 2012
- 70 percent in CY 2014
- 100 percent in CY 2018 and thereafter

Appendix F
Traffic Data

The CMP information in Appendix F has been revised per Caltrans comments and is included in this Final EIS/EIR replacing the CMP information in the Recirculated Draft EIS/EIR. In addition, Appendix F has been expanded to include post-mitigation results.

Appendix L
Caulerpa Control Protocol

The Caulerpa Control Protocol (in Appendix L) that is utilized by the Port and USACE has been updated to the latest version (Version 4, dated February 25, 2008) and is included in this Final EIS/EIR.

Appendix N
Section 404(b)(1)

The Draft 404)b)(1) evaluation in Appendix N of the Recirculated Draft EIS/EIR has been revised and is included in this Final EIS/EIR.

Appendix O
Dredging Protocol

The dredging protocol utilized by the Port and USACE has been updated and included in the Final EIS/EIR as Appendix O.

Appendix P
Draft Conformity Determination

For purposes of the general conformity determination, the applicable SIP will be the most recent USEPA-approved SIP at the time of the release of the final general conformity determination. The Draft Conformity Determination is included in Appendix P of the Final EIS/EIR.

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