Draft Initial Study/Negative Declaration

PASHA STEVEDORING AND TERMINALS LEASE RENEWAL PROJECT

APP# 140721-077

Prepared For:
Los Angeles City Harbor Department
Environmental Management Division
425 S. Palos Verdes St.
San Pedro, CA 90731

October 2015

THE PORT OF LOS ANGELES

PASHA STEVEDORING AND TERMINALS LEASE RENEWAL PROJECT

DRAFT INITIAL STUDY/NEGATIVE DECLARATION

APP No. 140721-077

Prepared For:

Los Angeles City Harbor Department
Environmental Management Division
425 S. Palos Verdes Street
San Pedro, CA 90731

Prepared By:

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October 2015

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1.0 INTRODUCTION

The Los Angeles Harbor Department (LAHD) has prepared this Initial Study/Negative Declaration (IS/ND) to address the environmental effects of the proposed Pasha Stevedoring and Terminal (PST) Lease Renewal Project (hereafter "proposed Project") located at 802 South Fries Avenue, Wilmington in the Port of Los Angeles. LAHD is the lead agency under the California Environmental Quality Act (CEQA). The primary objective of the proposed Project is to renew the existing lease at Berths 174-181 for 20-years with two 5-year options for a total of 30 years. This lease renewal would also include continued operations at secondary locations: Berths 206-209 and Berths 153-155, which are currently operated under separate agreements and would be incorporated into the long-term lease. PST currently uses the Project sites to handle steel slab, breakbulk, and containers. With the lease renewal, PST would continue to operate at the three terminals.

1.1 CEQA PROCESS

This document has been prepared in accordance with CEQA, Public Resources Code Section 21000 *et seq*. and the State CEQA Guidelines, California Code of Regulations (CCR) Section 15000 *et seq*. One of the main objectives of CEQA is to disclose to the public and decision-makers the potential environmental effects of proposed activities. CEQA requires that the potential environmental effects of a project be evaluated prior to implementation. This IS/ND includes a discussion on the proposed Project's effects on the existing environment, including the identification of avoidance and minimization measures. This document is an IS/ND because there are no impacts associated with the proposed Project that must be mitigated to be below significance thresholds.

Under CEQA, the Lead Agency is the public agency with primary responsibility over approval of a proposed Project. Pursuant to Section 15367, the CEQA Lead Agency for the proposed Project is the LAHD. LAHD has directed the preparation of an environmental document that complies with CEQA. LAHD will consider the information in this document when determining whether or not to approve the proposed use of LAHD property, including whether to issue a permit and enter into a lease.

The preparation of initial studies is guided by Section 15063 of the State CEQA Guidelines; whereas Sections 15070–15075 guide the process for the preparation of a Negative or Mitigated Negative Declaration. Where appropriate and supportive to an understanding of the issues, reference will be made to the statute, the State CEQA Guidelines, or appropriate case law.

This IS/ND meets CEQA content requirements by including a project description; a description of the environmental setting, potential environmental impacts; discussion of consistency with plans and policies; and names of the document preparers.

In accordance with the CEQA statutes and Guidelines, the IS/ND is being circulated for a period of 30 days for public review and comment. The public review period for this IS/ND is scheduled to begin on

November 9, 2015, and will conclude on December 8, 2015. The IS/ND has specifically been distributed to interested or involved public agencies, organizations, and private individuals for review. The IS/ND has been made available for general public review at Los Angeles Harbor Department Environmental Management Division at 222 West 6th Street, 9th Floor, San Pedro; the Los Angeles City Library San Pedro Branch at 931 Gaffey Street, Los Angeles; the Los Angeles City Library Central at 630 W. 5th Street, Los Angeles; and at the Los Angeles City Library Wilmington Brach at 1300 N orth Avalon, Wilmington. In addition, the IS/ND is available online at http://www.portoflosangeles.org/environment/public_notices.asp.

During the 30-day public review period, the public has an opportunity to provide written comments on the information contained within this IS/ND. The public comments on the IS/ND and responses to public comments will be included in the record and considered by LAHD during deliberation as to whether or not necessary approvals should be granted for the proposed Project. A project will only be approved when LAHD "finds that there is no substantial evidence that the project will have a significant effect on the environment and that the IS/ND reflects the Lead Agency's independent judgment and analysis."

In reviewing the IS/ND, affected public agencies and interested members of the public should focus on the sufficiency of the document in identifying and analyzing potential project impacts on the environment. Comments on the IS/ND should be submitted in writing prior to the end of the 30-day public review period and must be postmarked by December 8, 2015. Please submit written comments to:

Christopher Cannon, Director
Environmental Management Division
Port of Los Angeles
425 S. Palos Verdes Street
San Pedro, CA 90731

Written comments may also be sent via email to ceqacomments@portla.org. Comments sent via email should include the project title in the subject line and a valid mailing address in the email.

For additional information, please contact the Port of Los Angeles Environmental Management Division at (310) 732-3675.

1.2 DOCUMENT FORMAT

This IS/ND contains eight sections.

Section 1.0 Introduction. This section provides an overview of the proposed Project and the CEQA environmental documentation process.

Section 2.0 Project Description. This section provides a detailed description of the proposed Project objectives and components.

Section 3.0 Initial Study Checklist. This section presents the CEQA checklist for all impact areas and mandatory findings of significance.

Section 4.0 Impacts and Mitigation Measures. This section presents the environmental analysis for each issue area identified on the environmental checklist form. If the proposed Project does not have the potential to significantly impact a given issue area, the relevant section provides a brief discussion of the reasons why no impacts are expected.

Section 5.0 Proposed Finding. This section presents the proposed finding regarding environmental impacts.

Section 6.0 Preparers and Contributors. This section provides a list of key personnel involved in the preparation of the IS/ND.

Section 7.0 Acronyms and Abbreviations. This section provides a list of acronyms and abbreviations used throughout the IS/ND.

Section 8.0 References. This section provides a list of reference materials used during the preparation of the IS/ND.

The environmental analyses included in Section 4.0 are consistent with the CEQA Initial Study format presented in Section 3.0. Impacts are separated into the following categories:

Potentially Significant Impact. This category is only applicable if there is substantial evidence that an effect may be significant, and no feasible mitigation measures can be identified to reduce impacts to a less than significant level. Given that this is an IS/ND, no impacts were identified that fall into this category.

Less than Significant After Mitigation Incorporated. This category applies where the incorporation of mitigation measures would reduce an effect from a "Potentially Significant Impact" to a "Less Than Significant Impact." The Lead Agency must describe the mitigation measure(s), and briefly explain how they would reduce the effect to a less than significant level (mitigation measures from earlier analyses may be cross-referenced). Given that this is an IS/ND, no impacts were identified that fall into this category.

Less than Significant Impact. This category is identified when the proposed Project would result in impacts below the threshold of significance, and no mitigation measures are required.

No Impact. This category applies when the proposed Project would not create an impact in the specific environmental issue area. "No Impact" answers do not require a detailed explanation if they are adequately supported by the information sources cited by the Lead Agency, which show that the impact does not apply to the specific project (e.g., the project falls outside a fault rupture zone). A "No Impact"

answer should be explained where it is based on project-specific factors as well as general standards (e.g., the proposed Project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2.0 PROJECT DESCRIPTION

This IS/ND is being prepared by the LAHD, as the lead agency under CEQA, to evaluate the potential environmental impacts that may result from the proposed Project. The proposed Project involves renewing PST's existing lease, which currently includes the operation of Berths 174-181 (Permit No. 603), for 20-years, with two 5-year options to renew for a total of 30 years. The lease renewal will include the continued operation of secondary locations, Berths 206-209 and Berths 153-155, which are currently operated under separate agreements and would be incorporated into the long-term lease. No new improvements or physical modifications to the three existing terminal sites would occur as part of the proposed Project. This section discusses the location, description, background, and objectives of the proposed Project. This document has been prepared in accordance with CEQA, Public Resources Code Section 21000 *et. seq*. and the State CEQA Guidelines, CCR Section 15000 *et. seq*.

2.1 PROJECT LOCATION

2.1.1 Regional Setting

The Port of Los Angeles (hereafter "POLA" or "Port"), which is located in San Pedro Bay, encompasses 7,500 acres of land and water along 43 miles of waterfront with approximately 270 commercial berths and 24 passenger and cargo terminals. The Port is an area of mixed uses, supporting various maritime-themed activities. Port operations are predominantly centered on shipping activities, including containerized, breakbulk, dry bulk, liquid bulk, auto, and intermodal rail shipping. In addition to the large shipping industry, the Port also supports a cruise ship industry and a commercial fishing fleet. The Port also accommodates boat repair yards and provides slips for approximately 3,800 recreational vessels, 150 commercial fishing boats, 35 miscellaneous small service crafts, and 15 charter vessels that handle sport fishing and harbor cruises. The Port has retail shops and restaurants, primarily located along the west side of the Main Channel. It also accommodates recreation, community, and educational facilities, such as a public swimming beach, Cabrillo Beach Youth Waterfront Sports Center, the Cabrillo Marine Aquarium, the Los Angeles Maritime Museum, 22nd Street Park, and the Wilmington Waterfront Park.

The LAHD is a proprietary (self-funded) department of the City of Los Angeles charged with the operation, maintenance, and protection of the Port. The LAHD is a landlord port that leases properties to more than 300 tenants including, private sector terminal, tug, and marine cargo and cruise industry entities. The LAHD administers the Port under the California Tidelands Trust Act of 1911 and the Los Angeles City Charter. The LAHD is chartered to develop and operate the Port to benefit maritime uses.

2.1.2 Project Setting

The proposed Project sites are within the Port of Los Angeles Community Plan area in the City of Los Angeles, which is approximately 23 miles south of downtown Los Angeles. The Port is surrounded by the community of San Pedro to the west, the community of Wilmington to the north, the Port of Long Beach to the east, and the Pacific Ocean to the south. Access to and from the proposed Project sites is provided

by a network of freeways and arterial routes. The roadway system consists of a number of Port-owned roadways that connect to local streets and highways, particularly to Interstate (I)-110 and I-710, which provide north-south access to the greater Los Angeles area and to other north-, south-, and east-bound highways, including the San Diego Freeway (I-405), the Terminal Island Freeway (State Route [SR]-103), and Seaside Avenue/Ocean Boulevard (California Highway [CA]-47). Refer to Figure 2-1, Regional Location.

The proposed Project is comprised of Berths 174-181, Berths 206-209, and Berths 153-155. Berths 174-181 are located at 802 South Fries Avenue and are bounded by San Clemente Avenue to the west, Slip 5 to the north and east, and the East Basin Channel to the south and southwest. Berth 163 (NuStar Energy – liquid bulk), Berth 164 (Valero – liquid bulk), Berths 165-166 (Rio Tinto Minerals – dry bulk), and Berths 167-169 (Shell – liquid bulk) are located to the west of the Berths 174-181 Project site. Berths 206-209 are located at 1001 New Dock Street and are bordered by Henry Ford Avenue to the east, SA Recycling to the west at Berths 210-211, the Cerritos Channel to the north, and the vacant CFS Warehouse to the south. Berths 153-155 are located at 804 and 810 Pier A Street and are bordered by Pier A Street to the north and west, Berths 135-147 (TraPac Container Terminal) and Berths 148-151 (ConocoPhilips – liquid bulk) to the west, the Turning Basin to the south, and Slip 1 to the east. Refer to Figure 2-2, Project Vicinity.

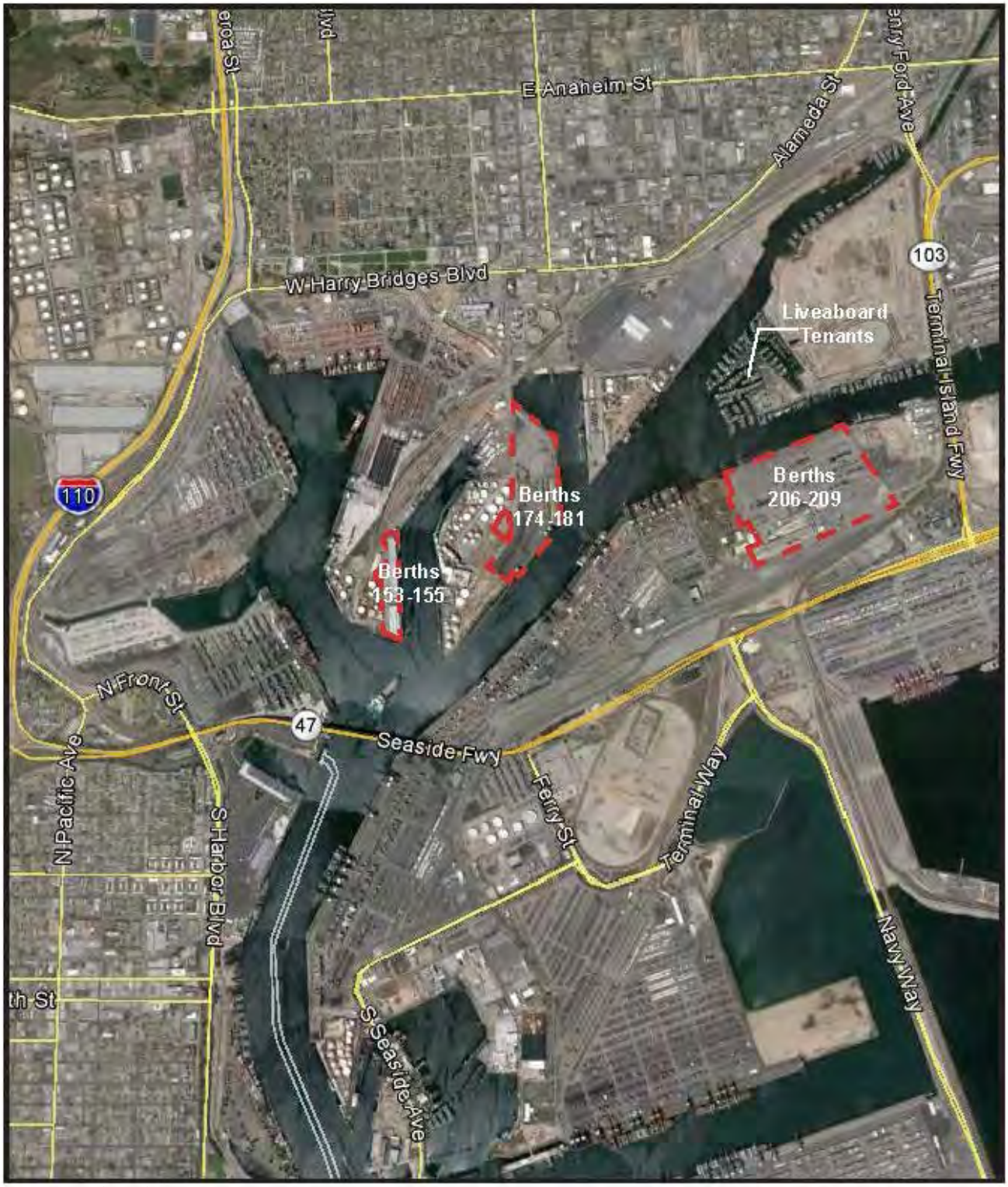
2.1.3 Land Use and Zoning

The updated Port Master plan is divided into five planning areas. The proposed Project sites are located in Planning Areas 2 and 3 of the Port Master Plan. Berths 174-181 and Berths 153-155 are located in Planning Area 2, which encompasses the West Basin/Wilmington Areas and Berths 206-209 are located in Planning Area 3 on Terminal Island (POLA 2014). The sites within Planning Area 2 are designated for breakbulk operations and the site within Planning Area 3 is designated for mixed land uses including container, dry bulk, and breakbulk operations (POLA 2014). Refer to Figures 2-3a and 2-3b, Port Master Plan Designations for Planning Area 2 and Planning Area 3, respectively.

The proposed Project sites include Los Angeles County Assessor's Parcel Numbers (APN) 7440014904 (Berths 174-181), 7440012902 (Berths 206-209) and 7440019907 (Berths 153-155). These parcels are zoned for manufacturing and heavy industrial uses ([Q] M3-1) by the City of Los Angeles Zoning Ordinance. [Q] M3-1 is designated as "quasi-heavy industrial" uses (City of Los Angeles 2015a). This designation permits all M-2 ("light industrial") uses, when located in whole or in part within the boundaries of the Port of Los Angeles Community Plan area (Los Angeles Planning Department 2015). They are also designated a "ZI No. 2130 Harbor Gateway State Enterprise Zone." Refer to Figure 2-4, Zoning.

Source: California Geospatial Information Library (2003-5)

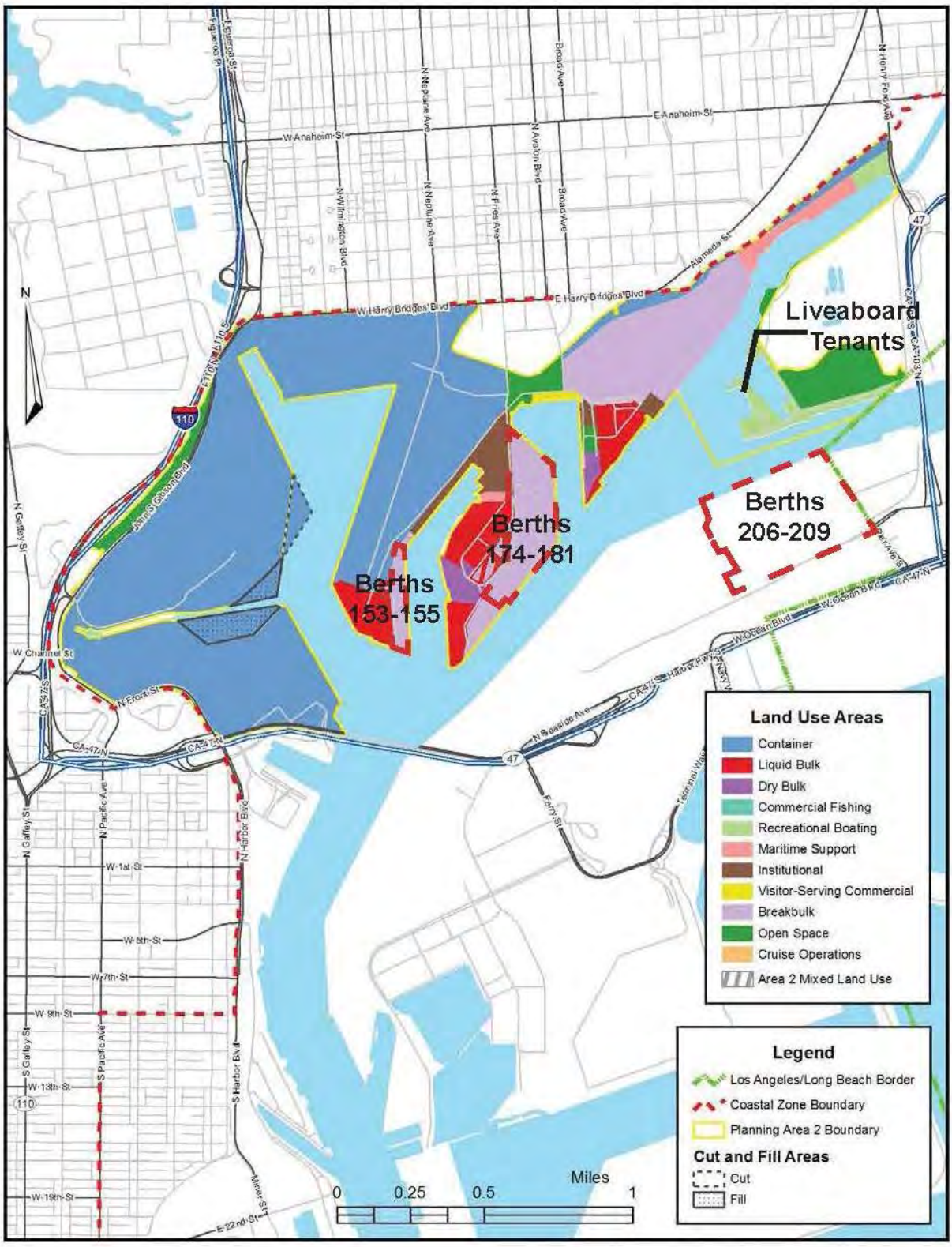
Figure 2-1
Regional Location



Source: Google Earth, 2014

N

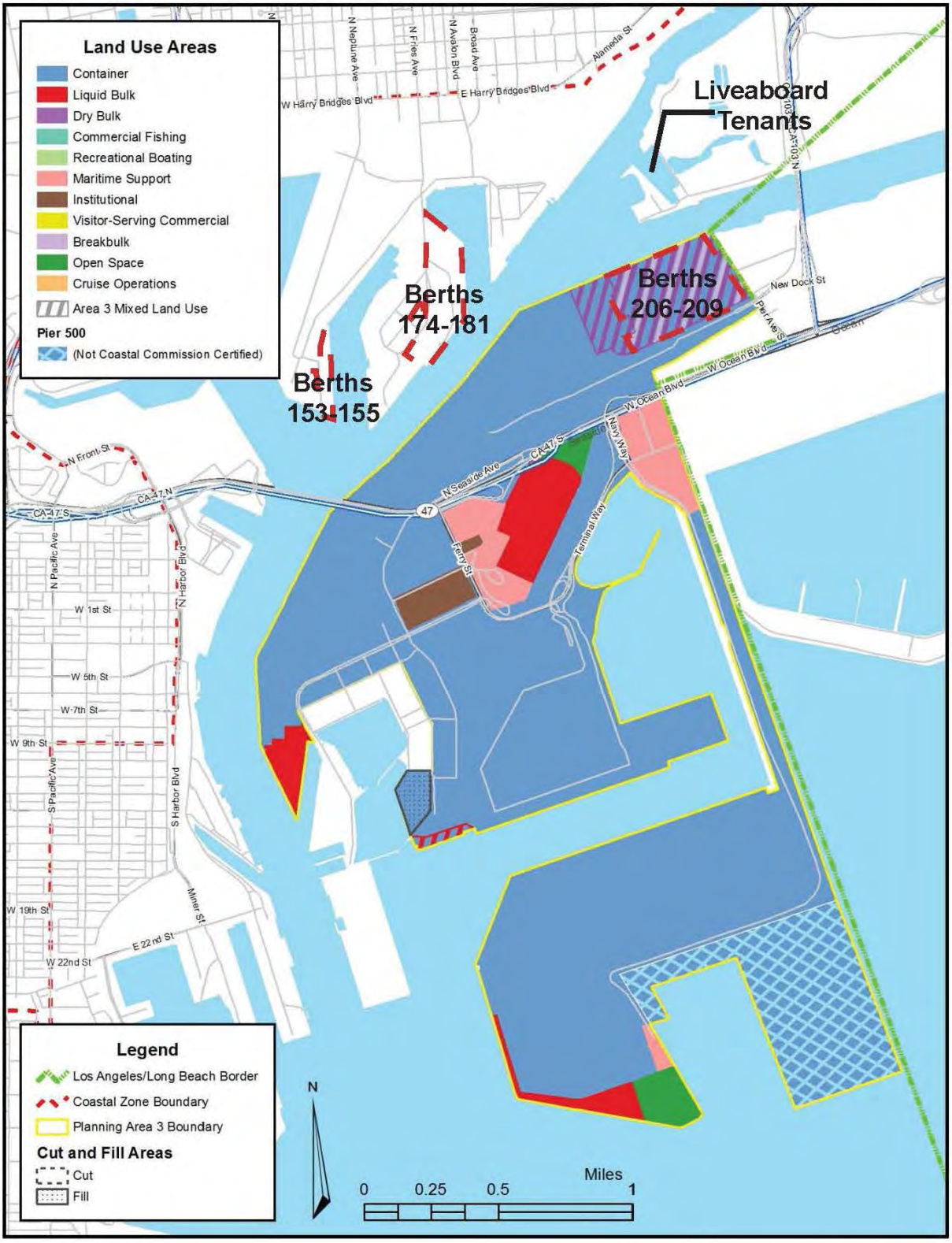
Figure 2-2
Project Vicinity



Source: POLA, 2014

Proposed Project Boundary

Figure 2-3a
Port Master Plan Designations for Planning Area 2

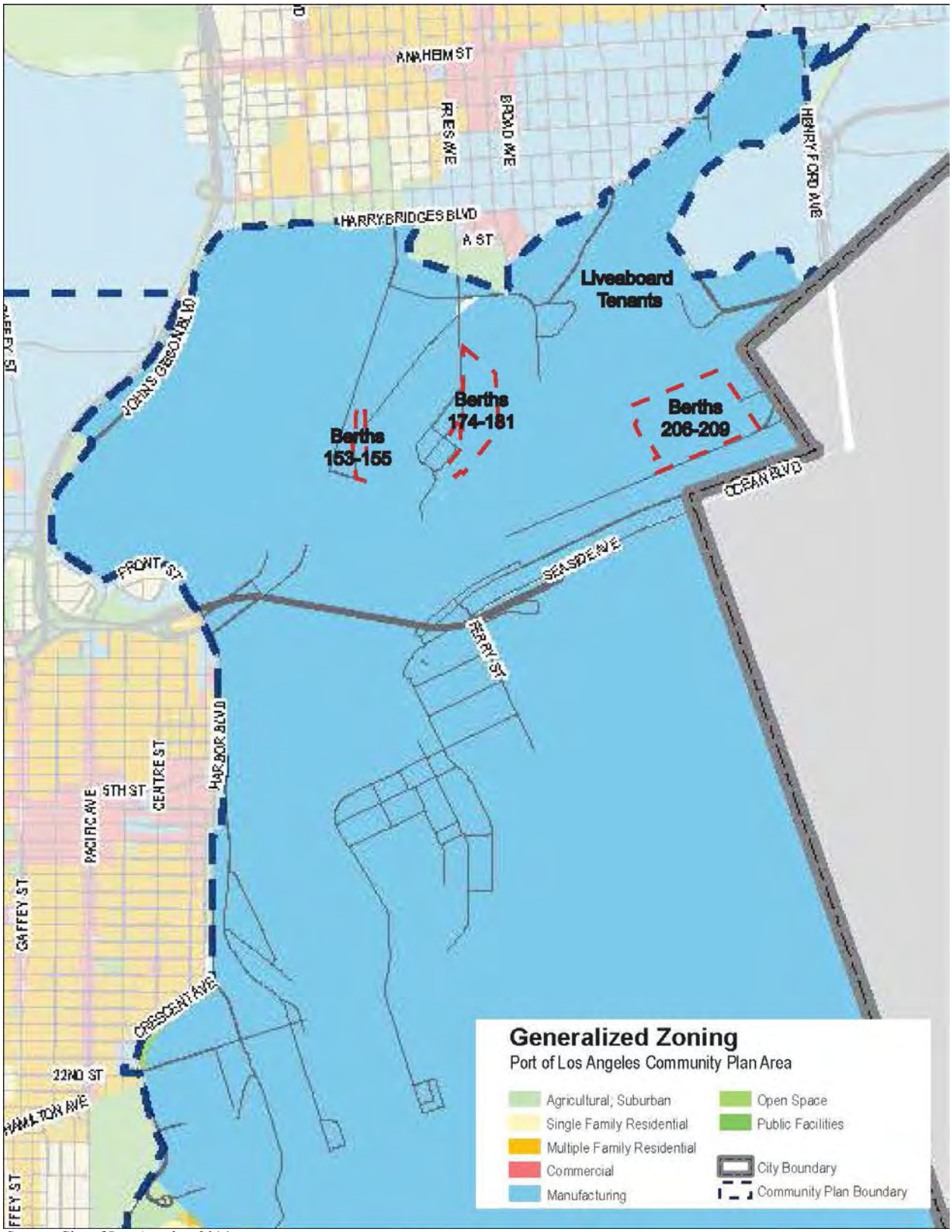


Source: POLA, 2014

Proposed Project Boundary

N

Figure 2-3b
Port Master Plan Designations for Planning Area 3



Source: City of Los Angeles, 2014

Figure 2-4
Zoning

Liveaboard tenants (persons who make a boat their primary residence) were identified approximately 515 feet north of the Berth 206-209 Project site, across the Cerritos Channel. The liveaboards are located at Lighthouse Yacht Landing (Berth 205), Cerritos Yacht Anchorage (Berth 205), Newmarks Marina (Berth 204), Pacific Yacht Landing (Berths 203-204), Yacht Haven Marina (Berth 202), the California Yacht Marina (Berth 202), and Holiday Harbor (Berth 201).

2.2 PROJECT BACKGROUND AND OBJECTIVES

2.2.1 Project Background

PST is a professional breakbulk (cargo as separate pieces instead of in containers) cargo-handling company that provides stevedoring (to load or unload the cargo of (a ship) or to engage in the process of loading or unloading such a vessel) services for the global maritime transportation industry at POLA. PST specializes in omni-terminal operation which allows a terminal to accommodate various commodities in addition to standard containers (PST 2015a).

2.2.2 Existing Conditions

Currently, PST uses Berths 174-181 as their primary site for operation of an omni-terminal to handle steel slab, breakbulk, and containers. Container handling is ancillary to the handling of steel slab and breakbulk and the amount of containers handled is negligible (approximately 3,000 in 2014). PST has been operating on Berths 174-181 under the current Permit No. 603 since 1986. Berths 206-209 and Berths 153-155 are secondary sites operated under separate agreements that PST currently uses to handle breakbulk cargo. PST has operated at Berths 206-209 since December 2004 and at Berths 153-155 since September 2001. Table 2-1 shows the 2014 annual throughput by cargo type for each terminal and Table 2-2 shows the vehicle trips for each terminal during 2014.

Table 2-1 Terminal Annual Throughput (2014)

Berth	Cargo Type	Throughput (metric tons[m/t])
Berths 174-181	Slab	1,596,099 m/t
Berths 174-181	Breakbulk	673,191 m/t
Berths 206-209	Breakbulk	726,655 m/t
Berths 153-155	Breakbulk	82,548 m/t

Source: PST 2015b

Note: Containers are ancillary and not a major component of Berths 174-181 operations.

Table 2-2 Vehicle Trips by Terminal (2014)

Berth	Truck Trips[1]		Annual Train Trips (for steel slab)	Annual Vessel Calls
	Daily (average)	Annual		
Berths 174-181	258	67,318	242	101
Berths 206-209	278	72,664	--	57
Berths 153-155	32	8,254	--	5

Source: PST 2015b

Note: [1] The PST terminal operations do not have peak days, rather the overall cargo operations and associated vehicle trips are fairly consistent from day to day. One-way truck trips are reported.

PST's existing operations involve the receipt of cargo (slab steel, breakbulk, and containers) via vessels, which is unloaded by the vessel or dock cranes. The operations also include the movement of the slab steel from the terminals via rail and breakbulk commodities via trucks, which travel to warehouses throughout the western United States. As of 2014, PST utilizes their fleet of cargo handling equipment (CHE), which includes a fleet of 65 forklifts and 8 yard tractors for onsite cargo handling. Train trips only occur at Berths 174-181 to transport steel slabs. Only one train trip is made per day for a total of 5 days per week (Monday through Friday). The trains typically arrive at the terminal by 4:30 a.m. and depart by 7:30 p.m. The train transports the slab steel directly to manufacturers located in Fontana. Inbound trains are powered by two locomotives and four locomotives power the outbound train. The outbound train pulls approximately 74 cars carrying 7,800 tons.

Berths 174-181 are currently equipped with three electric A-frame over-water gantry (wharf) cranes. The three wharf cranes are 50-foot gauge cranes, 13 containers-wide, with lift heights up to 85 feet. Berths 206-209 and Berths 153-155 are not equipped with cranes because the breakbulk vessels berthing at these terminals are equipped with self-loading/unloading cranes. Table 2-3 lists the structures utilized on each of the terminal sites.

Table 2-3 Existing Project Sites Structures

Berth	Structure	Square Footage (SF)
Berths 174-181[1] *(approximately 42.34 acres)*	Berths 177-178 Transit Shed[1]	131,750 SF
	Berths 179-181 Transit Shed	120,500 SF
	Office Building	14,600 SF
Berths 206-209[2] *(approximately 86.27 acres)*	Not Applicable	
Berths 153-155 *(approximately 11.68 acres)*	Berth 153 Warehouse	83,452 SF
	Berths 154-155 Warehouse	133,922 SF

Source: LAHD 2015a

Note: [1] Due to a fire in September 2014, the warehouse at Berths 177-178 may be demolished or be rebuilt in-kind.

[2] Structures exist within the premises, however, utilization of these structures are excluded from PST's agreement with LAHD.

For Berths 174-181 only, approximately 200 gallons of waste oil related to the maintenance and operation of CHE is recovered and disposed of by Asbury Environmental Services on a monthly basis. Additionally, approximately 13,000 gallons of wastewater recovered in the clarifier on site is tested, and then disposed by Applied Waste Management every quarter. Collection, testing, and monitoring of runoff is completed in compliance with the existing Stormwater Pollution Prevention Plan (SWPPP) and Industrial Stormwater General Permit (ISWGP). These permits would remain in place and renewed/expanded as necessary.

The terminals typically operate Mondays through Fridays from 8:00 a.m. to 4:30 p.m. Weekend and evening shifts occur on an as-needed basis. Twenty-eight management and clerical staff, 58 full-time, steady International Longshore and Warehouse Union (ILWU) labor workers, and 178 casual (as-needed) ILWU labor workers are employed at the three terminals.

2.2.3 Project Objective

The primary objective of the proposed Project is a lease renewal to allow continued long-term operations of PST including the handling of steel slab, breakbulk, and containers. With the lease renewal and incorporation of Berths 206-209 and Berths 153-155 into the long-term lease, PST can continue to operate at the three terminals, consistent with land uses identified in the Port Master Plan.

2.3 PROJECT DESCRIPTION

The proposed Project would allow PST to continue to use and occupy Berths 174-181 "as is" under Permit No. 603 for a total of 30 years (20 years and two 5-year extensions). The lease would also allow PST to occupy Berths 206-209 and Berths 153-155 under Permit 603 for the same duration. Proposed operations would be similar to current operations and inclusive of omni-terminal operations at Berths 174-181 and breakbulk operations on Berths 206-209 and 153-155. The proposed Project is further detailed below.

2.3.1 Construction

No new improvements or physical modifications to the existing three terminals would occur as part of the proposed Project. The proposed Project would not involve permanent or temporary construction of any infrastructure, earth-disturbing activities, grading, trenching, or demolition.

2.3.2 Operation

The proposed Project operations at Berths 174-181, Berths 206-209, and Berths 153-155 would be similar to current operations. PST would continue to use and occupy Berths 174-181, which includes approximately 42.34 acres, for the operation of an omni-terminal, including the berthing of vessels; and truck and rail operations. The proposed Project would allow PST to continue operation at Berths 206-209 (approximately 86.27 acres) and Berths 153-155 (approximately 11.68 acres), including the operation of breakbulk materials, including the berthing of vessels, and truck operations.

PST operations at the three terminals are expected to peak in 2018 and involve a reduction in breakbulk handling and an increase in steel slab handling. The terminals would be backland-constrained, which means the terminal capacity is limited (constrained) due to the availability of backland area to store and move containers and breakbulk through the terminal. Table 2-4 shows the anticipated 2018 annual throughput by cargo type for each terminal. Container operations at Berths 174-181 are expected to remain ancillary to steel slab and breakbulk handling, and are not expected to change substantially.

Table 2-4 Terminal Peak Throughputs (2018)

Berth	Cargo Type	Throughput (metric tons[m/t])
Berths 174-181	Slab	2,500,000 m/t
Berths 174-181	Breakbulk	200,000 m/t
Berths 206-209	Breakbulk	800,000 m/t
Berths 153-155	Breakbulk	120,000 m/t

Source: PST 2015b

On a localized level, truck trips to and from Berths 174-181 would be reduced by 189 daily one-way trips. Truck trips at Berths 153-155 would increase by 15 daily one-way trips, and truck trips at Berths 206-209 would increase by 29 daily one-way trips. Overall, truck trips from PST future conditions would be reduced by 145 daily trips. As mentioned previously in Table 2-2, the project-related truck trips have a steady volume throughout the week versus having peak travel days. Daily train trips would remain at once per day; however, train trips would increase from 5 days a week to 7 days a week to accommodate 130 additional annual train trips for transporting slab steel peaking in 2018, which would be at full capacity. Train switching functions would not change with Pacific Harbor Line, the third-party; independent rail company that manages all rail dispatching and switching functions at the on-dock rail yards within the Port. The shift from breakbulk to slab steel handling at Berths 174-181 would result in an increase of 4 vessel calls per year. The number and types of CHE are not expected to change.

The proposed lease renewal provides an opportunity to implement 2010 San Pedro Bay Clean Air Action Plan (2010 CAAP) control measures (POLA 2010). As a proprietary landlord, LAHD has the opportunity to negotiate and require control measures in a terminal's lease that would reduce air emissions. Certain measures have been identified for this Project and are described below.

PST has replaced a majority of their CHE fleet in recent years. All of PST's on-road yard tractors are consistent with the 2010 CAAP measure CHE-1 to utilize equipment that meets USEPA's 2007 on-road engine standards. The majority of their off-road CHE is consistent with the 2010 CAAP requirement to utilize equipment that meets USEPA's Tier 4 off-road engine standards, with the exception of the following: 1) equipment purchased through 2008 that are scheduled to be replaced or repowered, 2) equipment purchased in 2012 and equipped with engines meeting the most stringent emission standards available at the time of purchase (Tier 3 engines with verified diesel emission control strategies), and 3) three pieces of equipment that are utilized for maintenance purposes with de minimis operating hours. The 2010 CAAP has a goal of all terminal CHE meeting USEPA 2007 on-road or Tier 4 off-road engine

standards by the end of 2014. Given the timing of the proposed lease renewal, considering the estimated remaining useful life of the existing off-road CHE, and to ensure that the terminal is not subject to financially infeasible control measures, PST would replace or repower off-road CHE according to the following lease measure (CARB 2005)[1]:

> **LM-1: Fleet Modernization for Off-Road Cargo Handling Equipment**. Off-road cargo handling equipment (CHE) will be replaced or repowered to meet, at a minimum, Tier 4 off-road engine standards according to the following schedule: 1) the replacement or repowering of CHE purchased through 2008 shall be phased-in from 2015 and 2021; and 2) the replacement or repowering of CHE purchased in 2012 shall be phased-in from 2022 to 2027.

The three pieces of off-road CHE used for maintenance purpose with de minimis operating hours, will continue to operate as they have in the past and would be repowered or replaced, at a minimum, with equipment meeting the Tier 4 off-road engine standards in accordance with the California Air Resources Board Mobile Cargo Handling Equipment Regulation (September 2011).

The following lease measures shall also apply to PST's operations:

> **LM-2: Periodic Review of New Technology**. The Tenant will conduct a periodic review of any Port-identified or other new emissions-reducing technology and report to the LAHD on the feasibility of any new technology advancements that may reduce emissions not less frequently than once every five years following the effective date of the lease renewal. If the review demonstrates the new technology would be effective in reducing emissions and is determined by the LAHD to be feasible, including but not limited to, financial, technical and operational considerations, the Tenant will implement the new air quality technological advancements, subject to mutual agreement.

> **LM-3: At-Berth Vessel Emissions Control Pilot Study.** The Tenant will complete a pilot study to evaluate the financial, technical and operational feasibility of implementing an at-berth vessel emissions capture and control system within three years of the effective date of the lease renewal, subject to the advancement of such technology and mutual agreement with the firm responsible for developing such technology.

The proposed Project does not anticipate any substantial change in employees or staffing at the terminals. The proposed Project would not require additional public services or utilities. Structures would remain the same and usage rates by staff and vessels would result in a negligible increase in use. Additionally, all existing permits, including but not limited to an Industrial Solid Waste General (ISWG) permit and

[1] Based upon the California Air Resources Board, Initial Statement of Reasons, Regulation for Mobile Cargo Handling Equipment at Ports and Intermodal Rail Yards (2005), Appendix B, Emissions Inventory Methodology, forklifts and CHE average operating hours range from 802 to 2,388 hours per year; whereas PST equipment used for maintenance purposes operate for less than 50 hours per year. Additionally, the estimated useful life for forklifts and CHE is 16 years. At present the estimated cost to replace or repower in-use off-road CHE with equipment meeting USEPA Tier 4 standards is approximately $300,000 to $800,000 per unit.

SWPPP for Berth 176, would remain in place and be expanded/updated as necessary to cover PSTs continued operations at all their terminals.

2.4 ANTICIPATED PROJECT PERMITS AND APPROVALS

Under CEQA, the Lead Agency is the public agency with primary responsibility over approval of a proposed Project. Pursuant to Section 15367, the CEQA Lead Agency for the proposed Project is LAHD. According to Section 15381, "Responsible Agency" means a public agency which proposes to carry out or approve a project. For the purpose of CEQA, "Responsible Agency" includes all public agencies other than the Lead Agency which have discretionary approval power over the project (i.e., State Water Resources Control Board for the ISWGP). Section 15386 of CEQA describes "Trustee Agency" as a state agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California (i.e., the State Lands Commission with regard to state owned "sovereign" lands such as the beds of navigable waters and state school lands). However, as the proposed Project would not change the current operations at the Project sites, a permit from the State Lands Commission would not be required.

PST will maintain all their existing permits for their current operations. Because this request is for a continuation of their existing operations, the anticipated permits and approvals that are required to implement the proposed Project are listed below:

- LAHD Lease Renewal
- State Water Resources Control Board, Industrial Storm Water General Permit

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3.0 INITIAL STUDY CHECKLIST

1.	**Project Title:**	Pasha Stevedoring and Terminal Lease Renewal Project
2.	**Lead Agency:**	City of Los Angeles Harbor Department Environmental Management Division 425 S. Palos Verdes Street San Pedro, CA 90731
3.	**Contact Person:**	James Bahng, Project Manager, Environmental Management Division
4.	**Project Location:**	Berths 174-181: 802 South Fries Avenue, Wilmington, CA 90744 Berths 206-209: 1001 New Dock Street, Wilmington, CA 90744 Berths 153-155: 804 & 810 Pier A Street, Wilmington, CA 90744
5.	**General Plan Designation:**	Port of Los Angeles
6.	**Zoning:**	Manufacturing and [Q] M3-1 (heavy industrial zone)
7.	**Description of Project:**	The City of Los Angeles Harbor Department (LAHD) is the lead agency under the California Environmental Quality Act (CEQA). The primary objective of the proposed Project is to renew the existing lease at Berths 174-181 and incorporate Berths 206-209 and Berths 153-155 into the long-term lease.
8.	**Surrounding Land Uses/Setting:**	The sites are within the Port of Los Angeles Community Plan area in the City of Los Angeles, which is adjacent to the communities of San Pedro and Wilmington, and approximately 23 miles south of downtown Los Angeles. Access to and from the proposed Project sites is provided by a network of freeways and arterial routes. The roadway system consists of a number of Port-owned roadways that connect to local streets and highways, particularly to I-110 and I-710. Refer to Figure 2-1, Regional Location. Berths 174-181 are bounded by San Clemente Avenue to the west, Slip 5 to the north and east, and the East Basin Channel to the south and southwest. Berths 206-209 are bordered by Henry Ford Avenue to the east, Berths 210-211 SA Recycling to the west, Cerritos Channel to the north, and the vacant CFS Warehouse to the south. Berths 153-155 are bordered by Pier A Street to the north and west, Berths 135-147 (TraPac Container Terminal) and Berths 148-151 (ConocoPhilips) to the west, the Turning Basin to the south, and Slip 1 to the east. Refer to Figure 2-2, Project Vicinity.

9.	**Other Public Agencies Whose Approval is Required:**	• State Water Resources Control Board, Industrial Storm Water General Permit

3.1 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by the proposed Project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials	☐ Hydrology and Water Quality
☐ Land Use and Planning	☐ Mineral Resources	☐ Noise
☐ Population/Housing	☐ Public Services	☐ Recreation
☐ Transportation and Traffic	☐ Utilities and Service Systems	☐ Mandatory Findings of Significance

3.2 DETERMINATION

Based on this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. ☒

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared. ☐

I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. ☐

I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. ☐

I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required. ☐

October 30, 2015

Signature

Date

Christopher Cannon, Director
Environmental Management Division
City of Los Angeles Harbor Department

	Potentially Significant Impact	*Less Than Significant Impact After Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
1. AESTHETICS. Would the project:				
a. Have a substantial adverse effect on a scenic vista?				X
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c. Substantially degrade the existing visual character or quality of the site and its surroundings?				X
d. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?				X
e. Create a new source of substantial shade or shadow that would adversely affect daytime views in the area?				X
2. AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, Lead Agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b. Conflict with existing zoning for agricultural use, or a Williamson act contract?				X
c. Conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned timberland production?				X
d. Result in the loss of forest land or conversion of forest land to non-forest use?				X
e. Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?				X

	Potentially Significant Impact	*Less Than Significant Impact After Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
3. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?			X	
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			X	
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?			X	
d. Expose sensitive receptors to substantial pollutant concentrations?			X	
e. Create objectionable odors affecting a substantial number of people?			X	
4. BIOLOGICAL RESOURCES. Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				X
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				X
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X

	Potentially Significant Impact	*Less Than Significant Impact After Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				X
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X
5. CULTURAL RESOURCES. Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5?				X
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?				X
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X
d. Disturb any human remains, including those interred outside of formal cemeteries?				X
6. GEOLOGY AND SOILS. Would the project:				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X	
ii) Strong seismic ground shaking?			X	

	Potentially Significant Impact	*Less Than Significant Impact After Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?				X
b. Result in substantial soil erosion, loss of topsoil, or changes in topography or unstable soil conditions from excavation, grading, or fill?				X
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			X	
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			X	
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X
7. GREENHOUSE GAS EMISSIONS: Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X	
8. HAZARDS AND HAZARDOUS MATERIALS: Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X	
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter				X

	Potentially Significant Impact	*Less Than Significant Impact After Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
mile of an existing or proposed school?				
d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				X
f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				X
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
h. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X
9. HYDROLOGY AND WATER QUALITY. Would the project:				
a. Violate any water quality standards or waste discharge requirements?			X	
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?				X
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?				X

	Potentially Significant Impact	*Less Than Significant Impact After Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?				X
e. Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?			X	
f. Otherwise substantially degrade water quality?			X	
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
h. Place within a 100-year flood hazard area structures that would impede or redirect flood flows?				X
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X
j. Inundation by seiche, tsunami, or mudflow?			X	
k. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the sea level rise?			X	
10. LAND USE AND PLANNING. Would the project:				
a. Physically divide an established community?				X
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

	Potentially Significant Impact	*Less Than Significant Impact After Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
11. MINERAL RESOURCES. Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?				X
12. NOISE. Would the project result in:				
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?				X
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?				X
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X
13. POPULATION AND HOUSING. Would the project:				
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X

	Potentially Significant Impact	*Less Than Significant Impact After Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X
14. PUBLIC SERVICES.				
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?			X	
ii) Police protection?			X	
iii) Schools?				X
iv) Parks?				X
v) Other public facilities?				X
15. RECREATION.				
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?				X

	Potentially Significant Impact	*Less Than Significant Impact After Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
16. TRANSPORTATION AND TRAFFIC. Would the project:				
a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?			X	
b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?			X	
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?			X	
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
e. Result in inadequate emergency access?				X
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?				X
17. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?			X	
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X

	Potentially Significant Impact	*Less Than Significant Impact After Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?			X	
e. Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			X	
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			X	
g. Comply with federal, state, and local statutes and regulations related to solid waste?			X	
18. MANDATORY FINDINGS OF SIGNIFICANCE.				
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?				X
b. Does the project have impacts that are individually limited, but cumulatively considerable? "Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.			X	
c. Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?			X	

4.0 IMPACTS AND MITIGATION MEASURES

4.1 AESTHETICS

The purpose of this section is to identify and evaluate key visual and aesthetic resources in the Project area and to determine the degree of visual and aesthetic impacts that would be attributable to the proposed Project.

Would the Project:

a) Have a substantial adverse effect on a scenic vista?

No Impact. The proposed Project does not include any protected or designated scenic vistas. The proposed Project sites are situated in Planning Area (PA) 2 – West Basin/Wilmington and PA 3 – Terminal Island of the Port of Los Angeles. PA 2, which includes Berths 174-181 and Berths 153-155, encompasses the West Basin and Wilmington areas, and includes Berths 96-204. The West Basin consists of container terminals, while the remaining Wilmington areas consist of a variety of uses ranging from liquid bulk at Berths 148-150, and liquid and dry bulk uses on Mormon Island, to recreational boating and open space along Anchorage Road. PA 3, which includes Berths 206-209, is located on Terminal Island and focuses on container operations. Six out of nine container terminals are located in PA 3. The proposed Project sites consist of cargo (slab steel, breakbulk, and containers), exposed infrastructure, open storage, industrial buildings, mobile equipment (i.e., dock cranes, containers, forklifts, and railcars) and paved parking lot areas.

The proposed Project does not include construction activities and therefore, there would be no temporary visible changes to the sites. It would continue the use of the existing breakbulk cargo handling facilities and be consistent with the industrial/manufacturing landscape of the area. Therefore, no impacts related to scenic vistas would occur. No mitigation is required.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. Per the California Department of Transportation (Caltrans), the nearest officially designated state scenic highway is located approximately 31 miles north of the proposed Project (State Highway 2, from approximately 3 miles north of I-210 in La Cañada to the San Bernardino County Line) (Caltrans 2013a). The nearest eligible state scenic highway is approximately 10 miles southeast of the proposed Project sites (State Highway 1, from State Highway 19 near Long Beach to I-5 south of San Juan Capistrano) (Caltrans 2013a).

In addition to Caltrans' officially designated and eligible state scenic highways, the City of Los Angeles has city-designated scenic highways that are considered for local planning and

development decisions (City of Los Angeles 1998). These include several streets in San Pedro that are in the vicinity of the proposed Project sites. John S. Gibson Boulevard, Pacific Avenue, Front Street, and Harbor Boulevard are city-designated scenic highways because they afford views of the Port and the Vincent Thomas Bridge. The proposed Project sites are approximately 1 to 2 miles northeast of the Vincent Thomas Bridge and are not visible from any city-designated scenic highways. There are no other scenic resources, such as trees, rock outcroppings, or historic buildings within a scenic highway that could be affected by the proposed Project. Therefore, no impacts related to scenic resources within a state scenic highway would occur. No mitigation is required.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

No Impact. The proposed Project sites are within the industrial waterfront that is actively used for breakbulk handling and storage purpose. The area is zoned for manufacturing and heavy industrial uses ([Q]M3-1) and is completely within LAHD property. The proposed Project involves a lease renewal at the Project sites. No construction activities would occur and existing operations would continue. The proposed Project would be consistent with the existing visual character and would not constitute removal or obstruction of any significant visual features or elements. The proposed Project is industrial in nature and, therefore, consistent with the existing industrial uses and facilities throughout the Port. The proposed Project would not alter the nature of existing operations and would be consistent with the industrial/commercial visual landscape and character of the area. The visual environment would remain very similar to the existing aesthetic. Therefore, no impacts related to existing visual character and quality of the sites would occur. No mitigation is required.

d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?

No Impact. The proposed Project sites currently include security lighting and general nighttime lighting on the properties and the parking lots. T he proposed Project does not involve construction of new or additional sources of lighting that would noticeably alter the lighting levels at the facilities or form any nighttime vantage of the properties.

Sources of glare in the proposed Project areas include building windows, light-colored building surfaces, cement parking lots, metal surfaces, and car windshields. Sensitive receptors relative to daytime glare from reflected sunlight include motorists traveling on the adjacent roadways and adjacent office uses. Nighttime glare sources are from on-site buildings, signage, or thematic elements, which incorporate reflective building materials, and would occur in proximity to both glare sensitive uses and motor vehicle traffic. The proposed Project does not include construction activities and would allow the existing breakbulk handling operations to continue at the Project sites. The proposed Project would not include signage or thematic elements that would

incorporate substantial amounts of reflective building materials that would be highly visible to off-site glare-sensitive uses. The nearest sensitive viewers are the liveaboards tenants located approximately 515 feet north of the Berths 206-209 Project site across the Cerritos Channel and would not be affected by light and glare from the proposed Project. Therefore, no impacts related to light and glare would result. No mitigation is required.

e) Create a new source of substantial shade or shadow that would adversely affect daytime views in the area?

No Impact. The proposed Project would involve a lease renewal to continue the existing operations at the proposed Project sites and would not include construction activities. No new structures of substantial height or mass that could create large areas of shade or shadow would be constructed as part of the proposed Project.

The proposed Project would involve the continued operation of equipment (e.g., tractors, top loaders, forklifts, etc.), breakbulk storage, containers, trucks, auto carriers, and other equipment associated with warehousing and transloading activities. Therefore, the proposed Project would not create a new source of substantial shade or shadow that would adversely affect daytime views in the area and no impacts would result. No mitigation is required.

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4.2 AGRICULTURE AND FORESTRY RESOURCES

The purpose of this section is to identify and evaluate agricultural and forestry resources in the proposed Project area and to determine the degree of impacts that would be attributable to the proposed Project.

Would the Project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. The California Department of Conservation's Farmland Mapping and Monitoring Program develops maps and statistical data to be used for analyzing impacts on California's agricultural resources (California Department of Conservation 2013). The Farmland Mapping and Monitoring Program categorizes agricultural land according to soil quality and irrigation status; the best quality land is identified as Prime Farmland.

According to the Farmland Mapping and Monitoring Program, the proposed Project sites are designated as Urban and Built-Up Land, which is described as land occupied by structures that has a variety of uses including industrial, commercial, institutional facilities, railroad, or other transportation yards. There is no Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or Farmland of Local Importance in the proposed Project vicinity (California Department of Conservation 2013). Further, the City of Los Angeles General Plan does not designate the proposed Project site as Farmland. In addition, no Farmland currently exists on the proposed Project sites and, therefore, none would be converted to accommodate the proposed Project. No impacts would occur. No mitigation is required.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments, which are much lower than normal because they are based upon farming and open space uses as opposed to full market value.

The proposed Project sites are identified as Los Angeles County APN 7440014904 (Berths 174-181), 7440012902 (Berths 206-209) and 7440019907 (Berths 153-155); and are zoned for manufacturing and heavy industrial uses ([Q] M3-1) by the City of Los Angeles Zoning Ordinance. The Williamson Act applies to parcels consisting of at least 20 acres of Prime Farmland or at least 40 acres of land not designated as Prime Farmland. The proposed Project sites are not located within a Prime Farmland designation, nor do they consist of more than 40 acres of farmland. The proposed Project sites are not within a Williamson Act contract. Thus,

the proposed Project would not conflict with existing zoning for agricultural use, or a Williamson Act Contract. No impacts would occur. No mitigation is required.

c) Conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned timberland production?

No Impact. The proposed Project is located on fully developed land within LAHD property. The sites do not contain any property designated as forest or timberland. The proposed Project sites are fully developed with urban and industrial uses and not in the vicinity of any forest or timberland and the proposed Project would not result in a change in the use of the existing sites or surrounding area. Therefore, the proposed Project would not conflict with existing zoning or cause rezoning of forest or timberland. No impacts would occur, and no mitigation is required.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. As discussed in the response to Question 4.2(c), the proposed Project sites do not contain any forest land or property designated as forest land. Therefore, the proposed Project would not result in the loss of forest land, nor would it convert forest land to a non-forest use. No impacts would occur and no mitigation is required.

e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

No Impact. As discussed in Question 4.2(a), the proposed Project sites are not designated as Farmland and are designated as Urban and Built-Up Land. Additionally, no Farmland is located within the immediate vicinity of the proposed Project sites. Implementation of the proposed Project would not alter the current use of the site or surrounding area. Therefore, the proposed Project would not result in changes to the existing environment that could result in the conversion of Farmland to non-agricultural use. No impacts would occur and no mitigation is required.

4.3 AIR QUALITY

This section includes a description of existing air quality conditions in the proposed Project area and analyses of potential short-term air quality impacts of the proposed Project. The methods of analysis for construction, operational, local mobile source, odor, and toxic air contaminant (TAC) emissions are consistent with the guidelines of the South Coast Air Quality Management District (SCAQMD) and LAHD's standard air quality protocols.

The proposed lease renewal provides an opportunity to implement 2010 CAAP control measures. As a proprietary landlord, LAHD has the opportunity to negotiate and require control measures in a terminal's lease that would reduce air emissions. Certain measures have been identified for this Project and are described below.

PST has replaced a majority of their CHE fleet in recent years. All of PST's on-road yard tractors are consistent with the 2010 CAAP measure CHE-1 to utilize equipment that meets USEPA's 2007 on-road engine standards. The majority of their off-road CHE is consistent with the 2010 CAAP requirement to utilize equipment that meets USEPA's Tier 4 off-road engine standards, with the exception of the following: 1) equipment purchased through 2008 that are scheduled to be replaced or repowered, 2) equipment purchased in 2012 and equipped with engines meeting the most stringent emission standards available at the time of purchase (Tier 3 engines with verified diesel emission control strategies), and 3) three pieces of equipment that are utilized for maintenance purposes with de minimis operating hours. The 2010 CAAP has a goal of all terminal CHE meeting USEPA 2007 on-road or Tier 4 off-road engine standards by the end of 2014. Given the timing of the proposed lease renewal, considering the estimated remaining useful life of the existing off-road CHE, and to ensure that the terminal is not subject to financially infeasible control measures, PST would replace or repower off-road CHE according to the following lease measure:

> **LM-1: Fleet Modernization for Off-Road Cargo Handling Equipment**. Off-road cargo handling equipment (CHE) will be replaced or repowered to meet, at a minimum, Tier 4 off-road engine standards according to the following schedule: 1) the replacement or repowering of CHE purchased through 2008 shall be phased-in from 2015 and 2021; and 2) the replacement or repowering of CHE purchased in 2012 shall be phased-in from 2022 to 2027.

The following lease measures shall also apply to PST's operations:

> **LM-2: Periodic Review of New Technology**. The Tenant will conduct a periodic review of any Port-identified or other new emissions-reducing technology and report to the LAHD on the feasibility of any new technology advancements that may reduce emissions not less frequently than once every five years following the effective date of the lease renewal. If the review demonstrates the new technology would be effective in reducing emissions and is determined by the LAHD to be feasible, including but not limited to, financial, technical and operational considerations, the Tenant will implement the new air quality technological advancements,

subject to mutual agreement.

LM-3: At-Berth Vessel Emissions Control Pilot Study. The Tenant will complete a pilot study to evaluate the financial, technical and operational feasibility of implementing an at-berth vessel emissions capture and control system within three years of the effective date of the lease renewal, subject to the advancement of such technology and mutual agreement with the firm responsible for developing such technology.

Would the Project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact. The proposed Project is located within the South Coast Air Basin (Basin), which includes Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. Due to the combined air pollution sources within the Basin and meteorological and geographical effects that limit dispersion of air pollution, the Basin can experience high air pollutant concentrations. The Basin is currently classified as an extreme nonattainment area for the 8-hour national ambient air quality standard (NAAQS) for ozone (O_3), and a nonattainment area for the NAAQS for particulate matter less than 2.5 microns ($PM_{2.5}$). On June 12, 2013, the U.S. Environmental Protection Agency (USEPA) redesignated the Basin as a maintenance area for the NAAQS for particulate matter less than 10 microns (PM_{10}). The Basin is classified as a maintenance area for the NAAQS for carbon monoxide (CO). The Basin is also classified as a nonattainment area for the California ambient air quality standards (CAAQS) for O_3, $PM_{2.5}$, and PM_{10}.

The SCAQMD is responsible for the development and implementation of air quality plans and programs. Air quality plans describe air pollution control strategies to be implemented within the Basin designed to attain and maintain the NAAQS and CAAQS in accordance with the requirements of the federal and California Clean Air Acts (CAAs). The most recent Air Quality Management Plan (AQMP) was adopted on December 7, 2012 (SCAQMD 2012). The 2012 AQMP proposes emission reduction strategies and provides a demonstration that the Basin would attain the 2006 federal 24-hour $PM_{2.5}$ standard in 2014 with implementation of all feasible control strategies. The SCAQMD subsequently prepared a supplement to the 24-hour $PM_{2.5}$ State Implementation Plan (SIP) that demonstrates attainment of the NAAQS by 2015 to be consistent with the attainment year under CAA, Title 1, Part D, Subpart 4. The AQMP also includes specific additional control measures to implement the ozone strategy within the 2007 AQMP that are designed to achieve attainment of the 8-hour NAAQS by 2023. The additional measures are also designed to demonstrate attainment of the revoked 1-hour O_3 NAAQS, which is required by the USEPA. While the 1-hour O_3 NAAQS has been revoked, the SCAB is subject to anti-backsliding requirements, which require that the nonattainment area remain subject to 1-hour standard obligations defined as "applicable requirements" until the area attains the 8-hour NAAQS.

LAHD provides input to SCAQMD regarding its projected mobile source emissions, including mobile sources such as OGVs and trains that would be associated with the proposed Project. The proposed Project involves a renewal of the existing lease, which includes the operation of Berths 174-181 (Permit No. 603) for a 20- year lease, with two 5-year options to renew for a total of 30 years, with PST for continued terminal operations at three locations in the Port. The lease renewal will include the continued operation of secondary locations, Berths 206-209 and Berths 153-155, which are currently operated under separate agreements. The proposed Project would increase bulk cargo vessel calls by 4 calls per year, and would increase trains by 130 additional train trips annually for transporting slab steel. These vessel and train trips are accounted for in the overall Port cargo projections provided to SCAQMD for the SIP. The project-related truck trips would decrease overall by 145 daily trips. The proposed Project would be consistent with the assumptions regarding land use and emissions within the 2012 AQMP.

In conjunction with the Port of Long Beach, the LAHD implements the 2010 CAAP. This planning policy sets goals and implementation strategies to reduce air emissions and health risks from the Port operations. The CAAP implements emission control measures for ocean-going vessels (OGVs), harbor craft, trains, trucks, and terminal equipment. The 2010 CAAP has a goal of all terminal CHE meeting USEPA 2007 on-road or Tier 4 off-road engine standards by the end of 2014. Considering the timing of the proposed lease renewal, the estimated remaining useful life of the existing off-road CHE, and to ensure that the terminal is not subject to financially infeasible control measures, a control measure has been established so that PST operations would be consistent with the CAAP to the extent feasible. PST would replace or repower off-road CHE not consistent with the 2010 CAAP according to the schedule described in LM-1. PST would also be required to conduct a review of emissions-reduction technology every five years during operation (LM-2) as well as participate in a pilot study for new technology to control at-berth vessel emissions (LM-3).

Based on the incorporation of lease measures that are consistent with 2010 CAAP control measures and growth forecasts in the 2012 AQMP, operational activities associated with the proposed Project would not conflict with or obstruct implementation of the applicable air quality plan. Therefore, the impacts would be less than significant. No mitigation is required.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

The SCAQMD provides guidance on analysis of the air quality impacts of proposed projects in its CEQA Handbook (SCAQMD 1993). The SCAQMD updated its thresholds of significance for potential air quality impact in 2011 (SCAQMD 2011). Table 4.3-1 shows the SCAQMD thresholds of significance.

Table 4.3-1
SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds[a]		
Pollutant	**Construction[b]**	**Operation[c]**
NO_x	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
SO_x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs) and Odor Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index ≥ 1.0 (project increment)	
Odor	Proposed project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality Standards for Criteria Pollutants[d]		
NO_2 1-hour average Annual arithmetic mean	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)	
PM_{10} 24-hour average Annual average	 10.4 µg/m^3 (construction)[e] & 2.5 µg/m^3 (operation) 1.0 µg/m^3	
$PM_{2.5}$ 24-hour average	 10.4 µg/m^3 (construction)[e] & 2.5 µg/m^3 (operation)	
SO_2 1-hour average 24-hour average	 0.25 ppm (state) & 0.075 ppm (federal – 99th percentile) 0.04 ppm (state)	
Sulfate 24-hour average	 25 µg/m^3 (state)	
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	
Lead 30-day average Rolling 3-month average Quarterly average	 1.5 µg/m^3 (state) 0.15 µg/m^3 (federal) 1.5 µg/m^3 (Federal)	

[a]Source: SCAQMD, 2011
[b]Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins).
[c]For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.
[d]Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.
[e]Ambient air quality threshold based on SCAQMD Rule 403.
KEY: lbs/day = pounds per day ppm = parts per million µg/m^3 = microgram per cubic meter ≥ = greater than or equal to

The SCAQMD has also developed Localized Significance Thresholds (LSTs) to assist CEQA lead agencies in analyzing localized air quality impacts from proposed projects (SCAQMD 2008). LSTs were developed based on a calculation of the maximum emissions from a project that would not cause or contribute to a violation of the most stringent applicable federal or state ambient air quality standard. Accordingly, the LSTs were derived based on the ambient concentration of pollutant versus distance to receptor for each source-receptor area within the Basin. LSTs have been developed for NOx, CO, and particulate matter (PM_{10} and $PM_{2.5}$). The SCAQMD has developed LST look-up tables that apply to projects with an area of five acres or less. Berths 174-181 occupy approximately 42.34 acres; Berths 206-209 occupy approximately 86.27 acres; and Berths 153-155 occupy approximately 11.68 acres. Therefore, the LST look-up tables are not appropriate to evaluate the potential for localized air quality impacts from the project locations; and dispersion modeling was completed to analyze localized air quality impacts.

Less than Significant Impact. Currently, PST uses Berths 174-181 as their primary site for operation of an omni-terminal to handle steel slab, breakbulk, and containers. Berths 206-209 and Berths 153-155 are secondary sites operated under separate agreements that PST uses to currently handle breakbulk cargo. PST operations at the three terminals are expected to involve a reduction in breakbulk handling and an increase in slab steel handling that would peak in 2018. Emission sources associated with operations at the terminals include marine vessels (both ocean-going vessels and support tugs), cargo-handling equipment (forklifts), trains, and trucks.

Day-to-day terminal operations are not expected to change as compared to existing conditions. To accommodate the anticipated increase in slab steel handling, there would be a slight increase in annual vessel calls and an increase in the number of days trains are operated. The size of the CHE fleet is not expected to change. There would be a reduction in total annual truck trips as a result of an anticipated reduction in breakbulk cargo.

The future shift from breakbulk to slab steel handling at Berths 174-181 would result in a reduction in overall vessel berthing hours compared to existing conditions since steel slab is offloaded more quickly, but an increase of 4 vessel calls per year. However, on a daily basis, there would be no increase in marine vessels trips over existing conditions. The same operational equipment such as forklifts used in the unloading of marine vessels will be used at Berths 153-155, 174-181, and 206-209, and daily use would not increase. Daily train trips would remain at once per day; however, train trips would increase from 5 days a week to 7 days a week to accommodate 130 additional annual train trips for transporting slab steel peaking in 2018 at full capacity. Train switching functions would not change with Pacific Harbor Line, the third-party independent rail company that manages all rail dispatching and switching functions at the on-dock rail yards within the Port.

On a localized level, truck trips to and from Berths 174-181 would be reduced by 189 daily one-way trips. Truck trips at Berths 153-155 would increase by 15 daily one-way trips, and truck trips at Berths 206-209 would increase by 29 daily one-way trips. Overall, truck trips from PST

future conditions would be reduced by 145 daily trips.

Table 4.3-2 presents the results of a screening level analysis of air emissions for the marine vessels and rail operations for PST future 2018 conditions. Table 4.3-2 also presents a summary of the emissions decreases attributable to the decrease in truck trips under future 2018 conditions. As shown in Table 4.3-2, the overall annual emissions would decrease for NOx, PM_{10}, and $PM_{2.5}$, and would increase for reactive organic gases (ROG), CO, and SOx. The minor increase in ROG, CO and SOx emissions is less than significant because the emissions would not increase on a daily basis and therefore would not exceed the SCAQMD's daily regional significance thresholds shown in Table 4.3.1 and there would be a reduction in annual operational emissions of NOx, PM_{10}, and $PM_{2.5}$. The backup air quality emission screening analysis is included as Appendix A1.

Table 4.3-2 Annual Future 2018 Operational Emission Increases (Decreases) PST Lease Renewal

Emission Source	Emissions, Tons/year					
	ROG	**CO**	**NO_x**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Ship Emissions	0.55	1.31	15.61	3.80	0.51	0.45
Rail Emissions	0.73	4.47	17.92	0.02	0.44	0.41
Truck Emissions (decrease)	(0.32)	(1.11)	(25.12)	(0.04)	(3.21)	(0.94)
Total	**0.96**	**4.67**	**8.41**	**3.78**	**(2.26)**	**(0.08)**

Source: SRA 2015

The potential for localized impacts to air quality was evaluated for Berths 153-155 and 206-209, since daily operations (truck trips) would only increase at these two Project sites.

The localized air quality impact analysis was conducted using the AERMOD model, Version 14134 (USEPA 2014), which is the latest version of the USEPA-approved regulatory model for air permitting applications. B erths 206-209 and Berths 153-155 were divided into volume sources of 25 m eters x 25 m eters for the purpose of modeling impacts. F or the purpose of modeling, impacts attributable to truck idling at the Berth entrances, truck idling emissions were allocated to the sources nearest the entrance to the berths.

Table 4.3-3 presents the results of the localized air quality impact analysis, which provides a comparison of the maximum predicted short-term concentrations of NOx, CO, PM_{10}, and $PM_{2.5}$ with the ambient air quality standards (for NOx and CO) and the SCAQMD's incremental impact significance thresholds (for PM_{10} and $PM_{2.5}$). The table presents the maximum concentration predicted at any receptor, regardless of location or type of receptor. As shown in Table 4.3-3, impacts would be less than significant. The backup data for the localized air quality impact screening analysis is included as Appendix A2.

Table 4.3-3 Localized Air Quality Impact Analysis PST Lease Renewal

Pollutant	Averaging Time	Maximum Downwind Concentration, µg/m^3	Background Concentration, µg/m^3	Impact plus Background, µg/m^3	NAAQS or CAAQS, µg/m^3 (NO_2 and CO); Allowable Increase (PM_{10} and $PM_{2.5}$)	Significant?
Berths 153-155						
NO_x	1-hour	2.38[1]	145.32	147.70	188	No
CO	1-hour	0.370	5,405[2]	5,405	23,000	No
CO	8-hour	0.353	3,771	3,771	10,000	No
PM_{10}	24-hour	0.00676	N/A	N/A	2.5	No
$PM_{2.5}$	24-hour	0.00448	N/A	N/A	2.5	No
Berths 206-209						
NO_x	1-hour	1.53	145.32	146.85	188	No
CO	1-hour	0.218	5,405[2]	5,405	23,000	No
CO	8-hour	0.216	3,771	3,771	10,000	No
PM_{10}	24-hour	0.00375	N/A	N/A	2.5	No
$PM_{2.5}$	24-hour	0.00246	N/A	N/A	2.5	No

Source: SRA 2015

[1]To be conservative, the ozone limiting method was not performed. Actual NO_2 concentrations would be limited by ambient ozone concentrations and would be lower.

[2]Data are not reported on ARB or SCAQMD website. 8-hour background adjusted to 1-hour concentration by dividing by the USEPA scaling factor of 0.7.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?

Less than Significant Impact. As discussed under Question 4.3(a), the Basin is currently classified as an extreme nonattainment area for the 8-hour NAAQS for O_3, and a nonattainment area for $PM_{2.5}$. The Basin is also classified as a nonattainment area for the CAAQS for O_3, $PM_{2.5}$, and PM_{10}. The proposed Project would be consistent with the current AQMP through demonstrated compliance with the CAAP and consistency with the growth projections set forth in the AQMP. CEQA Guidelines Section 15064(h)(3) states that "a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program which provides specific requirements that will avoid or substantially lessen the cumulative problem (e.g. water quality control plan, air quality plan, integrated waste management plan) within the geographic area in which the project is located." There would be a minor increase in ROG emissions; however, this increase is less than significant and is not cumulatively considerable because the emissions would not increase on a daily basis. As further discussed under Question 4.3(b), operational emissions would not exceed the SCAQMD's daily regional significance thresholds and there would be a reduction in annual operational emissions of nonattainment pollutants NOx, PM_{10}, and $PM_{2.5}$. SCAQMD's regional emission thresholds are

inherently cumulative in nature since they factor in effects across the Basin based on growth projections and are designed to assist the region in attaining the applicable state and national ambient air quality standards. Thus, projects that do not exceed the regional thresholds do not contribute to a significant cumulative impact. Accordingly, operational activities associated with the proposed Project would not contribute to a cumulatively considerable air quality impact because regional operational emissions are below the level of significance. No mitigation is required.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact. For the purposes of a CEQA analysis, the SCAQMD considers a sensitive receptor to be a receptor such as a residence, hospital, school, or convalescent facility where sensitive receptors could be exposed to substantial pollutant concentrations. Commercial and industrial facilities are not included in the definition of sensitive receptors because employees do not remain on-site for a full 24 hours, and are not considered sensitive.

The nearest sensitive receptors to Berths 153-155 and 174-181 are residential receptors located north of West C Street in Wilmington, approximately 1.2-mile to the north of the site and north of Harry Bridges Boulevard. These include properties zoned One-Family (R-1) and Restricted Density Multiple Dwelling (RD). The nearest sensitive receptors to Berths 206-209 are the Cerritos Channel liveaboard marine vessels to the north of the Project site. The liveaboard marine vessels are located from approximately 500 to 1,000 feet from the Project location.

Impacts to sensitive receptors are evaluated in terms of the greatest potential for exposure to toxic air contaminants (TACs). Diesel particulate matter (DPM) is the most prevalent TAC that would be emitted from diesel-powered vehicles used during terminal operations. DPM is considered to be a carcinogenic TAC, and is also considered to have the potential for adverse non-cancer health effects with chronic (i.e., long-term) exposure. According to the latest California Office of Environmental Health Hazard Assessment (OEHHA) guidance (OEHHA 2015), long-term exposure must be evaluated on the basis of a 30-year exposure period.

A health risk assessment (HRA) of toxic air contaminant emissions associated with construction and operation of the proposed Project and alternatives was conducted in accordance with a Protocol prepared previously by LAHD and reviewed and approved by both CARB and SCAQMD (LAHD 2005). The LAHD protocol is based on the methodology in OEHHA's Air Toxics Hot Spots Program Risk Assessment Guidelines (OEHHA 2003); however, this analysis includes calculations based on OEHHA's 2015 Guidelines, which include sensitivity factors for childhood exposure. The 2015 Guidelines also recommend evaluating risk for an exposure period of 30 years. Maximum predicted health risk values in the communities adjacent to the proposed project site were compared to SCAQMD's significance criterion of 10 in a million cancer risk. This HRA focused on cancer risk and chronic noncancer hazard index, as there is no acute risk threshold for diesel particulate emissions.

Ship calls and train trips would increase at Berths 174-181. However, overall emissions of particulate matter would decrease at Berths 174-181 due to reductions in truck emissions, as shown in Table A-41 in Appendix A. Due to this decrease in particulate matter, operations at Berths 174-181 would not expose sensitive receptors to substantial pollutant concentrations, and potential risks from operations at Berths 174-181. Furthermore, the overall emissions of DPM from operations on Mormon Island (including Berths 174-181 and 153-155) would decrease.

Specifically, the proposed Project would reduce emissions from Mormon Island that could affect the residential receptors in the Wilmington area. Accordingly, the proposed Project would not expose these sensitive receptors to substantial emissions of TACs and no further analysis of impacts from Mormon Island was warranted.

With regard to the liveaboard marine vessels in the harbor north of Berths 206-209, the results of the localized air quality impact analysis were used to provide an estimate of the potential for an adverse health effect due to exposure to DPM from the increase in truck trips at Berths 206-209 that would be attributable to the project. Only trucks were included in this evaluation because the project is proposing to shift truck trips from Berths 174-181 to Berths 206-209, resulting in a localized increase in DPM emissions at that location. Activity from other operational sources at Berths 206-209 would not increase. For the purpose of providing a screening evaluation of potential impacts to residents at the live-aboard marine vessels, PM_{10} was used as a surrogate for DPM. The LST analysis indicated that the downwind concentration of PM_{10} from the 24-hour localized air quality impact analysis at the nearest live-aboard (just north of Berths 206-209) would be 0.00131 $\mu g/m^3$. Using the USEPA's scaling factors from the AERSCREEN model (USEPA 2011) to convert the 24-hour concentration to an annual average concentration, the maximally exposed individual residential receptor would be exposed to an annual average concentration of 0.000218 $\mu g/m^3$ of DPM.

Based on these exposure assumptions, the maximum excess cancer risks at the maximally exposed individual residential receptor, which would be within the liveaboard boats in the East Basin marina, would be 0.149 in a million, which is two orders of magnitude below the SCAQMD's significance threshold of 10 in a million. The maximum non-cancer hazard index would be 0.0000436, well below the SCAQMD's significance threshold of 1.

Based on the screening health risk evaluation, the proposed Project would not expose sensitive receptors to substantial emissions of TACs. Impacts would be less than significant and no mitigation is required.

e) Create objectionable odors affecting a substantial number of people?

Less than Significant Impact. The SCAQMD identifies land uses associated with odor complaints, including agricultural operations, wastewater treatment plants, food processing plants, chemical plants, composting operations, refineries, landfills, dairies and fiberglass molding plants. The proposed Project involves bulk terminal operations and would not have the potential to generate objectionable odors due to operations. There will be no storage of hazardous

compounds that would have the potential to create objectionable odors and no other sources of odors. Odors from operation of the proposed Project would be similar to the odors produced from existing terminal operations and related activity, and would be primarily associated with diesel equipment.

Diesel exhaust would be the most mobile source of odor and generate the most obvious odors. Some individuals might find diesel combustion emissions to be objectionable in nature. However, quantifying the odorous impacts of these emissions to the public would be difficult based on the complex mixture of chemicals in the diesel exhaust; the differing odor thresholds of these constituent species; and the difficulty quantifying the potential for changes in perceived odors even when air contaminant concentrations are known. The mobile nature for most of the Project emission sources would help to disperse proposed Project emissions. Additionally, the distance between proposed Project emission sources and the nearest sensitive receptor is expected to be far enough to allow for adequate dispersion of these emissions to below objectionable odor levels. Furthermore, the existing industrial setting of the proposed Project represents an already complex odor environment. For example, existing on-site and nearby container terminals include freight and goods movement activities that use diesel trucks and diesel cargo-handling equipment that generate similar diesel exhaust odors as would the proposed Project. Within this context, the proposed Project would not likely result in changes to the overall odor environment in the vicinity. Impacts would be less than significant and no mitigation is required.

4.4 BIOLOGICAL RESOURCES

POLA conducted biological baseline surveys of the Port area in 1988, 2000 and 2008 (MEC 1988, MEC 2002, Science Applications International Corporation 2010). Several candidate, sensitive, or special-status species have been identified in the Port area. The following description of biological resources incorporates information from the previous environmental documents including information from the most recent surveys. The most recent comprehensive survey was completed in 2008. The 2008 survey studied adult and juvenile fish; ichthyoplankton; benthic invertebrates; riprap associated organisms; kelp and macroalgae surface canopy; eelgrass; birds; and various exotic species. The goal of the biological baseline surveys conducted in 1988, 2000 and 2008 (MEC 1988, MEC 2002, Science Applications International Corporation 2010) is to provide quantitative information on the physical/chemical and biological conditions within the different marine habitats of both the POLA and the Port of Long Beach. The following evaluation incorporates information from these previous biological baseline surveys conducted in 2008. Biological resource sampling throughout the Port is not undertaken on an annual basis, and the most recent comprehensive surveys were completed in 2008 and are considered to be representative of current biological conditions as the sites have not been substantially modified since that time. Because they are paved and used for breakbulk cargo handling, the Project sites contain no terrestrial biological resources.

Would the Project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

No Impact. According to the biological baseline surveys, several candidate, sensitive, or special-status species have been identified in the Port area, which include adult and juvenile fish, ichthyoplankton, benthic invertebrates, riprap-associated organisms, kelp and macroalgae surface canopy, eelgrass, birds, and various exotic species. However, the proposed Project sites are fully developed and have been historically operating as breakbulk handling facilities. The sites are not suitable for use by biological species. No in- or above-water improvements are proposed. The 4 additional vessel calls per year at Berths 174-181would have an egligible effect related to invasive species and negligible impact in risk of whale strikes. For these reasons, no impacts to candidate, sensitive, or special-status species would result from the proposed Project. No mitigation is required.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?

No Impact. As discussed in Question 4.4(a), the proposed Project sites are fully developed and have been historically operating as breakbulk handling facilities. The proposed Project sites do

not contain any federally protected wetlands as defined by Section 404 of the Clean Water Act (CWA). The closest wetlands are the Salinas de San Pedro (also referred to as Cabrillo marsh), a 3.3-acre salt marsh constructed by the Port, located near Cabrillo Beach in the Outer Harbor and a small freshwater marsh that has been restored near 22nd Street (POLA 2014). The Cabrillo marsh is approximately 3 miles southwest of the proposed Project sites and the freshwater marsh is approximately 2.5 miles southwest of the proposed Project sites. The proposed Project sites contain no riparian habitat. The closest riparian habitats are the Dominguez Channel approximately 2 miles to the northeast and the Los Angeles River approximately 4 miles northeast from the proposed Project sites (USFWS 2012). As such, no impacts to riparian habitat or sensitive natural community would occur as a result of the proposed Project. No mitigation is required.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. The proposed Project sites do not contain any federally protected wetlands as defined by Section 404 of CWA. The closest wetlands are the Salinas de San Pedro (also referred to as Cabrillo marsh), a 3.3-acre salt marsh constructed by the Port, located near Cabrillo Beach in the Outer Harbor (POLA 2014). The Cabrillo marsh is approximately 3 miles southwest of the proposed Project sites.

The proposed Project does not include construction activities and the proposed Project operations would be conducted in the three existing terminals, consistent with existing operations. No activities would occur within or near wetlands. Thus, the proposed Project would not affect this or any other federally protected wetlands as defined by Section 404 of the CWA. No impacts would occur and no mitigation is required.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

No Impact. Los Angeles and Long Beach Harbors provide valuable habitat for foraging, resting, and breeding by numerous species and individuals of birds. Per the baseline surveys, over 100 avian species use the various habitats within the Ports seasonally, year-round, or during migration. A total of 96 species representing 30 families were observed within the Ports during the 2008 study. Of these species, 68 are dependent on marine habitats. Species numbers varied seasonally, with a greater variety of birds present in fall and winter and fewer species during summer, consistent with large-scale migratory patterns. Bird abundance was more variable and was attributed to differences in bird migratory patterns and nesting activities. Bird abundance along the southern California coast typically follows a seasonal pattern, with the greatest numbers of individuals and species occurring during fall and winter. The highest numbers of birds were

noted in the Long Beach West Basin and main shipping channel of Los Angeles Harbor, with counts being approximately an order of magnitude lower at small basin and channel zones at inner harbor locations.

The proposed Project sites are paved and fully developed with breakbulk handling equipment. They do not contain habitat suitable for wildlife species and are not used by native resident or migratory species for movement or nursery purposes. The proposed Project does not involve any construction activities and the operations would be very similar to the current operations. It would not interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. As such, no impacts related to the movement of wildlife species or the use of wildlife nursery sites would occur from implementation of the proposed Project. No mitigation is required.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. The only biological resources protected by City of Los Angeles ordinance (Ordinance No. 177404) pertain to certain tree species. A permit is required for removal or relocations (City of Los Angeles Municipal Code 2011). The protected trees are: Oak tree including Valley Oak (*Quercus lobata*) and California Live Oak (*Quercus agrifolia*), or any other tree of the oak genus indigenous to California but excluding the Scrub Oak (*Quercus dumosa*), Southern California Black Walnut (*Juglans californica* var. *californica*), Western Sycamore (*Platanus racemosa*) and California Bay (*Umbellularia californica*). The proposed Project sites are located in a heavily urbanized region of the City of Los Angeles. The only vegetation at the proposed Project sites occurs around the administration building and parking lot in Berths 174-181 and Berths 206-209. This vegetation consists of grasses and herbaceous plants with none of the species listed in the tree preservation policy ordinance being present. In addition, the proposed Project would not involve removal or relocating of the vegetation. As such, the proposed Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. No impacts would occur and no mitigation is required.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. Habitat Conservations Plans (HCPs) are administered by the U.S. Fish and Wildlife Service (USFWS) and are intended to identify how impacts would be mitigated when a project would impact endangered species. There are no habitat conservations plans currently in place at the Port (USFWS 2010). The County of Los Angeles has established Significant Ecological Areas (SEAs) to preserve a variety of biological communities for public education, research, and other non-disruptive outdoor uses. The only designated SEA in Los Angeles Harbor is Pier 400,

Terminal Island for the California least tern nesting site (County of Los Angeles 2014). Pier 400 is approximately 2.5 miles south from the proposed Project sites and the proposed Project does not involve any construction or operational components within the vicinity of Pier 400. The nearest Natural Community Conservation Plan (NCCP) to the proposed Project sites, the Rancho Palos Verdes, is located 6 miles southwest (CDFW 2010, 2014). This plan intends to protect coastal sage scrub and does not include Port lands. Thus, the proposed Project would not conflict with the provisions of an adopted HCP or other approved local, regional, or state HCP. Neither the proposed Project sites nor any adjacent areas are included as part of an NCCP. No impacts would occur and no mitigation is required.

4.5 CULTURAL RESOURCES

This section describes the historical, archaeological, and paleontological resources associated with the proposed Project area.

Would the Project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

No Impact. The proposed Project occupies parcels located at 802 South Fries Avenue (Berths 174-181); 1001 New Dock Street (Berths 206-209); and 804 and 810 Pier A street (Berths 153-155). These parcels consist of Industrial Utilitarian style buildings and structures varying in size. The Project operations would be very similar to the existing operations and there would be no ground disturbance or structural modifications. Therefore, the proposed Project would have no impacts related to historical resources. No mitigation is required.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

No Impact. The proposed Project is located on parcels, which are made mostly of man-made fill material and are paved. A visual inspection conducted in February 2015 identified that the entire Project sites are fully developed. Because the Project sites are comprised of fill and are extensively disturbed, there is extremely low potential for discovering archaeological or ethnographic cultural resources. Since the proposed Project does not involve any construction activities, there would be no ground disturbances, and the Project operations would be very similar to the existing operations. Therefore, the proposed Project would have no impacts related to archaeological resources. No mitigation is required.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No Impact. As mentioned, the proposed Project is located on parcels which are made mostly of man-made fill material and are paved. The proposed Project sites are fully developed. The proposed Project does not involve any construction activities and there would be an extremely low potential for buried resources to be found during Project operations, which would be very similar to the current operations. As such, the proposed Project would not encounter paleontological resources, which are typically found in underlying bedrock and geologic formations. The proposed Project would have no impacts related to paleontological resources. No mitigation is required.

d) Disturb any human remains, including those interred outside of formal cemeteries?

No Impact. The proposed Project would occur at an existing industrial facility with no construction activities that would have the potential to disturb any human remains. As such, the proposed Project would have no impacts related to the disturbance of human remains. No mitigation is required.

4.6 GEOLOGY AND SOILS

This section describes the regional and local geologic and soil characteristics of the proposed Project area.

Would the Project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the state geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Less than Significant Impact. The proposed Project sites are located within the Los Angeles Coastal Plain of the Peninsular Ranges geomorphic province of southern California approximately 23 miles southwest of downtown Los Angeles at the north end of the Los Angeles Harbor. The sites are at an elevation of approximately 12 feet above mean sea level (MSL). The proposed Project sites are located within the seismically active southern California region and have the potential to be subjected to ground shaking hazards associated with earthquake events on active faults. The Newport-Inglewood-Rose Canyon Fault Zone is located approximately 14 miles southwest of the proposed Project sites (USGS 2015). The proposed Project sites are within a mile of the Palos Verdes Hills Fault Zone. The probability of a moderate or major earthquake along the Palos Verdes fault zone is low (USGS 2015). The Safety Element of the City of Los Angeles General Plan does not identify the proposed Project sites as located within an Alquist-Priolo Earthquake Fault Zone but portion of the Project sites is in a Fault Rupture Study Area (City of Los Angeles 1996). However, the proposed Project would make use of existing structures and would continue to comply with all City building and safety guidelines, restrictions, and permit regulations as well as other applicable building safety requirements. Compliance with these existing requirements would result in less than significant impacts related to the risk of surface rupture due to faulting. No mitigation is required.

ii) Strong seismic ground shaking?

Less than Significant Impact. The proposed Project sites are located within the seismically active southern California region and could experience effects of ground shaking. The proposed Project sites are not located within an Alquist-Priolo Earthquake Fault Zone but a portion of the Project sites is located within a Fault Rupture Study Area. However, the proposed Project would make use of existing structures, and no new structures would be constructed. The proposed Project would continue to comply with all Port and City of Los Angeles building and safety guidelines, restrictions, and permit regulations, which are designed to address the risks associated

with seismic ground shaking. Compliance with existing regulations would ensure a less than significant impact. No mitigation is required.

iii) Seismic-related ground failure, including liquefaction?

Less than Significant Impact. Liquefaction is the process in which saturated silty to cohesionless soils below the groundwater table temporarily lose strength during strong ground shaking as a consequence of increased pore pressure during conditions such as those caused by an earthquake. Earthquake waves cause water pressure to increase in the sediment and the sand grains to lose contact with each other, leading the sediment to lose strength and behave like a liquid.

Per the City of Los Angeles General Plan Safety Element, the proposed Project sites are located in an area identified as being susceptible to liquefaction (City of Los Angeles 1996). The area is designated as a "Liquefiable Area (recent alluvial deposits; ground water less than 30 feet deep)." The proposed Project does not include construction activities and the operations would be very similar to the current operations. Further, the proposed Project would comply with all City building and safety guidelines, restrictions, and permit regulations. These regulations and guidelines include requirements for structure design that address safety and stability on sites potentially at risk of liquefaction. Adherence to these requirements would result in less than significant impacts related to liquefaction. No mitigation is required.

iv) Landslides?

No Impact. Landslides occur when masses of rock, earth, or debris move down a slope. Landslides are caused by disturbances in the natural stability of a slope. They can accompany heavy rains or follow droughts, earthquakes, or volcanic eruptions. Construction activities, such as grading, can accelerate landslide activity.

The proposed Project sites are relatively flat with no significant natural or graded slopes. According to the City of Los Angeles Safety Element, the proposed Project sites are not located within an area susceptible to landslides (City of Los Angeles 1996). The potential for seismically induced landslides in the proposed Project sites are considered remote. As such, no impacts would occur and no mitigation is required.

b) Result in substantial soil erosion or the loss of topsoil?

No Impact. The proposed Project involves renewal of an existing lease for Berths 174-181 along with Berths 153-155 and 206-209. No new improvements or physical modifications to the Project sites would occur as part of the proposed Project. The proposed Project would not involve permanent or temporary construction of any infrastructure, earth-disturbing activities, grading, trenching, or demolition.

Long-term operation of the proposed Project would not result in substantial soil erosion or loss of topsoil because the proposed Project sites are already developed with structures and pavement. The proposed Project would continue the historic use of the property for breakbulk handling activities. The proposed Project would not alter the existing drainage infrastructure and would not change the direction or volume of flow. Implementation of the proposed Project would result in no impact. No mitigation is required.

c) Be located on a geological unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Less than Significant Impact. As discussed in the response to Question 4.6(a)(iv) above, the proposed Project sites are not located within an area susceptible to landslides (City of Los Angles 1996). As discussed in Question 4.6(a)(iii), the proposed Project sites are located in an area identified as being susceptible to liquefaction area (City of Los Angeles 1996). However, the proposed Project would make use of existing structures and no new structures would be constructed. The existing structures would continue to be subject to City building and safety guidelines, restrictions, and permit regulations. Adherence to these requirements would result in less than significant impacts related to unstable geologic units or soils. No mitigation is required.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Less than Significant Impact. Expansive soils are clay-based soils that tend to expand (increase in volume) as they absorb water and shrink (lessen in volume) as water is drawn away. Expansive soils can occur in any climate; however, arid and semi-arid regions are subject to more extreme cycles of expansion and contraction than more consistently moist areas. The hazard associated with expansive soils lie in the structural damage that may occur when buildings are placed on these soils. Expansive soils are often present in liquefaction zones due to the high level of groundwater typically associated with liquefiable soils.

As previously discussed in Question 4.6(a)(iii), the proposed Project sites are located in an area identified as susceptible to liquefaction area (City of Los Angeles 1996). However, operation of the proposed Project would not be substantially different from historic and current operations as a breakbulk handling facilities. The proposed Project would continue to be subject to Port and City of Los Angeles building and safety guidelines, restrictions, and permit regulations. Compliance with the existing regulations would minimize any risks relating to expansive soils. Therefore, impacts would be less than significant. No mitigation is required.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. Sewer infrastructure currently exists on the proposed Project sites and would continue to be available to the proposed Project sites for the disposal of wastewater. Therefore, the use of septic tanks or other alternative wastewater disposal systems would not be necessary. As such, no impacts associated with use of wastewater disposal systems would occur. No mitigation is required.

4.7 GREENHOUSE GAS IMPACTS

This section includes a description of the potential effects of greenhouse gases (GHGs) and analyses of potential GHG emissions and impacts of the proposed Project. The methods of analysis for construction and operational emissions are consistent with the guidelines of the SCAQMD and LAHD's standard protocols.

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. A portion of the solar radiation that enters the atmosphere is absorbed by the surface of the earth and a portion of this energy is reflected back toward space as infrared radiation. This infrared radiation released from the earth that otherwise would escape back into space is instead absorbed or "trapped" by GHGs, resulting in a warming of the atmosphere.

GHGs occur in the atmosphere naturally, are emitted by human sources or are formed by secondary reactions in the atmosphere. The most common GHGs emitted from natural processes and human activities include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Examples of GHGs created and emitted primarily through human activities include fluorinated gases (hydro fluorocarbons and per fluorocarbons) and sulfur hexafluoride. Each GHG is assigned a global warming potential (GWP), which is the ability of a gas or aerosol to trap heat in the atmosphere. The GWP rating system is standardized to CO_2, which has a value of one. For example, CH_4 has a GWP of 28, which means that it has a global warming effect 28 times greater than CO_2 on an equal-mass basis. Total GHG emissions from a source are often reported as a CO_2 equivalent (CO_2e). The CO_2e is calculated by multiplying the emissions of each GHG by its GWP and adding the results together to produce a single, combined emission rate representing all GHGs.

The SCAQMD has adopted an interim CEQA significance threshold of 10,000 metric tons per year of CO_2e for industrial projects where SCAQMD is the lead agency (SCAQMD 2008). For the purpose of this IS/ND, this analysis used the SCAQMD GHG threshold identified above to evaluate proposed Project GHG emissions under CEQA (SCAQMD 2011). If estimated GHG emissions remain below this threshold, they would be expected to produce less than significant impacts to GHG levels.

Would the Project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant Impact. Currently, PST uses Berths 174-181 as their primary site for operation of an omni-terminal to handle steel slab, breakbulk, and containers. Berths 206-209 and Berths 153-155 are secondary sites operated under separate agreements that PST uses to handle breakbulk cargo. PST operations at the three terminals are expected to involve a reduction in breakbulk handling and an increase in slab steel handling that would peak and reach capacity in 2018. Emission sources associated with operations at the terminals include marine vessels (both

OGVs and support tugs), cargo-handling equipment (forklifts), trains, and trucks.

Day-to-day terminal operations are not expected to change as compared to existing conditions. To accommodate the anticipated increase in slab steel handling, there would be a slight increase in annual vessel calls and an increase in the number of days trains are operated. The size of the CHE fleet is not expected to change. There would be a reduction in total annual truck trips as a result of the anticipated reduction in breakbulk cargo.

Marine vessel trips would be expected to increase by 4 trips per year; however, on a daily basis, there would be no increase in marine vessels trips over existing conditions. The future shift from breakbulk to slab steel handling at Berths 174-181 would result in an increase of 4 vessel calls per year. The same operational equipment such as forklifts used in the unloading of marine vessels will be used at Berths 153-155, 174-181, and 206-209; and daily use would not increase. Daily train trips would remain at once per day; however, train trips would increase from 5 days a week to 7 days a week to accommodate 130 additional annual train trips for transporting slab steel peaking in 2018, which would be at full capacity. Train switching functions would not change with Pacific Harbor Line, the third-party; independent rail company that manages all rail dispatching and switching functions at the on-dock rail yards within the Port.

On a localized level, truck trips to and from Berths 174-181 would be reduced by 189 daily one-way trips. Truck trips at Berths 153-155 would increase by 15 daily one-way trips, and truck trips at Berths 206-209 would increase by 29 daily one-way trips. Overall, truck trips from PST future conditions would be reduced by 145 daily trips.

Table 4.7-1 presents a summary of the annual GHG emissions increases associated with the marine vessels and rail operations for PST future 2018 conditions. Table 4.7-1 also presents a summary of the GHG emissions decreases attributable to the decrease in truck trips under future 2018 conditions. As shown in Table 4.7-1, the overall annual GHG emissions would decrease due to the decreases in truck traffic. The backup GHG emission screening analysis is included as Appendix B. Because emissions would decrease, impacts would be less than significant and no mitigation is required.

Table 4.7-1 Annual Future 2018 GHG Emission Increases (Decreases) PST Lease Renewal

Emission Source	Emissions, Metric tons/year			
	CO_2	**CH_4**	**N_2O**	**CO_2e**
Ship Emissions	643.23	0.01	0.03	652.44
Rail Emissions	1,592.32	0.13	0.04	1,607.01
Truck Emissions (decrease)	(4,118.62)	(0.01)	(0.04)	(4,129.70)
Total	**(3,315.00)**	**0.13**	**0.04**	**(1,870.24)**

Source: SRA 2015

b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less than Significant Impact. Statewide GHG emissions must adhere to the requirements of Assembly Bill (AB) 32, first signed by Governor Arnold Schwarzenegger in 2006. AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on statewide GHG emissions. In accordance with AB 32, the California Air Resources Board (CARB) developed the Climate Change Scoping Plan (Scoping Plan), which outlines how the state will achieve the necessary GHG emission reductions to achieve this goal (CARB 2008). The Scoping Plan includes 39 recommended actions that would reduce GHG emissions with the use of direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system. The following two of these actions would apply to Port operations: ship electrification at ports and goods movement efficiency measures. CARB is currently in the process of updating the Scoping Plan. The First Update to the California Change Scoping Plan approved on May 22, 2014 supports reducing emissions associated with freight movement, including emissions associated with transport of intermodal containers from marine ports to near-dock rail yards (CARB 2014).

In May 2007, the City of Los Angeles Mayor's Office released the Green LA Plan, which is an action plan to lead the nation in fighting global warming. The Green LA Plan presents a citywide framework for confronting global climate change to create a cleaner, greener, sustainable Los Angeles (City of Los Angeles 2007). The Green LA Plan directs the Port to develop an individual Climate Action Plan, consistent with the goals of Green LA, to examine opportunities to reduce GHG emissions from Port operations. In accordance with this directive, LAHD prepared a Harbor Department Climate Action Plan that details GHG emissions related to municipally controlled Port activities (such as Port buildings and Port workforce operations) and outlines current and proposed actions to reduce GHGs from these operations (LAHD 2007). The Port is a founding member of The Climate Registry (TCR) (formerly the California Climate Action Registry). LAHD completed annual GHG emissions inventories for LAHD-controlled operations beginning in 2006, and they submitted annual GHG inventories for trucks, ships, and rail to TCR beginning in 2008 for year 2006. LAHD is developing a Sustainability Plan in accordance with the Mayor's Office Directive that would incorporate Port environmental programs and reports, including the Port's Climate Action Plan. The Green LA plan includes various actions that have a GHG co-benefit and which have been incorporated into CAAP.

As shown in Table 4.7-1, due to the decrease in future truck trips, GHG emissions would decrease from the proposed Project operations. The proposed Project would use stationary and mobile equipment that would be compliant with state and federal emissions requirements and adhere to control measures adopted by the State of California during operation. Thus, the proposed Project would not conflict with AB 32, Executive Directive No. 10, the City of Los Angeles Green LA Plan, or the Port's Climate Action Plan.

Regarding adaptation to climate change effects, Rand Corporation recently completed a study (Lempert et al. 2012) focusing on the cost versus benefit of hardening or improving Port terminals in advance of future sea level rise. The study focused on four areas within the Port at different elevations and their potential exposure to sea level rise, given various time and sea level rise assumptions. The four areas studied are the low side of the container ship terminals (where electrical conduits are located), the upper side (or top side) of the terminals, Berths 206–209 (proposed Project site), and the Alameda and Harry Bridges crossing. The study goes beyond the theoretical sea level rise inundation scenarios that have been generated (and are available online) from the upper ranges of sea level rise in studies conducted by the Pacific Institute and the California Sea Level Rise Task Force of the Coastal and Ocean Working Group of the California Climate Action Team (Co-CAT) in the State of California Sea Level Rise Interim Guidance Document (Co-CAT 2010, 2013).

The study found that of the four areas evaluated, only sea armoring at the next decision point for upgrade (i.e., when a new project is being constructed) for the lower lying Alameda and Harry Bridges crossing area, which is 6.13 feet above MSL, would likely result in cost-benefits. The higher elevation areas reviewed in the study include Berths 206–209 (7.62 feet above MSL), lower terminal (9.20 feet above MSL), and upper terminal (12.14 feet above MSL). The study determined that early hardening is not likely to be beneficial (from a cost standpoint) at these higher areas for either terminal upgrades with less than 50-year lifespan, or for armoring improvements that could cost substantially more than the assumed upgrade costs in the study.

The Rand study, when applied to the proposed Project, indicates that additional protective measures from sea level rise are not warranted at this time given the current state of scientific understanding of sea level rise and related climate variables. Further, the proposed Project would operate for less than 50 years, which indicates that protective measures at this time would not prove to be cost effective.

Operational activities associated with the proposed Project, which is very similar to the existing operational activities, would comply and/or be consistent with all of the above plans, policies, and regulations adopted to reduce emissions of GHGs or adapt to climate change. As a result, the proposed Project is not expected to conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases and adapting to climate change. Accordingly impacts would be less than significant. No mitigation is required.

4.8 HAZARDS AND HAZARDOUS MATERIALS

This section discusses the potential for the proposed Project to expose people to hazards and hazardous materials. Hazardous substances are defined by state and federal regulations as substances that must be regulated to protect the public health and the environment. Hazardous materials have certain chemical, physical, or infectious properties that cause them to be hazardous. The California Code of Regulations (CCR) Title 22, Chapter 11, Article 2, Section 66261 provides the following definition:

> A hazardous material is a substance or combination of substances which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, or disposed of or otherwise managed.

According to Title 22 (CCR Chapter 11, Article 3), substances having a characteristic of toxicity, ignitability, corrosivity, or reactivity are considered hazardous. Hazardous wastes are hazardous substances that no longer have a practical use, such as material that has been abandoned, discarded, spilled, contaminated, or stored prior to disposal.

Toxic substances may cause short-term or long-term health effects, ranging from temporary effects to permanent disability or death. Examples of toxic substances include most heavy metals, pesticides, benzene, petroleum, hexane, natural gas, sulfuric acid, lye, explosives, pressurized canisters, and radioactive and bio-hazardous materials. Soils may also be toxic because of accidental spilling of toxic substances.

Would the Project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less than Significant Impact. The proposed Project involves renewal of an existing lease, and therefore, the proposed operations would be very similar to the existing operations. Operation of the facilities would involve the limited transport, storage, use, and disposal of hazardous materials. Such hazardous materials could include janitorial supplies, and lubricating fluids, and solvents to service the breakbulk storage, containers, trucks, and other equipment associated with breakbulk handling activities. These types of standard materials are not acutely hazardous, and all storage, handling, and disposal of these materials are regulated by the California Department of Toxic Substances Control (DTSC), U.S. Environmental Protection Agency (USEPA), the Occupational Safety & Health Administration (OSHA), and the Los Angeles City and County Fire Departments. In addition, currently, for Berths 174-181 only, approximately 220 gallons of waste oil related to the maintenance and operation of CHE is recovered and disposed of by

Asbury Environmental Services on a monthly basis. Additionally, approximately 13,000 gallons of wastewater recovered in the clarifier on site is tested, and then disposed by Applied Waste Management every quarter. Collection, testing, and monitoring of runoff is completed in compliance with the existing Stormwater Pollution Prevention Plan (SWPPP) and Industrial Stormwater General Permit (ISWGP). These permits would remain in place and renewed/expanded as necessary. Therefore, the transport, use, and disposal of operation-related hazardous materials would occur in conformance with all applicable local, federal, state, and local regulations governing such activities. Impacts would be less than significant with adherence to required regulations and standards. No mitigation is required.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less than Significant Impact. As discussed in Question 4.8(a), proposed operations would be very similar to the existing operations. Thus, the long-term operation of the proposed Project would not involve the transport, storage, use, or disposal of hazardous materials in a manner different than currently exists. Similar to the current operations, the proposed operations would involve the limited transport, storage, use, and disposal of hazardous materials. Therefore, the transport, use, and disposal of operation-related hazardous materials would continue to occur in conformance with all applicable local, federal, state, and local regulations governing such activities. Impacts would be less than significant with adherence to required regulations and standards. No mitigation is required.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. The George De La Torre Junior Elementary School at 500 I sland Avenue in Wilmington is the closest school (approximately 1 mile north) to the proposed Project site (Berths 174-181). Due to distance from local schools and adherence to all regulatory requirements related to handling and use of hazardous materials, no impacts would occur. No mitigation is required.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact. Government Code Section 65962.5 requires DTSC to compile and update as appropriate, but at least annually, a list of all of the following:

(1) All hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code.

(2) All land designated as hazardous waste property or border zone property pursuant to Article 11 (commencing with Section 25220) of Chapter 6.5 of Division 20 of the Health and Safety Code.

(3) All information received by the Department of Toxic Substances Control pursuant to Section 25242 of the Health and Safety Code on hazardous waste disposals on public land.

(4) All sites listed pursuant to Section 25356 of the Health and Safety Code.

(5) All sites included in the Abandoned Site Assessment Program.

The California Environmental Protection Agency (CalEPA) maintains these lists on their website at http://www.calepa.ca.gov/sitecleanup/corteselist/, which was accessed on February 16, 2015 (CalEPA 2015). The proposed Project sites are not listed pursuant to Government Code Section 65962.5. The Project sites are not identified on the Cortese list (Government Code Section 65962.5). Therefore, no impacts would occur and no mitigation is required.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

No Impact. The nearest airport facility are helicopter-landing pads located at Berth 95 (approximately 0.5 miles southwest of the proposed Project site [Berths 153-155] and across the East Basin Channel) and at 1175 Queens Highway in Long Beach (over 4 miles to the east of the proposed Project site [Berths 174-181]). Small helicopters operate from these locations and transit primarily via the Main Channel of the Port. Given the distance of the heliport and the fact that no tall structures would be constructed, persons at or near the proposed Project sites would not be exposed to safety hazards associated with aircraft. Therefore, no impacts related to safety hazards within two miles of a public airport or private airstrip would occur. No mitigation is required.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Impact. Same as response provided in Question 4.8(e).

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. The proposed Project does not include construction activities and the proposed operations would be very similar to the existing operation. As such, no impacts related to any adopted emergency response plan or emergency evacuation plan would occur. No mitigation is required.

h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

No Impact. Per the Safety Element of the City of Los Angeles General Plan, the proposed Project sites are not located in an area designated as Very High Fire Hazard Severity Zone (City of Los Angeles 1996). The sites are currently paved and the proposed Project would not involve permanent or temporary construction activity. The proposed Project operations at all three locations would be similar to current operations; thus, limiting the potential for wildland fires due to lack of flammable vegetation. Therefore, no impacts related to wildland fires would occur. No mitigation is required.

4.9 HYDROLOGY AND WATER QUALITY

This section describes the existing conditions relating to hydrology and water quality and the potential impacts associated with the proposed Project. In addition, this analysis includes a discussion on the potential sea-level rise impacts that may result with implementation of the proposed Project.

Would the Project:

a) Violate any water quality standards or waste discharge requirements?

Less than Significant Impact. Long-term operation of the proposed Project would not violate any water quality standards or waste discharge requirements because the proposed Project sites are already entirely developed with structures and pavement. The proposed Project would continue the historic use of the property for breakbulk handling and storing activities. The proposed Project would comply with the City of Los Angeles Municipal Code and all other applicable federal, state, and local regulations and would result in less than significant impacts. No mitigation is required.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

No Impact. Groundwater in the Project area is impacted by saltwater intrusion (salinity), and is, therefore, unsuitable for use as drinking water. In addition, the proposed Project sites are covered with impermeable surfaces and do not support surface recharge of groundwater. The proposed Project sites would remain paved during operation. The proposed Project would have no effect on existing groundwater supplies and it would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge. No impacts would occur and no mitigation is required.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

No Impact. The proposed Project sites are paved properties that are not within the course of a stream or a river. The proposed Project does not include construction activities and the proposed Project would be very similar to the existing operations. As such, operation of the proposed Project would not alter the course of a stream or river. No impacts would occur and no mitigation is required.

d) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

No Impact. Please see the response for Question 4.9(c).

e) Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less than Significant Impact. The proposed Project sites are already developed with structures and pavement. And the proposed Project would continue the historic use of the property for breakbulk handling and storing activities. No new areas of impervious surface would be created and drainage to the existing storm drain system would continue in a similar manner to existing condition. Therefore, the proposed Project would not create or contribute new runoff water, which would exceed the capacity of existing or planned stormwater drainage system to provide substantial additional sources of polluted runoff. The proposed Project would comply with the City of Los Angeles Municipal Code and all other applicable, federal, state, and local regulations and would result in less than significant impacts. No mitigation is required.

f) Otherwise substantially degrade water quality?

Less than Significant Impact. The operation of the proposed Project would not result in violation of any water quality standards or waste discharge requirements because the proposed Project sites are already developed with structures and pavement. The proposed Project would continue the historic use of the properties for breakbulk handling and storing activities. The 4 additional vessel calls per year at Berths 174-181would have a negligible effect related to hull coating, etc. The proposed Project would comply with the City of Los Angeles Municipal Code and all other applicable federal, state, and local regulations and would result in less than significant impacts. No mitigation is required.

g) Place housing within a 100-year flood hazard area as mapped on a federal flood hazard boundary or Flood Insurance Rate Pap or other flood hazard delineation map?

No Impact. A 100-year flood is one that has a one percent chance of occurring in any given year. Majority of the proposed Project sites are mapped by the Federal Emergency Management Agency (FEMA) as Flood Zone X (defined as areas of 0.2 percent annual chance of flood; areas of 1 percent annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1 percent annual chance flood). Eastern part of the Berths 206-209 is mapped as Flood Zone AE, which is subject to inundation by the 1-percent-annual-chance flood event (Panel 06037C1945F) (FEMA 2008). As such, flooding in the proposed Project sites may occur due to its proximity to the Cerritos Channel. However, the proposed Project does not involve any construction, including housing, as part of

the Project. Because the proposed Project does not involve placing housing within a 100-year flood hazard area, no impacts would occur. No mitigation is required.

h) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?

No Impact. The proposed Project does not involve construction or placement of any structures. Therefore, no impacts related to structures in a 100-year flood hazard area would occur. No mitigation is required.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

No Impact. The proposed Project sites are not within a potential dam or levee inundation area as identified in the Los Angeles General Plan Safety Element (City of Los Angeles 1996). The proposed Project would not expose people or structures to significant risk of loss, injury or death from flooding, including flooding from failure of a levee or dam. No impacts would occur and no mitigation is required.

j) Inundation by seiche, tsunami, or mudflow?

Less than Significant. Seiches are oscillations generated in enclosed bodies of water usually as a result of earthquake related ground shaking. A seiche wave has the potential to overflow the sides of a containing basin to inundate adjacent or downstream areas. However, the Pacific Ocean and San Pedro Bay are not of the nature that would result in a seiche. The Port is open to the ocean and not entirely closed, allowing entry of seismically induced waves, therefore reducing the potential for inundation resulting from a seiche.

Tsunamis are large ocean waves caused by the sudden water displacement that results from an underwater earthquake, landslide, or volcanic eruption, and affect low-lying areas along the coastline. According to the Safety Element of the Los Angeles City General Plan, the proposed Project sites are located within an area susceptible to impacts from a tsunami and subject to possible inundation as a result. However, in the period since publication of the Safety Element, detailed studies of tsunami hazardous were conducted (Moffatt & Nichol 2007). Conclusions of the studies indicate that under various tsunami scenarios, the proposed Project sites would not experience significant impacts from inundations or flooding. Furthermore, the City of Los Angeles Tsunami Response Plan does not identify the proposed Project area as part of the Tsunami Inundation Zone for San Pedro and the Harbor Area (City of Los Angeles 2008).

The topography of the proposed Project sites, which is essentially flat, lacks sufficient relief to support a mudflow; the occurrence of mudflows at the proposed Project sites is unlikely due to

the lack of slope on or surrounding the proposed Project sites. As such, impacts related to seiche, tsunami, or mudflow would be less than significant. No mitigation is required.

k) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the sea level rise (SLR)?

Less than Significant Impact. Due to its geographic location, the infrastructure and operations of the Port would be vulnerable to SLR by nature. Wharves and piers may be damaged in strong storms, waves, or surges resulting from SLR.

As part of the climate change research, there have been many recent developments in the science underlying the projection of SLR. Higher temperatures are expected to further raise sea level by expanding ocean water, melting mountain glaciers and small ice caps, and causing portions of Greenland and the Antarctic ice sheets to melt. The International Panel on Climate Change (IPCC) estimates that the global average sea level would rise between 0.6 and 2 feet (0.18 to 0.59 meters) in the next century (IPCC 2007). Due to increases in ocean warming and loss of mass from glaciers and ice sheets, it is very likely that the rate of global mean sea level rise during the 21st century would exceed the rate observed during 1971-2010 (IPCC 2013).

Coastal zones are particularly vulnerable to climate variability and change. Rising sea levels inundate wetlands and other low-lying lands, erode beaches, intensify flooding, and increase the salinity of rivers, bays, and groundwater tables. Some of these effects may be further compounded by other effects of a changing climate. Additionally, measures that people take to protect private property from rising sea level may have adverse effects on the environment and on public uses of beaches and waterways. Some property owners and state and local governments are already starting to take measures to prepare for the consequences of rising sea level.

On November 14, 2008, the Governor's Executive Order S-13-08 was issued to provide guidance for incorporating SLR projections into planning and decision making for projects in California (Office of Governor 2008). The executive order requested the National Research Council to issue a report on SLR to advise California on planning efforts. In October 2010, the Sea Level Rise Task Force of the Co-CAT prepared the *State of California Sea Level Rise Interim Guidance Document.* An updated *State of California Sea-Level Rise Guidance Document* was prepared in March 2013. The intent of these guidance documents is to inform and assist state agencies as they develop approaches for incorporating SLR into planning decisions (Co-CAT 2010, 2013).

The proposed Project would not construct any new structures, including habitable structures. Furthermore, LAHD and the Rand Corporation analyzed various strategies for managing risk associated with sea level rise at the Port and identified SLR considerations for incorporation into design guidelines. The analysis examined four Port facilities of varying height above sea level. A cost-benefit analysis was completed with respect to whether or not to harden Port facilities to withstand rising sea level at the next scheduled facilities upgrade. Overall, the analysis concluded

that a decision to harden at the next upgrade would merit serious consideration only for one of the four Port facilities considered: Alameda and Harry Bridges Crossing (POLA 2013).

Because of the existing elevation of the proposed Project sites and that the proposed Project would be utilizing existing structures; impacts associated with risks from SLR would be less than significant. No mitigation is required.

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4.10 LAND USE AND PLANNING

This section contains a description and analysis of the land use and planning considerations that would result from the proposed Project implementation.

Would the Project:

a) Physically divide an established community?

No Impact. The proposed Project is located in a heavy industrial area that does not contain any established communities. The proposed Project would not involve permanent or temporary construction and the operations at Berths 174-181, Berths 206-209, and Berths 153-155 would be similar to current operations. No streets or sidewalks would be permanently closed as a result of the proposed Project and no separation of uses or disruption of access between uses would occur. Additionally, no separation of land uses or disruption of access between land use types would occur as a result of the proposed Project. Therefore, implementation of the proposed Project would not divide the established community. No impacts would occur and no mitigation is required.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The proposed Project sites are zoned for manufacturing uses and the proposed Project would be consistent with that land use designation. The California Coastal Commission in accordance with the California Coast Act of 1976 certified the Port of Los Angeles Master Plan in 1980 (POLA 1980). On August 2013, t he Board of Harbor Commissions approved the comprehensive update to the Port Master Plan (POLA 2013). The new Port Master Plan sets forth development policies for the Port to promote commerce, navigation, fisheries, recreation, and environmental protection and provides for the Port to adapt to changing technology, cargo trends, regulations and competition from other U.S. and foreign seaports. The proposed Project does not involve construction activities and the proposed operations would be very similar to the current operations at the three terminals. The proposed Project would not alter the land use of the proposed Project sites or surrounding area, and would not conflict with any applicable land use plans. The proposed Project would not conflict with a specific plan, general plan or zoning ordinance. Therefore, no impacts would occur. No mitigation is required.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

No Impact. As discussed in response to Question 4.4(f), the proposed Project sites are not part of any HCP or NCCP (USFWS 2010, CDFW 2010). Therefore, no impacts would occur and no mitigation is required.

4.11 MINERAL RESOURCES

The purpose of this section is to identify and evaluate key mineral resources in the proposed Project area and to determine the degree of impacts that would be attributable to the proposed Project.

Would the Project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact. Per the City of Los Angeles Municipal Code, the proposed Project sites are in an area that is located in or in proximity to a formerly active oil drilling area and is subject to developmental regulations relating to guidelines to mitigate oil drilling area hazards (City of Los Angeles Municipal Code 2011). The Wilmington Oil Field is the third largest oil field in the United States, based on cumulative production. The Wilmington Oil Field extends from Torrance to Harbor District of the City of Long Beach, a distance of approximately 13 miles (Otott and Clarke 1996). According to the City of Los Angeles General Plan, Safety Element and the California Department of Conservation, Division of Oil, Gas, and Geothermic Resources, the proposed Project sites are located to the southwest of the Wilmington Oil Field (City of Los Angeles Municipal Code 2011). The proposed Project does not involve construction activities and would continue current operations and therefore, would not create any obstacles to oil extraction operations associated with the Wilmington Oil Field.

The proposed Project is located at the Port, which is made mostly of manmade fill material. No known valuable mineral resources would be impacted by the proposed Project. According to the California Department of Conservation Division of Mines and Geology mineral resource maps, the nearest non-petroleum mineral resources area is located in Lynwood (California Department of Conservation 2014). Thus, the proposed Project sites are not located within any area containing known mineral resources. No impact would occur and no mitigation is required.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact. As discussed in Question 4.11(a), the proposed Project sites are not located within a mineral resource recovery site delineated in the Port of Los Angeles Master Plan or City of Los Angeles General Plan. As such, no loss of availability to mineral resources would occur. No impacts would occur and no mitigation is required.

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4.12 NOISE

The purpose of this section is to identify sensitive noise receptors in the proposed Project area and to determine the degree of noise impacts that would be attributable to the proposed Project.

Existing Noise Environment

The proposed Project sites are within the Port of Los Angeles Community Plan area in the City of Los Angeles, which is approximately 23 miles south of downtown Los Angeles. The Port is surrounded by the community of San Pedro to the west, the community of Wilmington to the north, the Port of Long Beach to the east, and the Pacific Ocean to the south. Existing noise levels within the Port complex are from a wide array of sources that include ship engines, operations of bulk loading facilities, and other container terminal uses; truck traffic; train operations; and vehicle traffic on the local street network and freeways. The proposed Project sites are zoned for manufacturing and heavy industrial uses ([Q] M3-1) by the City of Los Angeles Zoning Ordinance. The City of Los Angeles' Municipal Code permissible ambient noise levels within areas zoned [Q] M3-1 are 65 A-weighted decibels (dBA) during daytime and nighttime due to light and heavy industrial uses (City of Los Angeles 2011).

The main source of existing noise in the proposed Project area is existing operations related to PST at the proposed Project sites. Other sources of noise surrounding the proposed Project area include terminal operations and vehicular traffic. Train movements of the Port Harbor Line also present substantial noise levels within the proposed Project sites. During train passes, the railroad becomes the dominant source of noise. Other noise sources contributing to the ambient noise environment include occasional distant aircraft overflights, movement of ships in the Cerritos Channel, and general industrial noise from other terminal operations in the vicinity.

Noise-Sensitive Uses

Noise- and vibration-sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Noise- and vibration-sensitive land uses are categorized as residences, schools, libraries, churches, hospitals, nursing homes, and certain types of passive recreational uses.

The nearest sensitive receptors include liveaboard tenants located approximately 515 feet north of the Berths 206-209 Project site, across the Cerritos Channel. The liveaboards are located at Lighthouse Yacht Landing (Berth 205), Cerritos Yacht Anchorage (Berth 205), Newmarks Marina (Berth 204), Pacific Yacht Landing (Berths 203-204), Yacht Haven Marina (Berth 202), the California Yacht Marina (Berth 202), and Holiday Harbor (Berth 201).

Human Response to Noise

Studies have shown that the smallest perceptible change in sound level for a person with normal hearing sensitivity is approximately 3 dBA. A change of at least 5 dBA would be noticeable and would likely

evoke a community reaction. A 10-dBA increase is subjectively heard as a doubling in loudness and would cause a community response.

Would the Project Result In:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less Than Significant Impact. Regarding operational noise, the proposed Project would not increase existing CHE or increase employees or staffing at the terminals. Under the proposed Project, PST would continue to provide stevedoring, vessel loading and unloading services similar to current operations. PST operations involve the movement of slab steel via rail and breakbulk commodities via trucks. Compared to their current conditions, proposed Project would increase the annual throughput of slab steel, while decreasing the annual throughput of their breakbulk operation under future conditions. This shifting of operations would result in an overall decrease in truck trips as shown in Table 4.12-1 below and Section 4.16 of this document.

Table 4.12-1 Net Change in Truck Trips

Berth	Annual	Daily	AM Peak	PM Peak
174-181	-47,318	-189	-10	-30
153-155	3,745	15	1	2
206-209	7,336	29	2	5
Total	**-36,237**	**-145**	**-7**	**-23**

Source: LAHD 2015b

There would be a localized increase in truck traffic near Berths 153-155 and Berths 206-209. The most conservative threshold for operational noise in the City of Los Angeles *CEQA Thresholds Guide* relates to a 3-dBA community noise equivalent level (CNEL) increase in existing noise levels. According to Caltrans *Technical Noise Supplement*, a doubling of traffic volumes is typically required to increase traffic noise by an audible level (Caltrans 2009, 2013b). This Caltrans guidance was used as a screening procedure since the proposed Project truck volumes are minimal. Traffic volumes would increase by one to five trucks per peak hour. This small increase in hourly truck volumes would not double traffic volumes on any roadway, including those near the liveaboards at Berths 206-209. As such, the slight increase in truck volumes would not expose people to generated noise levels in excess of the standards established by the City of Los Angeles.

Regarding rail and vessel noise, the proposed Project would increase the slab steel throughput at the Berths 174-181 facility to 2.5 million tons annually, under future conditions, which would increase the train traffic to one 4,235-foot unit train on Saturday and Sunday. Daily train trips would remain at once per day; however, train trips would increase from 5 days a week to 7 days a week to accommodate 130 additional annual train trips for transporting slab steel peaking in 2018, which would be at full capacity. The shift from breakbulk to slab steel handling at Berths 174-181 would result in a reduction in overall vessel berthing hours since steel slab is offloaded

more quickly, although there would be an increase of 4 vessel calls per year. The 3-dBA noise threshold in the *CEQA Thresholds Guide* is a daily noise metric (City of Los Angeles 2006). Although there would be 130 additional annual train trips and 4 additional vessel calls per year, there would not be an increase in daily rail or vessel activity, and there would be no project-related change to the existing CNEL in the Project area. Therefore, the proposed Project would result in a less than significant long-term operational impact related to exposing people of generating noise levels in excess of the operational noise standards established by the City of Los Angeles. No mitigation is required.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

No Impact. Operational vibration would be generated by truck travel on the local roadways. According to the Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, significant vibration impact from rubber tire vehicles is extremely rare. Vehicle suspension design and rubber tires act as a highly effective barrier to vibration transmission from the vibration-generating carriage and the ground (FTA 2006). Vessels have no potential to generate vibration and train-related vibration events would be identical to existing conditions. Therefore, the proposed Project would not result in an operational vibration impact. No impacts would occur and no mitigation is required.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Less Than Significant Impact. The operational analysis presented in Question 4.12(a) above discussed truck, rail, and vessel traffic. The proposed Project would not double truck traffic on local roads, and would not audibly increase truck noise. The City standards for operational noise are assessed as the CNEL. Although the proposed Project would result in one additional train traffic on Saturday and Sunday, it would not increase rail or vessel traffic on a daily basis. There would be no project-related change to the existing CNEL in the Project area. Therefore, the proposed Project would result in less than significant impacts related to substantial permanent increase in ambient noise levels. No mitigation is required.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

No Impact. The construction analysis presented in Question 4.12(a) above discussed temporary noise. The proposed Project would not include new improvements or physical modifications to the three existing terminal sites. There is no potential for the proposed Project to generate temporary or periodic construction noise. Therefore, the proposed Project would not result in significant impact related to a temporary increase in noise levels. No impacts would occur and no mitigation is required.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or pubic use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. As discussed in section Question 4.8(e) above, the proposed Project site (Berths 153-155) is located at least 0.5 miles from the helipads at Berth 95. The helipads are an existing facility and exposure to workers at the Project site would be identical to exposure under the current lease conditions. The nearest public airport to the Project sites is the Long Beach Airport, located approximately 6.5 m iles to the northeast. The proposed Project would not expose workers to excessive noise levels associated with public airport activities. T herefore, the proposed Project would not result in an impact related to exposure to noise generated at public airports. No impacts would occur and no mitigation is required.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. Same as response provided in Question 4.12(e).

4.13 POPULATION AND HOUSING

This section describes potential impacts to population and housing associated with the proposed Project.

Would the Project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact. The proposed Project consists of a lease renewal so PST can continue to operate at the three terminals. The proposed Project does not include any residential land uses, and therefore, would not result in a direct population increase from construction of new homes or businesses. The proposed Project does not include construction activity, and therefore, would not result in a temporary population increase from construction workers. The proposed operations would be very similar to the current operations at all three terminals. The proposed Project would not increase the population of the region necessitating the construction of additional housing, businesses, or infrastructure. Thus, the proposed Project would not result in either direct or indirect population growth. No impacts on population growth would occur and no mitigation is required.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

No Impact. The proposed Project sites are zoned for manufacturing uses and are located completely within LAHD property. The proposed Project is for the continued use of three terminals with no construction or expansion and would not displace existing housing or interfere with potential or planned future development of housing. Additionally, it would not require the removal of housing. As such, no housing would be displaced by the proposed Project. No impacts would occur and no mitigation is required.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact. As discussed in the response to Question 4.13(b) above, the proposed Project would not displace housing, necessitating the construction of replacement housing elsewhere. As such, no persons would be displaced as a result of implementation of the proposed Project. No impacts would occur and no mitigation is required.

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4.14 PUBLIC SERVICES

This section evaluates public services impacts associated with the implementation of the proposed Project in terms of fire protection, police protection, schools, parks, and other public services.

Would the Project:

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:

i) Fire Protection?

Less than Significant Impact. The City of Los Angeles Fire Department (LAFD) provides fire protection and emergency services for the proposed Project sites. Fire protection capabilities are based on the distance from the emergency to the nearest fire station and the number of simultaneous emergency or fire-related calls.

LAFD facilities in the vicinity of the proposed Project sites include land-based fire stations and fireboat companies. In the Harbor area, Battalion 6 is responsible for all of San Pedro and its waterfronts, Terminal Island and all of the surrounding water, Wilmington, Harbor City, and Harbor Gateway. There are nine fire stations within these geographical areas, which consists of fire boats, hazardous material squads, paramedic and rescue vehicles, three truck companies, an urban search and rescue unit, and a foam tender apparatus. The nine fire stations within the Port area include:

- Station 49 – Located at 400 Yacht Street, Berth 194 in Wilmington, Station 49 has a single engine company, two boats, a rescue ambulance, and is Battalion 6 Headquarters. There are 13 staff members at this station. This station is located approximately 0.5 mile to the northeast of the proposed Project site (Berths 174-181) and would be the primary fire station responding to the proposed Project.
- Station 38 - Located at 124 East I Street, Wilmington, Station 38 is a taskforce station with a staff of nine that maintains a truck and engine company and paramedic ambulance. This station is located approximately 1.0 mile to the north of the proposed Project site (Berths 174-181) and would be the secondary fire station responding to the proposed Project site.
- Station 110 – Located at 2945 Miner Street in San Pedro, Station 110 has one fireboat and a staff of three.

- Station 111 - Located at 1444 S. Seaside Avenue on Terminal Island, Station 111 has one fireboat and three staff members.
- Station 40 – Located at 330 Ferry Street on Terminal Island, Station 40 is equipped with a fire engine and two ambulances and has four firefighters and two paramedics on staff.
- Station 112 – Located at 444 S. Harbor Boulevard on Berth 86 in San Pedro, Station 112 has a staff of 15, including an emergency medical services supervisor. It is a single engine company with a paramedic rescue ambulance and one fireboat.
- Station 36 –Located at 1005 N. Gaffey Street in San Pedro.
- Station 48 – Located at 1601 S. Grand Avenue in San Pedro, Station 48 is a task force house with a staff of 16. This station maintains a truck and engine company and a hazardous materials unit.
- Station 101 – Located at 1414 25th Street in San Pedro, Station 101 is staffed by six firefighters and two paramedics. This station has an engine company and paramedic ambulance.

The proposed Project does not include construction activities and the operations at Berths 174-181, 206-209, and 153-155 would be similar to current operations and continue to conform to the provisions of the Los Angeles Fire Code and of other relevant laws. Therefore, it would not increase the demand for fire services and would neither require the expansion of existing facilities nor the construction of new fire facilities. Therefore, impacts to fire protection would be less than significant. No mitigation is required.

ii) Police protection?

Less than Significant Impact. The Los Angeles Police Department (LAPD) provides police protection to the entire City of Los Angeles. The proposed Project site is located within the LAPD Harbor Division Area, which includes a 27.5 square-mile area including Harbor City, Harbor Gateway, San Pedro, Wilmington, and Terminal Island. The LAPD Harbor Community Police Station is located at 22175 John S. Gibson Boulevard, approximately 1.5 miles west of the proposed Project site (Berths 174-181).

The Los Angeles Port Police (Port Police) is the primary law enforcement agency within the Port. The Port Police are authorized a total of 128 sworn officers. The Port Police are responsible for patrol and surveillance of Port property. The Port Police headquarters are located at 330 S. Centre Street (between 3rd and 5th Streets, which is approximately 1.5 miles southwest of the proposed Project site [Berths 174-181]). The Port Police maintains six patrol areas and the number of officers assigned to these patrols varies depending on events and national security intelligence.

The proposed Project does not include construction activities that may result in temporary interruption and/or delays for law enforcement. Additionally, the proposed Project operations at Berths 174-181, 206-209, and 153-155 would be similar to current operations and would not result in substantial changes to the current LAPD and Port Police service levels. Therefore, impacts to police protection would be less than significant. No mitigation is required.

iii) Schools?

No Impact. The proposed Project consists of a lease renewal so PST can continue to operate at the three terminals. No new students would be generated and no increase in demand on local schools would result from implementation of the proposed Project. No impacts to schools would occur. No mitigation is required.

iv) Parks?

No Impact. The proposed Project does not include development of any residential uses and would not generate any new permanent residents that would increase the demand on local parks. Therefore, no impacts related to parks would occur. No mitigation is required.

v) Other public facilities?

No Impact. The proposed Project does not include development of residential uses and would not generate any new permanent residents that would increase the demand on other public facilities. Therefore, no impacts would occur and no mitigation is required.

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4.15 RECREATION

This section evaluates recreation impacts associated with the implementation of the proposed Project. The analysis addresses construction-related and operational impacts and the associated potential impact to the surrounding local parks or other recreation facilities that would occur as a result of the proposed Project.

Would the Project:

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact. The proposed Project does not include development of any residential uses and would not generate new permanent residents. Thus, the proposed Project would not result in an increased demand on existing parks and recreational facilities such that substantial physical deterioration would occur or be accelerated. Therefore, no impact would occur. No mitigation is required.

b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

No Impact. The proposed Project does not include any recreational facilities. The proposed Project does not include development of any residential uses and, thus, would not generate new permanent residents that would increase the demand on local recreational facilities. Further, the proposed Project would not promote or indirectly induce new development that would require the construction or expansion of recreational facilities. Therefore, no impact would occur. No mitigation is required.

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4.16 TRANSPORTATION AND TRAFFIC

The purpose of this section is to identify and evaluate transportation and traffic in the proposed Project area and to determine the degree of impacts that would be attributable to the proposed Project.

Would the Project:

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Ground Transportation

Less than Significant Impact. Under the proposed Project, PST would continue to provide stevedoring, vessel loading and unloading services similar to current operations. PST's operations involve the movement of slab steel via rail and breakbulk commodities via trucks. Compared to their current conditions, proposed Project would increase the annual throughput of PST's slab steel operation, while decreasing the annual throughput of their breakbulk operation under future conditions. This shifting of operations is expected to result in an overall decrease in truck trips, and a slight increase in rail traffic.

The following table summarizes the changes in truck operations. The changes in rail traffic is discussed under Operation – Rail Transportation, below.

Table 4.16-1 Existing (Year 2014) Breakbulk Operations

Berth	Annual Tonnage	Annual Truck Trips
174-181	673,191 m/t	67,318
153-155	82,548 m/t	8,254
206-209	726,655 m/t	72,664

Source: PST 2015b

Table 4.16-2 Future (Year 2040) Operations

Berth	Annual Tonnage	Annual Truck Trips
174-181	200,000 m/t	20,000
153-155	120,000 m/t	12,000
206-209	800,000 m/t	80,000

Source: LAHD 2015b

Table 4.16-3 Net Change in Truck Trips

Berth	Truck Trips				PCE* trips		
	Annual	Daily	AM Peak	PM Peak	Daily	AM Peak	PM Peak
174-181	-47,318	-189	-10	-30	-378	-20	-60
153-155	3,745	15	1	2	30	2	4
206-209	7,336	29	2	5	58	4	10
Total	-36,237	-145	-7	-23	-290	-14	-46

*PCE = Passenger Car Equivalent; for PST's operations, 1 truck trip = 2.0 PCE trips
Source: LAHD 2015b

As seen in Table 4.16-3 above, the overall number of truck trips is expected to decrease under future conditions by 290 daily one-way passenger-car equivalent (PCE) trips, 14 AM peak hour PCE trips, and 46 PM peak hour PCE trips. Trucks arriving to/departing from the Berths 206-209 facility on Terminal Island will result in an additional 58 daily one-way PCE trips, 4 one-way PCE trips in the AM peak hour and 10 one-way PCE trips in the PM peak hour, and truck trips arriving to/departing from the two facilities at Mormon Island (Berths 153-155 and 174-181) together will be reduced by 348 daily one-way PCE trips, 18 AM peak hour PCE trips and 56 PM peak hour PCE trips.

According to the City of Los Angeles Department of Transportation (LADOT) Traffic Study Guidelines (LADOT 2013), a Technical Memorandum is required when the project is likely to add 25 to 42 AM or PM peak hour trips, and the adjacent intersection(s) are presently estimated to be operating at Level of Service (LOS) E or F. A traffic study is required when the project is likely to add 500 or more daily trips, or likely to add 43 or more AM or PM hour trips. Per the screening criteria contained in the LADOT Traffic Study Guidelines, both the overall Project and the detailed berth specific traffic are well below the threshold for requiring a more detailed traffic analysis. With the overall reduction in truck trips, the proposed Project would not result in traffic impacts and would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. The impact would be less than significant and no mitigation is required.

Rail Transportation

Less than Significant Impact. Currently, PST transports 1.6 million tons of slab steel annually, which requires one 4,235-foot unit train 5 days a week (Monday-Friday). The proposed Project would increase the slab steel throughput at the Berth 174-181 facility to 2.5 million tons annually, under future conditions, which would increase the train traffic to one 4,235-foot unit train 7 days a week. There will be no increase in the number of rail trips per day (Monday- Friday), and the length of each train will also remain the same. PST's train normally arrives at Berth 174-181 around 4:30 a.m. and departs at 7:30 p.m. However, to be conservative, the rail crossing analysis was performed as if one additional daily train were to be added during a weekday PM peak period, which typically experiences greater traffic volumes (and hence delay) than weekends and off-peak periods.

The Burlington North Santa Fe delivers the unit trains between the PST facility at Berth 174-181 and the steel processing facility in Fontana. The increase in rail traffic would have a potential to affect 75 at-grade crossings along the delivery route. The threshold of significance for at-grade crossings is shown in Table 4.16-4 below.

Table 4.16-4 Threshold of Significance for At-Grade Crossings for Project Impacts

Level of Service (LOS) of Grade Crossing	Chang in Average Delay per Vehicle
A-D	N/A
E (55-80 seconds of average delay per vehicle)	2 seconds
F (over 80 seconds of average delay per vehicle)	1 second

Source: Cambridge 2015

The increase in the rail traffic associated with PST's future operations would extend existing grade crossing events by approximately 0.7 seconds or less during the PM peak period at all grade crossings, which over the course of an hour would be minimal. The rail crossing analysis is included as Appendix C. Therefore, traffic impacts would be less than significant. No mitigation is required.

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Pursuant to the Los Angeles County Congestion Management Program (CMP), administered by the Los Angeles County Metropolitan Transportation Authority (Metro), a traffic impact analysis is required at the following:

- CMP arterial monitoring intersections, including freeway on- or off-ramps, where the proposed project would add 50 or more trips during either the a.m. (8:00 – 9:00) or p.m. (4:00 - 5:00) weekday peak hours.
- CMP freeway monitoring locations where the proposed project would add 150 or more trips during either the a.m. (8:00 – 9:00) or p.m. (4:00 - 5:00) weekday peak hours.

Three CMP arterial monitoring stations are located either within or close to the proposed Project study area. However, none are projected to experience 50 or more project-related trips during the AM or PM peak period under future conditions. The three CMP arterial monitoring stations are provided below:

- Pacific Coast Highway (PCH)/Santa Fe Avenue (not a study intersection – less than 50 peak hour trips added by the proposed Project)
- Alameda Street/ PCH (not a study intersection – less than 50 peak hour trips added by the proposed Project)
- PCH/Figueroa Street (not a study intersection - less than 50 peak hour trips added by the proposed Project)

Four CMP freeway monitoring stations are located within or close to the proposed Project study area. The Project would not add any trips at any of these freeway-monitoring locations. The four CMP freeway monitoring stations are provided below:

- I-405 between I-110 and I-710 (CMP freeway monitoring station – at Santa Fe Avenue)
- I-710 north of I-405 (CMP freeway monitoring station – north of Jct. 405, south of Del Amo Boulevard)
- I-710 north of PCH (CMP freeway monitoring station – north of Jct Rte 1 (PCH), Willow Street)
- I-110 south of C Street (CMP freeway monitoring station – south of C Street).

Less than Significant Impact. As stated above in response to Question 4.16(a) and as seen in Table 4.16-3 above, the overall number of truck trips is expected to decrease under the proposed Project conditions by 290 daily one-way PCE trips, 14 AM peak hour PCE trips, and 46 PM peak hour PCE trips. This proposed Project would result in a decrease in traffic in the study area and would not require an impact analysis under the CMP. Therefore, CMP arterial intersection impacts are considered to be less than significant and no mitigation is required.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

Less than Significant Impact. The nearest airport facilities are helicopter-landing pads at Berth 95 (0.5-mile southwest of Berths 153-155) and at 1175 Queens Highway in Long Beach (over 3 miles to the east of the Berths 206-209). Small helicopters operate from these locations and transit primarily via the Main Channel of the Port. The nearest public airport to the Project sites is the Long Beach Airport, located approximately 6.5 miles to the northeast. The proposed Project does not include construction, and the operation of the facilities within the Project sites would be similar to the existing operations. The proposed Project would not result in a change in air traffic patterns, increased air traffic levels, or a change in location that results in substantial safety risks. The proposed Project would not result in a structure that would be of the height that could interfere with air traffic. No change to air traffic patterns would occur. As such, the impacts would be less than significant and no mitigation is required.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact. The proposed Project does not include any alterations to or interfere with existing access points or routes to the site. Therefore, the proposed Project would not substantially increase hazards due to a design feature. As such, no impacts would occur. No mitigation is required.

e) Result in inadequate emergency access?

No Impact. The County of Los Angeles has designated disaster routes throughout the County. Disaster routes are freeway, highway, or arterial routes pre-identified for use during times of crisis. These routes are used to bring in emergency personnel, equipment, and supplies to impacted areas in order to save lives, protect property, and minimize impact to the environment (L.A. County 2015). During a disaster, these routes have priority for clearing, repairing, and restoration over all other roads. The nearest disaster routes to the proposed Project include Harbor Freeway (I-110), Terminal Island Freeway (SR-103), Seaside Avenue/Ocean Boulevard (CA-47), Harry Bridges Boulevard, Henry Ford Avenue, and Ocean Boulevard.

The proposed Project would result in similar operation activities as the current operations and would not increase the demand/capacity ratio for roads and would not increase traffic congestion at intersections. The proposed Project would not alter any access points or routes and would not result in any closures of roadways during operation. The proposed Project would not result in significant impacts to the County-designated disaster route during operation. Therefore, the proposed Project would not result in inadequate emergency access. No impacts would occur and no mitigation is required.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

No Impact. The proposed Project involves a lease renewal to continue the similar operations at the Project sites. Implementation of the proposed Project would allow for the continued use of the existing properties as a breakbulk cargo-handling facilities. Therefore, the proposed Project does not include construction activities and would not cause temporary increase in work-related trips using public transit by the construction workers. Additionally, the proposed Project would not increase the number of on-site employees and would not result in increase in work-related trips using public transit.

There would be no temporary loss of pedestrian or bicycle access, rerouting of transit service, or loss of on-street parking because the proposed Project does not involve construction activities that would interfere with these uses. Further, the proposed Project would not alter the land use of the proposed Project sites or surrounding area, and would not conflict with any applicable land use plans. As such, the proposed Project would not conflict with policies, plans, or programs supporting alternative transportation (e.g., bicycles, buses, carpools, vanpools, ridesharing, walking, etc.). No impacts would occur and no mitigation is required.

4.17 UTILITIES AND SERVICE SYSTEMS

This section evaluates impacts related to utilities and service systems associated with the implementation of the proposed Project in terms of water service, wastewater, solid waste, and stormwater.

Would the Project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Less than Significant Impact. The proposed Project sites are serviced by the City of Los Angeles Bureau of Sanitation's Terminal Island Water Reclamation Plant (TIWRP). The proposed Project does not include any construction activities and the operation would be very similar to the current condition. Currently, for Berths 174-181 only, approximately 200 gallons of waste oil related to the maintenance and operation of CHE is recovered and disposed of by Asbury Environmental Services on a monthly basis. Additionally, approximately 13,000 gallons of wastewater recovered in the clarifier on site is tested, and then disposed by Applied Waste Management every quarter. Collection, testing, and monitoring of runoff is completed in compliance with the existing SWPPP and ISWGP. These permits would remain in place and renewed/expanded as necessary. Therefore, the proposed Project would not substantially increase the current volume discharged to the sewer and subsequently would not alter the current discharge from TIWRP and would not exceed wastewater treatment requirement. No population increase would result from the operation of the proposed Project. It would not provide new housing or a large number of employment opportunities. The proposed Project would not exceed wastewater treatment requirements of the Los Angeles Regional Water Quality Control Board. Therefore, the impacts would be less than significant. No mitigation is required.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact. As discussed in Question 4.17(a), the proposed Project sites are serviced by the City of Los Angeles Bureau of Sanitation's TIWRP. TIWRP has an average dry weather flow capacity of 30 million gallons per day (mgd) and treats about 16 mgd (LADWP 2011).

In the 2010 Urban Water Management Plan (UWMP), Los Angeles Department of Water and Power (LADWP) forecasted that the City of Los Angeles would grow 0.4 percent annually over the next 25 years, or by approximately 367,300 persons over the next 25 years. Total citywide demand for water is predicted to be 701,164 acre-feet in 2030 and 710,760 acre-feet in 2035. According to the 2010 UWMP, under wet, average, and dry years throughout the 25-year projection period, LADWP's supply portfolio is expected to be reliable, with adequate supplies available to meet projected demands through 2035 (LADWP 2011).

The proposed Project does not include any construction activities and the operation would be very similar to the current condition. No population increase on or in the vicinity of the proposed Project sites would result from the operation of the proposed Project. In addition, it would not provide new housing or a large number of employment opportunities. Therefore the Project would not require the construction of new wastewater facilities or expansion of existing facilities. Thus, there would be no impact to wastewater facilities. No mitigation is required.

c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact. The proposed Project sites are entirely developed and paved. Surface runoff water and drainage are directed generally toward existing municipal storm drains. The proposed Project consists of a lease renewal to continue the existing operations at the Project sites. The proposed Project would not increase the amount of impervious areas or generate increased volumes of runoff or stormwater; and therefore would not require the construction of new stormwater drainage facilities or expansion of existing facilities. Thus, there would be no impact to stormwater drainage facilities. No mitigation is required.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Less than Significant Impact. The proposed Project consists of a lease renewal to continue the current operations at the sites. The proposed Project does not include any construction activities and the operation would be very similar to the current operation. Additionally, in the 2010 UWMP, LADWP forecasted that the City of Los Angeles would grow 0.4 percent annually over the next 25 years, or by approximately 367,300 persons over the next 25 years. Total citywide demand for water is predicted to be 701,164 acre-feet in 2030 and 710,760 acre-feet in 2035. According to the 2010 UWMP, under wet, average, and dry years throughout the 25-year projection period, LADWP's supply portfolio is expected to be reliable, with adequate supplies available to meet projected demands through 2035. As such, the proposed Project would have adequate water supply and facilities to service the site. Therefore, impacts would be less than significant and no mitigation is required.

e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Less than Significant Impact. As discussed in Question 4.17(a), the proposed Project sites are serviced by the City of Los Angeles Bureau of Sanitation's TIWRP. No population increase on or in the vicinity of the proposed Project sites would result from the operation of the proposed Project. In addition, it would not provide new housing or a large number of employment

opportunities. The proposed Project does not include any construction activities, and therefore, would not require new water or wastewater facilities or the expansion of existing facilities. Operation of the proposed Project would be very similar to the current condition. Because the proposed Project is making use of existing structures, the infrastructure has been sized to accommodate this type of facility and land uses. As such, impacts would be less than significant. No mitigation is required.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Less than Significant Impact. The Solid Waste Integrated Resource Plan is a long-range master plan for solid waste management in the City of Los Angeles (City of Los Angeles 2015b). It proposes an approach for the City to achieve a goal of diverting 70 percent of solid from landfills by 2013 and 90 percent by 2025. The Solid Waste Integrated Resource Plan recommends a series of policies, programs, and facilities to be implemented over the next 20 years. The proposed Project does not include construction that would generate debris. Operation of the proposed Project will not generate substantial amounts of solid waste as the current operation would continue after the lease renewal. In addition, the proposed Project would be in compliance with the Solid Waste Integrated Resource Plan to ensure sufficient permitted capacity to service proposed Project. As such, the impact would be less than significant. No mitigation is required.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

Less than Significant Impact. As discussed in Question 4.17(f), the proposed Project would continue to conform to the policies and programs of the Solid Waste Integrated Resource Plan. Compliance with the Solid Waste Integrated Resource Plan would ensure sufficient permitted capacity to service proposed Project. As such, the impacts would be less than significant. No mitigation is required.

4.18 MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

No Impact. As described above, the proposed Project would not impact biological resources. The proposed Project sites are fully developed and have been historically operating as breakbulk handling facilities. The sites are not suitable for use by biological species. The only vegetation at the proposed Project sites occurs around the administration building and parking lots at Berths 174-181 and Berths 206-209. This vegetation consists of grasses and herbaceous plants with none of the species listed in the tree preservation policy ordinance being present. The proposed Project sites do not contain habitat suitable for wildlife species and are not used by native resident or migratory species for movement or nursery purposes. The proposed Project sites do not contain any federally protected wetlands as defined by Section 404 of the CWA. Proposed Project operations would be conducted within the existing operation areas.

The proposed Project would not have a significant impact on historic resources. The proposed Project does not involve construction activities and operations would be very similar to the current operation activities. As such, the proposed Project would have no significant impact on historical resources in the vicinity of the proposed Project sites.

The proposed Project would not have a significant impact on cultural, ethnographic or paleontological resources. The proposed Project sites are located on highly disturbed parcels which are made mostly of man-made fill material and are paved, making the presence of giving archaeological resources highly unlikely. Additionally, the proposed Project does not involve any construction or ground-disturbing activities.

The proposed Project would not degrade the quality of the environment. There would be no significant impact to biological and cultural resources. As such, the proposed Project would not have the potential to substantially degrade the quality of the environment.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Less than Significant Impact. The proposed Project would not result in cumulatively considerable impacts. Several other development projects are currently under construction, are planned, or have recently been completed within the Port. Future projects would be evaluated in a separate environmental document.

As discussed throughout Section 4.0, the proposed Project would result in no impacts to aesthetics, agricultural and forestry resources, biological resources, cultural resources, land use and planning, mineral resources, population and housing, and recreation. Thus, the proposed Project has no potential to contribute to a cumulative impact to these resource areas.

The proposed Project would result in less than significant impacts to air quality, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise, public services, transportation and traffic, and utilities and service systems. The proposed Project would not result in significant impacts or require mitigation measures.

Because the proposed Project sites are currently developed and used for industrial purposes, the similar operations that would occur result in minimal environmental effects as shown in the IS/ND analysis. Because the proposed Project would continue to operate in a very similar manner to the existing operations, the potential incremental contribution from the proposed Project would not be cumulatively considerable. The approved projects and other present and/or probable future projects are required to comply with CEQA requirements, including implementation of mitigation measures to reduce or avoid environmental impacts, as well as with applicable laws and regulations at the federal, state and local level, including but not limited to the Los Angeles City Municipal Code and local ordinances governing land use and development. The analysis contained herein has determined that the proposed Project would not have any individually limited but cumulatively considerable impacts. No mitigation is required.

c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?

Less than Significant Impact. The proposed Project would not result in substantial adverse effects on human beings, either directly or indirectly. As previously mentioned, the proposed Project involves renewal of an existing lease for Berths 174-181 including secondary locations at Berths 153-155 and 206-209. No new improvements or physical modifications to the Project sites would occur as part of the proposed Project. The proposed Project would not involve permanent or temporary construction activities. The sites would continue to operate as an industrial facility. As described in the analysis presented throughout this IS/ND, minimal environmental effects would result from the proposed Project for all issue areas and are not of the magnitude or significance to create a substantial adverse effect on humans, either directly or indirectly. Adverse effects on human beings resulting from implementation of the proposed Project would be less than significant. No mitigation is required.

5.0 PROPOSED FINDING

LAHD has prepared this IS/ND to address the environmental effects of the proposed Project. Based on the analysis provided in this IS/ND, LAHD finds that the proposed Project would not have a significant effect on the environment.

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7.0 ACRONYMS AND ABBREVIATIONS

[Q]M3-1	Heavy Industrial Uses
µg/m3	microgram per cubic meter
AB	Assembly Bill
APN	Assessor's Parcel Number
AQMP	Air Quality Management Plan
Basin	South Coast Air Basin
CA	California Highway
CAA	Clean Air Act
CAAP	San Pedro Bay Clean Air Action Plan
CAAQS	California ambient air quality standards
CalEPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CH_4	methane
CHE	cargo handling equipment
CMP	Congestions Management Program
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2 equivalent
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DPM	diesel particulate matter
DTSC	California Department of Toxic Substances Control
FEMA	Federal Emergency Management Agency
GHG	greenhouse gas
GWP	global warming potential
HCP	Habitat Conservation Plan
HRA	Health Risk Assessment

I	Interstate
ILWU	International Longshore and Warehouse Union
IPCC	International Panel on Climate Change
IS	Initial Study
ISWG	Industrial Solid Waste General
ISWGP	Industrial Stormwater General Permit
LADOT	City of Los Angeles Department of Transportation
LADWP	Los Angeles Department of Water and Power
LAFD	City of Los Angeles Fire Department
LAHD	Los Angeles Harbor Department
LAPD	Los Angeles Police Department
lbs/day	pounds per day
LOS	Level of Service
LST	Localized Significance Threshold
Metro	Metropolitan Transportation Authority
mgd	million gallons per day
MSL	mean sea level
m/t	metric tons
N_2O	nitrous oxide
NAAQS	national ambient air quality standard
NCCP	Natural Community Conservation Plan
ND	Negative Declaration
NO_2	nitrogen dioxide
NOx	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
O_3	ozone
OEHHA	California Office of Environmental Health Hazard Assessment
OGV	ocean-going vessel
OSHA	Occupational Safety & Health Administration
PA	Planning Area
PCE	passenger car equivalent
PCH	Pacific Coast Highway
$PM_{2.5}$	particulate matter less than 2.5 microns
PM_{10}	particulate matter less than 10 microns
POLA or Port	Port of Los Angeles
Port Police	Los Angeles Port Police

ppm	parts per million
PST	Pasha Stevedoring and Terminal
R-1	One-Family
RD	Restricted Density Multiple Dwelling
ROG	reactive organic gases
SCAQMD	South Coast Air Quality Management District
SEA	Significant Ecological Area
SF	square footage
SIP	State Implementation Plan
SLR	sea level rise
SO_2	sulfur dioxide
SOx	sulfur oxides
SR	State Route
SWPPP	Stormwater Pollution Prevention Plan
TAC	toxic air contaminant
TCR	The Climate Registry
TIWRP	Terminal Island Water Reclamation Plan
US	United States
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UWMP	Urban Water Management Plan
VOCs	volatile organic compounds

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PASHA STEVEDORING AND TERMINALS LEASE RENEWAL PROJECT TECHNICAL APPENDICES

APP# 140721-077

Prepared For:
Los Angeles City Harbor Department
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October 2015

THE PORT OF LOS ANGELES

APPENDICES

A1 Backup Air Quality Emission Screening Analysis
A2 Backup Data for the Localized Air Quality Impact Screening Analysis
B Backup Greenhouse Gas Emission Screening Analysis
C Rail Crossing Analysis

APPENDIX A1

BACKUP AIR QUALITY EMISSION SCREENING ANALYSIS

Table A.1. Estimated Ship Calls - PASHA Terminal

Project Scenario/Ship Type	*Annual Ship Visits*	*Hoteling Time/ Visit (Hours) (2)*
New Ship Calls		
Bulk Carrier	4	53.00
Subtotal	4	

Notes: (1) Source: Discussion on PASHA Lease Renewal Project, based on 4 additional bulk carriers per year. Assume the 4 additional carriers are for slab steel only.

(2) Based on Starcrest data, average hotelling time for bulk cargo vessels at Berth 176.

Table A.2. Bulk Cargo Vessel Propulsion Engine Usage per One-Way Ship Trip in Zone 6, 50 nm to 170 nm

		Zone 6 (1)							
Vessel Type	*Propulsion Max Hp (2)*	*Load Factor (3)*	*Modal Hp*	*Distance (NM)*	*Max Speed (kts)*	*Speed (Kts) (4)*	*Hours Per Trip*	*Hp-Hrs/ Trip*	*kW-Hrs/ Trip (5)*
Non-Compliance with VSRP (6)									
Bulk Carrier	13,798	0.83	11,460	120.0	14.5	13.6	8.80	100,898	75,270

Notes: (1) Vessel route between the boundary of the SCAB waters and State Over-water Boundary, 20 nm to 170 nm, assuming northern route.

(2) POLA 2013 AEI Table 3.22, Page 100. Using Bulk - Heavy Load for main engine kW.

(3) Calculated using Port 2013 AEI, Equation 3.3, LF = $(Speed_{actual}/Speed_{maximum})^3$

(4) Represents service speed, which is 94% of maximum speed (2009 PEI Table 2.25).

(5) 1 kW-Hr = 0.746 Hp-Hrs.

(6) Assuming VSRP does not apply in Zone 6.

Table A.3. Bulk Cargo Vessel Propulsion Engine Usage per One-Way Ship Trip in Zone 5, 40 nm to 50 nm

		Zone 5 (1)							
Vessel Type	*Propulsion Max Hp (2)*	*Load Factor (3)*	*Modal Hp*	*Distance (NM)*	*Max Speed (kts)*	*Speed (Kts) (4)*	*Hours Per Trip*	*Hp-Hrs/ Trip*	*kW-Hrs/ Trip (5)*
Non-Compliance with VSRP (6)									
Bulk Carrier	13,798	0.83	11,460	10.0	14.5	13.6	0.73	8,408	6,273

Notes: (1) Vessel route between the boundary of the SCAB waters and State Over-water Boundary, 20 nm to 170 nm, assuming northern route.

(2) POLA 2013 AEI Table 3.22, Page 100. Using Bulk - Heavy Load for main engine kW.

(3) Calculated using Port 2013 AEI, Equation 3.3, LF = $(Speed_{actual}/Speed_{maximum})^3$

(4) Represents service speed, which is 94% of maximum speed (2009 PEI Table 2.25).

(5) 1 kW-Hr = 0.746 Hp-Hrs.

(6) Length of fairway within the Vessel Speed Reduction Program (VSRP) Zone (VSRPZ) = 22 nautical miles (NM).

Table A.4. Bulk Cargo Vessel Propulsion Engine Usage per One-Way Ship Trip in Zone 4, 22 nm to 40 nm (using VSRP zone)

		Zone 4 (1)							
Vessel Type	*Propulsion Max Hp (2)*	*Load Factor (3)*	*Modal Hp*	*Distance (NM)*	*Max Speed (kts)*	*Speed (Kts) (4)*	*Hours Per Trip*	*Hp-Hrs/ Trip*	*kW-Hrs/ Trip (5)*
Non-Compliance with VSRP (6)									
Bulk Carrier	13,798	0.83	11,460	18.0	14.5	13.6	1.32	15,135	11,291

Notes: (1) Vessel route between the boundary of the SCAB waters and State Over-water Boundary, 20 nm to 170 nm, assuming northern route.

(2) POLA 2013 AEI Table 3.22, Page 100. Using Bulk - Heavy Load for main engine kW.

(3) Calculated using Port 2013 AEI, Equation 3.3, LF = $(Speed_{actual}/Speed_{maximum})^3$

(4) Represents service speed, which is 94% of maximum speed (2009 PEI Table 2.25).

(5) 1 kW-Hr = 0.746 Hp-Hrs.

(6) Length of fairway within the Vessel Speed Reduction Program (VSRP) Zone (VSRPZ) = 22 nautical miles (NM).

Table A.5. Bulk Cargo Vessel Propulsion Engine Usage per One-Way Ship Trip in Zone 3, 22 nm to PZ

		VSRP Zone to Precautionary Zone (1)							
Vessel Type	*Propulsion Max Hp (2)*	*Load Factor (3)*	*Modal Hp*	*Distance (NM)*	*Max Speed (kts)*	*Speed (Kts) (4)*	*Hours Per Trip*	*Hp-Hrs/ Trip*	*kW-Hrs/ Trip (5)*
Compliance with VSRP (6)									
Bulk Carrier	13,798	0.24	3,299	23.9	14.5	9.0	2.66	8,765	6,539

Notes: (1) Vessel route between the boundary of the VSRP zone and Precautionary Zone.

(2) POLA 2013 AEI Table 3.22, Page 100. Using Bulk - Heavy Load for main engine kW.

(3) Calculated using Port 2013 AEI, Equation 3.3, LF = $(Speed_{actual}/Speed_{maximum})^3$

(4) Based on speed within the PZ, Port 2013 AEI Table 3.4

(5) 1 kW-Hr = 0.746 Hp-Hrs.

(6) Length of fairway within the Vessel Speed Reduction Program (VSRP) Zone (VSRPZ) = 22 nautical miles (NM). Assuming speed is reduced to average bulk vessel speed of 9 kts

Table A.6. Bulk Cargo Vessel Propulsion Engine Usage per One-Way Ship Trip in Zone 2, Breakwater to PZ

		Precautionary Zone (1)							
Vessel Type	*Propulsion Max Hp (2)*	*Load Factor (3)*	*Modal Hp*	*Distance (NM)*	*Max Speed (kts)*	*Speed (Kts) (4)*	*Hours Per Trip*	*Hp-Hrs/ Trip*	*kW-Hrs/ Trip (5)*
Compliance with VSRP (6)									
Bulk Carrier	13,798	0.24	3,299	8.1	14.5	9.0	0.90	2,969	2,215

Notes: (1) Vessel route between the boundary of the Precautionary Zone and the Breakwater

(2) POLA 2013 AEI Table 3.22, Page 100. Using Bulk - Heavy Load for main engine kW.

(3) Calculated using Port 2013 AEI, Equation 3.3, LF = $(Speed_{actual}/Speed_{maximum})^3$

(4) Based on speed within the PZ, Port 2013 AEI Table 3.4

(5) 1 kW-Hr = 0.746 Hp-Hrs.

(6) Length of fairway within the Vessel Speed Reduction Program (VSRP) Zone (VSRPZ) = 22 nautical miles (NM). Assuming speed is reduced to average bulk vessel speed of 9 kts

Table A.7. Bulk Cargo Vessel Propulsion Engine Usage per One-Way Ship Trip in Zone 1, Harbor

		Harbor (1)							
Vessel Type	*Propulsion Max Hp (2)*	*Load Factor (3)*	*Modal Hp*	*Distance (NM)*	*Max Speed (kts)*	*Speed (Kts) (4)*	*Hours Per Trip*	*Hp-Hrs/ Trip*	*kW-Hrs/ Trip (5)*
Compliance with VSRP (6)									
Bulk Carrier	13,798	0.09	1,243	4.2	14.5	6.5	0.65	803	599

Notes: (1) Vessel route within the Harbor. Assuming 4.2 nm to terminal.

(2) POLA 2013 AEI Table 3.22, Page 100. Using Bulk - Heavy Load for main engine kW.

(3) Calculated using Port 2013 AEI, Equation 3.3, LF = $(Speed_{actual}/Speed_{maximum})^3$

(4) Based on speed within the Harbor, Port 2013 AEI Page 81, inbound slow ships, average between 5 kts and 8 kts

(5) 1 kW-Hr = 0.746 Hp-Hrs.

(6) Assuming that speeds are reduced to 5 kts upon arrival, 8 kts upon departure within breakwater per POLA AEI, Page 81.

Table A.8. Bulk Cargo Vessel Propulsion Engine Usage, Docking

Operational Mode/Vessel Type	*Propulsion Max Hp*	*Load Factor (2)*	*Modal Hp*	*Hours/* Mode (3)	*Hp-Hrs/ Trip*	*kW-Hrs/ Trip*
Docking (1)						
Bulk Carrier	13,798	0.02	276	0.25	69	51

Notes: (1) Assuming 0.25 hours for docking at berth

(2) Transit load factors based upon the average of inbound and outbound load factors in 2005 PEI Table 2.9. Docking load factors obtained from 2005 PEI page 68.

(3) One-way transit durations = 4.2 nm @ 5 kts. Docking durations obtained from 2005 PEI page 68.

Table A.9. Bulk Cargo Vessel Auxiliary Generator Usage per One-Way Fairway Transit - 22 nm to 170 nm

Vessel Type	*Auxiliary kW per Vessel (1)*	*Load Factor (2)*	*Hours/ Transit*	*kW-Hrs/ Transit*
Non-Compliance with VSRP (3)				
Bulk Carrier	255	1.00	10.86	2,769

Notes: (1) Average rating for bulk cargo vessels, Port 2013 AEI Table 3.12, at sea

(2) Load factor assumed to be 1.0.

(3) See Table A.2 through A.8 for estimated vessel transit durations within the fairway for each mode of operation.

Table A.10. Bulk Cargo Vessel Auxiliary Generator Usage per One-Way VSRP Zone Transit - 22 nm to PZ

Vessel Type	*Auxiliary kW per Vessel (1)*	*Load Factor (2)*	*Hours/ Transit*	*kW-Hrs/ Transit*
Non-Compliance with VSRP (3)				
Bulk Carrier	255	1.00	2.66	677

Notes: (1) Average rating for bulk cargo vessels, Port 2013 AEI Table 3.12, at sea

(2) Load factor assumed to be 1.0.

(3) See Table A.2 through A.8 for estimated vessel transit durations within the fairway for each mode of operation.

Table A.11. Bulk Cargo Vessel Auxiliary Generator Usage per One-Way Precautionary Zone Transit -PZ to Breakwater

Vessel Type	*Auxiliary kW per Vessel (1)*	*Load Factor (2)*	*Hours/ Transit*	*kW-Hrs/ Transit*
Non-Compliance with VSRP (3)				
Bulk Carrier	675	1.00	0.90	608

Notes: (1) Average rating for bulk cargo vessels, Port 2013 AEI Table 3.12, maneuvering

(2) Load factor assumed to be 1.0.

(3) See Table A.2 through A.8 for estimated vessel transit durations within the fairway for each mode of operation.

Table A.12. Bulk Cargo Vessel Auxiliary Generator Usage per One-Way Harbor Transit and Docking

Vessel Type	*Auxiliary kW per Vessel (1)*	*Load Factor (2)*	*Hours/ Transit*	*kW-Hrs/ Transit*
Non-Compliance with VSRP (3)				
Bulk Carrier	675	1.00	0.90	605

Notes: (1) Average rating for bulk cargo vessels, Port 2013 AEI Table 3.12, maneuvering

(2) Load factor assumed to be 1.0.

(3) See Table A.2 through A.8 for estimated vessel transit durations within the fairway for each mode of operation.

Table A.13. Bulk Cargo Vessel Hoteling Auxiliary Generator Usage per Ship Visit -

Vessel Type	*Auxiliary kW per Vessel (1)*	*Load Factor (1)*	*Hours/ Visit (2)*	*kW-Hrs/ Visit*
Bulk Carrier	150	1.00	53.00	7,950

Notes: (1) Average rating for bulk cargo vessels, Port 2013 AEI Table 3.12, berth hotelling

(2) Load factor assumed to be 1.0.

Table A.14. Bulk Cargo Vessel Auxiliary Boiler Usage per Ship Visit -

Vessel Type	*Auxiliary Boiler Load (1)*	*Hourly Fuel Usage (1)*	*Hours/ Visit (2)*	*kW-Hrs/ Visit*
Bulk Carrier	132	0.190	57.45	7,584

Notes: (1) From Port 2013 PEI Table 3.16

(2) Total of hours of operation for all operational modes except fairway transit, including at berth hotelling.

Table A.15. Bulk Cargo Vessel Tugboat Assist Usage

Vessel Type	*Tugboat Max Hp (1)*	*Load Factor (2)*	*Hours/ Assist (3)*	*Hp-Hr/ Assist*	*Annual # of Assists (4)*	*Annual Hp-Hrs*	*Annual kW-Hrs*
Bulk Carrier	1,908	0.31	1.17	689	8	5,513	4,112
Totals						5,513	4,112

Notes: (1) Port 2013 AEI, Table 4.1.

(2) Port 2013 AEI, Table 4.7

(3) Duration 1-way vessel trip due to harbor transit and docking durations times 1.3 to account for tug assist time, travel to/from berth, and idle mode.

(4) Assuming 3 tug assists per ship visit.

Table A.16. Tugboat Auxiliary Generator Usage during Bulk Cargo Vessel Assists

Vessel Type	*Aux. Engine Hp (1)*	*Load Factor (2)*	*Hours/ Assist (3)*	*Hp-Hr/ Assist*	*Annual # of Assists (4)*	*Annual Hp-Hrs*	*Annual kW-Hrs*
Bulk Carrier	179	0.43	1.51	117	8	933	696
Totals						933	696

Notes: (1) Port 2013 AEI, Table 4.2

(2) Port 2013 AEI, Table 4.7

(3) Duration = 1.3 times tug assist time in Table13 to account for usage when main engines are shut down in stand-by mode.

(4) Assuming 3 tug assists per ship visit.

Table A.17. Emission Factors for Vessels

Operational Mode/Ship-Engine Type	Emission Factors (Gm/kW-Hr)						Source
	ROG	CO	NOx	SOx	PM10	PM2.5	
Cruise/Main Engine							
OGVs - Slow Speed Diesel Main Engines - 0.5% S MDO	0.60	1.40	17.00	1.90	0.38	0.35	(1)
<20% Main Engine Load Emission Factors							
OGVs - Slow Speed Diesel 2% Load Adjustment Factor	21.18	9.70	4.63	1.00	7.29	7.29	(2)
OGVs - Slow Speed Diesel 3% Load Adjustment Factor	11.68	6.49	2.92	1.00	4.33	4.33	(2)
OGVs - Slow Speed Diesel 4% Load Adjustment Factor	7.71	4.86	2.21	1.00	3.09	3.09	(2)
OGVs - Slow Speed Diesel 5% Load Adjustment Factor	5.61	3.90	1.83	1.00	2.44	2.44	(2)
OGVs - Slow Speed Diesel 6% Load Adjustment Factor	4.35	3.26	1.60	1.00	2.04	2.04	(2)
OGVs - Slow Speed Diesel 7% Load Adjustment Factor	3.52	2.80	1.45	1.00	1.79	1.79	(2)
OGVs - Slow Speed Diesel 8% Load Adjustment Factor	2.95	2.45	1.35	1.00	1.61	1.61	(2)
OGVs - Slow Speed Diesel 9% Load Adjustment Factor	2.52	2.18	1.27	1.00	1.48	1.48	(2)
OGVs - Slow Speed Diesel 10% Load Adjustment Factor	2.20	1.96	1.22	1.00	1.38	1.38	(2)
OGVs - Slow Speed Diesel 11% Load Adjustment Factor	1.96	1.79	1.17	1.00	1.30	1.30	(2)
OGVs - Slow Speed Diesel 12% Load Adjustment Factor	1.76	1.60	1.14	1.00	1.24	1.24	(2)
OGVs - Slow Speed Diesel 13% Load Adjustment Factor	1.60	1.47	1.11	1.00	1.19	1.19	(2)
OGVs - Slow Speed Diesel 15% Load Adjustment Factor	1.36	1.36	1.06	1.00	1.11	1.11	(2)
OGVs - Slow Speed Diesel 16% Load Adjustment Factor	1.26	1.26	1.05	1.00	1.08	1.08	(2)
OGVs - Slow Speed Diesel 17% Load Adjustment Factor	1.18	1.18	1.03	1.00	1.06	1.06	(2)
OGVs - Slow Speed Diesel 18% Load Adjustment Factor	1.11	1.11	1.02	1.00	1.04	1.04	(2)
OGVs - Slow Speed Diesel 19% Load Adjustment Factor	1.05	1.05	1.01	1.00	1.02	1.02	(2)
OGVs - Slow Speed Diesel 2% Load Emission Factor	12.71	13.58	78.71	1.90	2.77	2.55	(3)
OGVs - Slow Speed Diesel 3% Load Emission Factor	7.01	9.09	49.64	1.90	1.65	1.52	(3)
OGVs - Slow Speed Diesel 4% Load Emission Factor	4.63	6.80	37.57	1.90	1.17	1.08	(3)
OGVs - Slow Speed Diesel 5% Load Emission Factor	3.37	5.46	31.11	1.90	0.93	0.85	(3)
OGVs - Slow Speed Diesel 6% Load Emission Factor	2.61	4.56	27.20	1.90	0.78	0.71	(3)
OGVs - Slow Speed Diesel 7% Load Emission Factor	2.11	3.92	24.65	1.90	0.68	0.63	(3)
OGVs - Slow Speed Diesel 8% Load Emission Factor	1.77	3.43	22.95	1.90	0.61	0.56	(3)
OGVs - Slow Speed Diesel 9% Load Emission Factor	1.51	3.05	21.59	1.90	0.56	0.52	(3)
OGVs - Slow Speed Diesel 10% Load Emission Factor	1.32	2.74	20.74	1.90	0.52	0.48	(3)
OGVs - Slow Speed Diesel 11% Load Emission Factor	1.18	2.51	19.89	1.90	0.49	0.46	(3)
OGVs - Slow Speed Diesel 12% Load Emission Factor	1.06	2.24	19.38	1.90	0.47	0.43	(3)
OGVs - Slow Speed Diesel 13% Load Emission Factor	0.96	2.06	18.87	1.90	0.45	0.42	(3)
OGVs - Slow Speed Diesel 15% Load Emission Factor	0.82	1.90	18.02	1.90	0.42	0.39	(3)
OGVs - Slow Speed Diesel 16% Load Emission Factor	0.76	1.76	17.85	1.90	0.41	0.38	(3)
OGVs - Slow Speed Diesel 17% Load Emission Factor	0.71	1.65	17.51	1.90	0.40	0.37	(3)
OGVs - Slow Speed Diesel 18% Load Emission Factor	0.67	1.55	17.34	1.90	0.40	0.36	(3)
OGVs - Slow Speed Diesel 19% Load Emission Factor	0.63	1.47	17.17	1.90	0.39	0.36	(3)
Tugboats - Diesel Main Engines Year 2013	0.76	5.02	8.87	0.01	0.32	0.29	(4)
Auxiliary Generators							
OGVs - Slow Speed Diesel - Residual Oil @ 2.7% S	0.40	1.10	14.70	12.30	1.50	1.20	(5)
OGVs - Slow Speed Diesel - Marine Gas Oil @ 0.5% S	0.40	1.10	13.82	2.28	0.38	0.30	(5)
OGVs - Slow Speed Diesel - Marine Gas Oil @ 0.1% S	0.40	1.10	13.82	0.46	0.26	0.20	(5)
Tugboats - Medium Speed Diesel, Marine Gas Oill @ 0.1%	0.85	5.18	6.60	0.01	0.22	0.21	(4)
Auxiliary Boilers							
Commercial Vessels - Residual Oil @ 2.7% S	0.10	0.20	2.10	16.50	0.80	0.64	(6)
Commercial Vessels - Marine Gas Oil @ 0.5% S	0.10	0.20	1.97	3.05	0.20	0.16	(6)
Commercial Vessels - Marine Gas Oil @ 0.1% S	0.10	0.20	1.97	0.61	0.14	0.11	(6)

Notes: (1) From Port 2013 AEI, Table 3.5, based on 0.5% MDO. Fuel correction factors to be applied for 0.1% MDO.

(2) From Port 2013 AEI, Table 3.9

(3) Calculated OGV main power plant low load emission factors.

(4) Provided by Starcrest Consulting, 2015

(5) From Port 2013 AEI, Table 3.11, with fuel correction factors from Table A.18

(6) From Port 2013 AEI, Table 3.15

Table A.18. Fuel Correction Factors for ULSD

Operational Mode/Ship-Engine Type	*Fuel Correction Factor*						*Source*
	ROG	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*	
Fuel Correction Factors, 0.5% MDO	1.00	1.00	0.94	0.19	0.25	0.25	
Fuel Correction Factors, 0.1% MGO	1.00	1.00	0.94	0.04	0.17	0.17	(1)

Notes: (1) From Port 2012 AEI, Table 3.17

Table A.19. Annual Bulk Cargo Vessel Emissions within Zone 6, Zone 5, and Zone 4

Project Scenario/Vessel Type	*Tons Per Year*					
	ROG	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*
Bulk Carrier	0.45	1.04	12.63	1.41	0.28	0.26
Subtotal	0.45	1.04	12.63	1.41	0.28	0.26

Table A.20. Annual Bulk Cargo Vessel Emissions within Zone 3

Project Scenario/Vessel Type	*Tons Per Year*					
	ROG	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*
Bulk Carrier	0.03	0.07	0.89	0.10	0.02	0.02
Subtotal	0.03	0.07	0.89	0.10	0.02	0.02

Table A.21. Annual Bulk Cargo Vessel Emissions within the PZ

Project Scenario/Vessel Type	*Tons Per Year*					
	ROG	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*
Bulk Carrier	0.01	0.02	0.30	0.03	0.01	0.01
Subtotal	0.01	0.02	0.30	0.03	0.01	0.01

Table A.21. Annual Bulk Cargo Vessel Emissions within the Harbor

Project Scenario/Vessel Type	*Tons Per Year*					
	ROG	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*
Bulk Carrier	0.01	0.01	0.10	0.01	0.00	0.00
Subtotal	0.01	0.01	0.10	0.01	0.00	0.00

Table A.22. Annual Bulk Cargo Vessel Emissions - Docking

Project Scenario/Vessel Type	*Tons Per Year*					
	ROG	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*
Bulk Carrier	0.01	0.01	0.03	0.00	0.00	0.00
Subtotal	0.01	0.01	0.03	0.00	0.00	0.00

Table A.23. Annual Auxiliary Generator Emissions for Bulk Cargo Vessels Transiting the Fairway Zone

Project Scenario/Vessel Type	*Tons Per Year*					
	ROG	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*
Bulk Carrier	0.01	0.02	0.33	0.27	0.03	0.03
Subtotal	0.01	0.02	0.33	0.27	0.03	0.03

Note: (1) Assumes 100% usage of RFO @ 2.7% sulfur.

(2) VSRP compliance = 100% for future years.

Table A.24. Annual Auxiliary Generator Emissions for Bulk Cargo Vessels Transiting the VSRP Zone

Project Scenario/Vessel Type	*Tons Per Year*					
	ROG	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*
Bulk Carrier	0.00	0.01	0.08	0.07	0.01	0.01
Subtotal	0.00	0.01	0.08	0.07	0.01	0.01

Note: (1) Assumes 100% usage of RFO @ 2.7% sulfur.

(2) VSRP compliance = 100% for future years.

Table A.25. Annual Auxiliary Generator Emissions for Bulk Cargo Vessels Transiting the Precautionary Area

Project Scenario/Vessel Type	*Tons Per Year*					
	ROG	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*
Bulk Carrier	0.00	0.01	0.07	0.06	0.01	0.01
Subtotal	0.00	0.01	0.07	0.06	0.01	0.01

Note: (1) Assumes 100% usage of RFO @ 2.7% sulfur.

Table A.26. Annual Auxiliary Generator Emissions for Bulk Cargo Vessels Transiting within the Harbor and Docking

Project Scenario/Vessel Type	*Tons Per Year (1)*					
	ROG	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*
Bulk Carrier	0.00	0.01	0.07	0.06	0.01	0.01
Subtotal	0.00	0.01	0.07	0.06	0.01	0.01

Note: (1) Assumes 100% usage of RFO @ 2.7% sulfur.

Table A.27. Annual Auxiliary Generator Emissions during Cargo Vessel Hoteling

Project Scenario/Vessel Type	*Tons Per Year*					
	ROG	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*
Bulk Carrier	0.03	0.07	0.94	0.78	0.10	0.08
Subtotal	0.03	0.07	0.94	0.78	0.10	0.08

Note: (1) Assumes 100% usage of RFO @ 2.7% sulfur.

Table A.28. Annual Auxiliary Boiler Emissions for Bulk Cargo Vessels

Project Scenario/Vessel Type	*Tons Per Year*					
	ROG	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*
Bulk Carrier	0.01	0.01	0.13	1.00	0.05	0.04
Subtotal	0.01	0.01	0.13	1.00	0.05	0.04

Note: (1) VSRP compliance = 100% for future years.

Table A.29. Annual Tugboat Emissions for Bulk Cargo Vessel Assists

Project Scenario/All Vessels	*Tons Per Year*					
	ROG	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*
Bulk Carrier	0.00	0.02	0.04	0.00	0.00	0.00
Subtotal	0.00	0.02	0.04	0.00	0.00	0.00

Note: (1) Assumes 3 tug assists per ship visit for all years.

Table A.30. Annual Tugboat Auxiliary Generator Emissions for Bulk Cargo Vessel Assists

Project Scenario/All Vessels	*Tons Per Year*					
	ROG	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*
Bulk Carrier	0.00	0.00	0.00	0.00	0.00	0.00
Subtotal	0.00	0.00	0.00	0.00	0.00	0.00

Note: (1) Assumes 3 tug assists per ship visit for all years.

Table A.31. Annual Vessel Emissions - PASHA Bulk Terminal Lease Renewal

Project Scenario/Emission Source	*Tons Per Year*					
	ROG	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*
Ships - Fairway Transit (1)	0.49	1.14	13.92	1.85	0.34	0.31
Ships - Precautionary Area Transit (1)	0.01	0.03	0.37	0.09	0.01	0.01
Ships - Harbor Transit and Docking (1)	0.01	0.03	0.21	0.07	0.01	0.01
Ships - Hoteling Aux. Sources	0.03	0.07	0.94	0.78	0.10	0.08
Ships - Boiler Emissions	0.01	0.01	0.13	1.00	0.05	0.04
Tugboats - Cargo Vessel Assist (1)	0.00	0.02	0.04	0.00	0.00	0.00
Subtotal	0.55	1.31	15.61	3.80	0.51	0.45

Note: (1) Includes auxiliary engine emissions.

Table A-32. Equipment Usage Associated with One Inbound/Outbound Train Trip at the PASHA Bulk Terminal

Equipment Type	*Hp (1)*	*Load Factor (2)*	*Number Active*	*Hourly Hp-Hr*	*Hours/ Trip*	*Total Hp-Hrs*
Inbound						
Haul Line Locomotive - 40 mph - Port to Alameda Corridc	4,000	0.48	2	3,848	0.525	2,020
Haul Line Locomotive - 50 mph - Alameda Corridor to Fontan	4,000	0.64	2	5,144	1.300	6,687
Outbound						
Haul Line Locomotive - 40 mph - Port to Alameda Corridc	4,000	0.48	4	7,696	0.525	4,040
Haul Line Locomotive - 50 mph - Alameda Corridor to Fontan	4,000	0.64	4	10,288	1.300	13,374
Haul Line Locomotive - Switching	4,000	0.05	1	200	2.5	500

Notes: (1) Average hp assumed the same as YTI Terminal EIR. 3 locomotives on average: 4 locomotives for outbound trips and 2 for inbound trips.
(2) Line haul loco Notch settings vs. speeds estimated by Starcrest (2007). Notch settings assumed to be 5 for 40 mph, and 6 for 50 mph.

Table A-33. Emission Factors for Rail Equipment

Project Scenario/Equipment	*Emission Factors (g/hp-hr)*						*References*
	ROG	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*	
Line Haul Locomotive	0.21	1.28	5.19	0.01	0.13	0.12	(1)
Switch Yard Locomotive	0.26	1.83	4.50	0.01	0.04	0.03	(2)

Notes: (1) Emission factors for VOC, Nox, and PM10 were calculated from g/gal factors published in EPA Technical Highlights: Emissino Factors for Locomotives, EPA-420-F-09-025. CO CO emission factor from EPA locomotive emission standards, regulatory support document, April 1998. VOC factors equal 1.053 x HC emission factors, per EPA Regulatory Impact Analysis: Control of Emissions of Air Pollution from Locomotive Engines and Marine Compression Ignition Engines Less than 30 Liters Per Cylinder, EPA-420-R-08-001a, May 2008, P. 3-77. PM2.5 emission factors are assumed to be 92% of PM10 emissions (POLA 2013 Air Emission Inventory, Pg. 152).

(2) Port 2013 AEI, Table 6.1, assuming Tier 3 locomotives

Table A-34. Train Trip Generation Rates

Project Scenario/Rail Yard	*Annual Round Trips*
To/from PASHA Terminal	130
Distances (1)	
To/from PASHA Terminal to Alameda Corrido	21
Alameda Corridor to Fontana	65

Notes: (1) from Port 2013 AEI, Page 159.

Table A-35. Annual Train Emissions

Train Direction/Source Activity	*Tons Per Year*					
	ROG	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*
Inbound						
Haul Line Locomotive - 40 mph - Port to Alameda Corridc	0.06	0.34	1.36	0.00	0.03	0.03
Haul Line Locomotive - 50 mph - Alameda Corridor to Fontan	0.18	1.11	4.51	0.00	0.11	0.10
Inbound Tons per Year	0.24	1.45	5.88	0.01	0.15	0.14
Outbound						
Haul Line Locomotive - 40 mph - Port to Alameda Corridc	0.11	0.67	2.73	0.00	0.07	0.06
Haul Line Locomotive - 50 mph - Alameda Corridor to Fontan	0.37	2.23	9.03	0.01	0.23	0.21
Outbound Tons per Year	0.48	2.90	11.75	0.01	0.29	0.27
Haul Line Locomotive - Switchinç	0.02	0.12	0.29	0.00	0.00	0.00
Total Tons per Year	0.73	4.47	17.92	0.02	0.44	0.41

Table A-36. Operational On-Road Vehicles, Berths 206-209, 2018

Vehicle	Vehicle Class	Peak No. of Vehicles per day	Speed or idle time (mph or minutes)	VMT (mi/vehicle-day)	CO		NO_X		ROG		SOx		PM10				PM2.5				CO2		CH
					Running Exhaust (g/mi)	Idling Exhaust, g/hour	Running Exhaust (g/mi)	Idling Exhaust, g/hour	Running Exhaust (g/mi)	Idling Exhaust, g/hour	Running Exhaust (g/mi)	Idling Exhaust, g/hour	Running Exhaust (g/mi)	Idling Exhaust, g/hour	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Idling Exhaust, g/hour	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Idling Exhaust, g/hour	Running Exhaust (g/mi)
Truck Trips	T6 Small	29	Aggregated	50																			
Average Idling Time at In-Gate	1.8 minutes	29	1.8			7.52		69.52		1.83		0.07		0.05				0.05				7567.0507	
Average Idling Time at Out-Gate	0.6 minutes	29	0.6			7.52		69.52		1.83		0.07		0.05				0.05				7567.0507	
Average On-Terminal Idling Time	6 minutes	29	6			7.52		69.52		1.83		0.07		0.05				0.05				7567.0507	
Average Truck On-Terminal Travel Distance	0.5 miles	29	8	0.5	4.54		21.73		1.65		0.03		0.09		0.04	0.06	0.08		0.01	0.03	3211.2101		0.08
On-site Emissions																							
Average Truck Off-Terminal Travel Distance (assume travel to Fontana)	68 miles	29	60	50	0.31		8.20		0.09		0.01		0.05		0.04	0.06	0.05		0.01	0.03	1503.0423		0.00
Off-site Emissions																							
Total																							

Average idle time, travel distance, and speed on terminal from 2013 Port AEI, Table 7.3

Composite Emission Factors provided by Starcrest (Starcrest 2015)

ROG fraction of TOG is 0.878407 from EMFAC2014 model run

Tire wear and Brake wear from EMFAC2014

N2O emission factors based on 2013 Port AEI, Table 7.11.

Paved Road Fugitive Dust

EPA's AP-42, Section 13.2.1, January 2011

E = k(sL/2)^0.91 x (W)^1.02

W for trucks, tons	18.9
Assume silt loading for onsite travel, g/m3	0.6
Assume silt loading for 10,000 ADT roadways, g/m3	0.03
k for PM10	1
k for PM2.5	0.25
Emission Factor, grams/VMT	
PM10, onsite	12.592405
PM2.5, onsite	3.1481012
PM10, offsite	0.8244634
PM2.5, offsite	0.2061159

H4	N2O		Emissions, lbs/day												Total Emissions, tons										
Idling Exhaust, g/hour	Running Exhaust (g/mi)	Idling Exhaust, g/hour	CO	NOx	VOCs	SOx	PM10	PM2.5	Paved Road Fugitive Dust PM10	Road Fugitive Dust PM2.5	CO2	CH4	N2O	Days per Year	CO	NOx	VOCs	SOx	PM10	PM2.5	Paved Road Fugitive Dust PM10	Road Fugitive Dust PM2.5	CO2	CH4	N2O
0.08		0.04	0.01	0.13	0.00	0.00	0.00	0.00			14.51	0.00	0.00	365	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	2.40	0.00	0.00
0.08		0.04	0.00	0.04	0.00	0.00	0.00	0.00			4.84	0.00	0.00	365	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.80	0.00	0.00
0.08		0.04	0.05	0.44	0.01	0.00	0.00	0.00			48.38	0.00	0.00	365	0.01	0.08	0.00	0.00	0.00	0.00	0.00	0.00	8.01	0.00	0.00
	0.02		0.15	0.69	0.05	0.00	0.01	0.00	0.40	0.10	102.66	0.00	0.00	365	0.03	0.13	0.01	0.00	0.00	0.00	0.07	0.02	17.00	0.00	0.00
			0.21	1.32	0.07	0.00	0.01	0.00	0.40	0.10	170.39	0.00	0.00		0.04	0.24	0.01	0.00	0.00	0.00	0.07	0.02	28.21	0.00	0.00
	0.02		1.00	26.21	0.28	0.05	0.48	0.27	2.64	0.66	4804.91	0.01	0.05	365	0.18	4.78	0.05	0.01	0.09	0.05	0.48	0.12	795.51	0.00	0.01
			1.00	26.21	0.28	0.05	0.48	0.27	2.64	0.66	4804.91	0.01	0.05		0.18	4.78	0.05	0.01	0.09	0.05	0.48	0.12	795.51	0.00	0.01
			1.21	27.52	0.35	0.05	0.48	0.28	3.04	0.76	4975.30	0.02	0.05		0.22	5.02	0.06	0.01	0.09	0.05	0.55	0.14	823.72	0.00	0.01

Table A-37. Operational On-Road Vehicles, Berths 153-155, 2018

Vehicle	Vehicle Class	Peak No. of Vehicles per day	Speed or idle time (mph or minutes)	VMT (mi/vehicle day)	CO		NO_X		ROG		SOx		PM10				PM2.5				CO2		CH
					Running Exhaust (g/mi)	Idling Exhaust, g/hour	Running Exhaust (g/mi)	Idling Exhaust, g/hour	Running Exhaust (g/mi)	Idling Exhaust, g/hour	Running Exhaust (g/mi)	Idling Exhaust, g/hour	Running Exhaust (g/mi)	Idling Exhaust, g/hour	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Idling Exhaust, g/hour	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Idling Exhaust, g/hour	Running Exhaust (g/mi)
Truck Trips	T6 Small	15	Aggregated	50																			
Average Idling Time at In-Gate	1.8 minutes	15	1.8			7.52		69.52		1.83		0.07		0.05				0.05				7567.0507	
Average Idling Time at Out-Gate	0.6 minutes	15	0.6			7.52		69.52		1.83		0.07		0.05				0.05				7567.0507	
Average On-Terminal Idling Time	6 minutes	15	6			7.52		69.52		1.83		0.07		0.05				0.05				7567.0507	
Average Truck On-Terminal Travel Distance	0.5 miles	15	8	0.5	4.54		21.73		1.65		0.03		0.09		0.04	0.06	0.08		0.01	0.03	3211.2101		0.08
On-site Emissions																							
Average Truck Off-Terminal Travel Distance (assume travel to Fontana)	68 miles	15	60	50	0.31		8.20		0.09		0.01		0.05		0.04	0.06	0.05		0.01	0.03	1503.0423		0.00
Off-site Emissions																							
Total																							

Average idle time, travel distance, and speed on terminal from 2013 Port AEI, Table 7.3

Composite Emission Factors provided by Starcrest (Starcrest 2015)

ROG fraction of TOG is 0.878407 from EMFAC2014 model run

Tire wear and Brake wear from EMFAC2014

N2O emission factors based on 2013 Port AEI, Table 7.11.

Paved Road Fugitive Dust

EPA's AP-42, Section 13.2.1, January 2011

E = k(sL/2)^0.91 x (W)^1.02

W for trucks, tons	18.9
Assume silt loading for onsite travel, g/m3	0.6
Assume silt loading for 10,000 ADT roadways, g/m3	0.03
k for PM10	1
k for PM2.5	0.25
Emission Factor, grams/VMT	
PM10, onsite	12.592405
PM2.5, onsite	3.1481012
PM10, offsite	0.8244634
PM2.5, offsite	0.2061159

H4	N2O		Emissions, lbs/day												Total Emissions, tons										
Idling Exhaust, g/hour	Running Exhaust (g/mi)	Idling Exhaust, g/hour	CO	NOx	VOCs	SOx	PM10	PM2.5	Paved Road Fugitive Dust PM10	Road Fugitive Dust PM2.5	CO2	CH4	N2O	Days per Week	CO	NOx	VOCs	SOx	PM10	PM2.5	Paved Road Fugitive Dust PM10	Road Fugitive Dust PM2.5	CO2	CH4	N2O
0.08		0.04	0.01	0.07	0.00	0.00	0.00	0.00			7.51	0.00	0.00	365	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.24	0.00	0.00
0.08		0.04	0.00	0.02	0.00	0.00	0.00	0.00			2.50	0.00	0.00	365	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.00	0.00
0.08		0.04	0.02	0.23	0.01	0.00	0.00	0.00			25.02	0.00	0.00	365	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	4.14	0.00	0.00
	0.02		0.08	0.36	0.03	0.00	0.00	0.00	0.21	0.05	53.10	0.00	0.00	365	0.01	0.07	0.00	0.00	0.00	0.00	0.04	0.01	8.79	0.00	0.00
			0.11	0.68	0.04	0.00	0.00	0.00	0.21	0.05	88.13	0.00	0.00		0.02	0.12	0.01	0.00	0.00	0.00	0.04	0.01	14.59	0.00	0.00
	0.02		0.52	13.56	0.15	0.02	0.25	0.14	1.36	0.34	2485.30	0.01	0.02	365	0.09	2.47	0.03	0.00	0.05	0.03	0.25	0.06	411.47	0.00	0.00
			0.52	13.56	0.15	0.02	0.25	0.14	1.36	0.34	2485.30	0.01	0.02		0.09	2.47	0.03	0.00	0.05	0.03	0.25	0.06	411.47	0.00	0.00
			0.63	14.24	0.18	0.02	0.25	0.14	1.57	0.39	2573.43	0.01	0.03		0.11	2.60	0.03	0.00	0.05	0.03	0.29	0.07	426.06	0.00	0.00

Table A-38. Operational On-Road Vehicles, Berths 174-181, 2018

Vehicle	Vehicle Class	Reduction in Peak No. of Vehicles per day	Speed or idle time (mph or minutes)	VMT (mi/vehicle day)	CO		NO_X		ROG		SOx		PM10				PM2.5				CO2		CH
					Running Exhaust (g/mi)	Idling Exhaust, g/hour	Running Exhaust (g/mi)	Idling Exhaust, g/hour	Running Exhaust (g/mi)	Idling Exhaust, g/hour	Running Exhaust (g/mi)	Idling Exhaust, g/hour	Running Exhaust (g/mi)	Idling Exhaust, g/hour	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Idling Exhaust, g/hour	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Idling Exhaust, g/hour	Running Exhaust (g/mi)
Truck Trips	T6 Small	174	Aggregated	50																			
Average Idling Time at In-Gate	1.8 minutes	174	1.8			7.52		69.52		1.83		0.07		0.05				0.05				7567.0507	
Average Idling Time at Out-Gate	0.6 minutes	174	0.6			7.52		69.52		1.83		0.07		0.05				0.05				7567.0507	
Average On-Terminal Idling Time	6 minutes	174	6			7.52		69.52		1.83		0.07		0.05				0.05				7567.0507	
Average Truck On-Terminal Travel Distance	0.5 miles	174	8	0.5	4.54		21.73		1.65		0.03		0.09		0.04	0.06	0.08		0.01	0.03	3211.2101		0.08
On-site Emissions																							
Average Truck Off-Terminal Travel Distance (assume travel to Fontana)	50 miles	174	60	50	0.31		8.20		0.09		0.01		0.05		0.04	0.06	0.05		0.01	0.03	1503.0423		0.00
Off-site Emissions																							
Total																							

Average idle time, travel distance, and speed on terminal from 2013 Port AEI, Table 7.3

Composite Emission Factors provided by Starcrest (Starcrest 2015)

ROG fraction of TOG is 0.878407 from EMFAC2014 model run

Tire wear and Brake wear from EMFAC2014

N2O emission factors based on 2013 Port AEI, Table 7.11.

Paved Road Fugitive Dust

EPA's AP-42, Section 13.2.1, January 2011

E = k(sL/2)^0.91 x (W)^1.02

W for trucks, tons	18.9
Assume silt loading for onsite travel, g/m3	0.6
Assume silt loading for 10,000 ADT roadways, g/m3	0.03
k for PM10	1
k for PM2.5	0.25
Emission Factor, grams/VMT	
PM10, onsite	12.592405
PM2.5, onsite	3.1481012
PM10, offsite	0.8244634
PM2.5, offsite	0.2061159

H4	N2O		Emissions, lbs/day												Total Emissions, tons										
Idling Exhaust, g/hour	Running Exhaust (g/mi)	Idling Exhaust, g/hour	CO	NOx	VOCs	SOx	PM10	PM2.5	Paved Road Fugitive Dust PM10	Road Fugitive Dust PM2.5	CO2	CH4	N2O	Days per Week	CO	NOx	VOCs	SOx	PM10	PM2.5	Paved Road Fugitive Dust PM10	Road Fugitive Dust PM2.5	CO2	CH4	N2O
0.08		0.04	0.09	0.80	0.02	0.00	0.00	0.00			87.08	0.00	0.00	365	0.02	0.15	0.00	0.00	0.00	0.00	0.00	0.00	14.42	0.00	0.00
0.08		0.04	0.03	0.27	0.01	0.00	0.00	0.00			29.03	0.00	0.00	365	0.01	0.05	0.00	0.00	0.00	0.00	0.00	0.00	4.81	0.00	0.00
0.08		0.04	0.29	2.67	0.07	0.00	0.00	0.00			290.28	0.00	0.00	365	0.05	0.49	0.01	0.00	0.00	0.00	0.00	0.00	48.06	0.00	0.00
	0.02		0.87	4.17	0.32	0.01	0.04	0.02	2.42	0.60	615.93	0.01	0.00	365	0.16	0.76	0.06	0.00	0.01	0.00	0.44	0.11	101.98	0.00	0.00
			1.28	7.90	0.41	0.01	0.04	0.03	2.42	0.60	1022.32	0.02	0.00		0.23	1.44	0.08	0.00	0.01	0.00	0.44	0.11	169.26	0.00	0.00
	0.02		6.01	157.25	1.70	0.28	2.86	1.63	15.81	3.95	28829.46	0.08	0.29	365	1.10	28.70	0.31	0.05	0.52	0.30	2.89	0.72	4773.09	0.01	0.05
			6.01	157.25	1.70	0.28	2.86	1.63	15.81	3.95	28829.46	0.08	0.29		1.10	28.70	0.31	0.05	0.52	0.30	2.89	0.72	4773.09	0.01	0.05
			7.28	165.15	2.11	0.28	2.90	1.65	18.23	4.56	29851.78	0.10	0.29		1.33	30.14	0.39	0.05	0.53	0.30	3.33	0.83	4942.35	0.02	0.05

Table A-39. Operational On-Road Vehicles, All Berths

Vehicle	Vehicle Class	Reduction in Peak No. of Vehicles per day	Speed or idle time (mph or minutes)	VMT (mi/vehicle day)	CO		NO_X		ROG		SOx		PM10				PM2.5				CO2		CH
					Running Exhaust (g/mi)	Idling Exhaust, g/hour	Running Exhaust (g/mi)	Idling Exhaust, g/hour	Running Exhaust (g/mi)	Idling Exhaust, g/hour	Running Exhaust (g/mi)	Idling Exhaust, g/hour	Running Exhaust (g/mi)	Idling Exhaust, g/hour	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Idling Exhaust, g/hour	Tire Wear (g/mi)	Brake Wear (g/mi)	Running Exhaust (g/mi)	Idling Exhaust, g/hour	Running Exhaust (g/mi)
Truck Trips	T6 Small	145	Aggregated	50																			
Average Idling Time at In-Gate	1.8 minutes	145	1.8			7.52		69.52		1.83		0.07		0.05				0.05				7567.0507	
Average Idling Time at Out-Gate	0.6 minutes	145	0.6			7.52		69.52		1.83		0.07		0.05				0.05				7567.0507	
Average On-Terminal Idling Time	6 minutes	145	6			7.52		69.52		1.83		0.07		0.05				0.05				7567.0507	
Average Truck On-Terminal Travel Distance	0.5 miles	145	8	0.5	4.54		21.73		1.65		0.03		0.09		0.04	0.06	0.08		0.01	0.03	3211.2101		0.08
On-site Emissions																							
Average Truck Off-Terminal Travel Distance (assume travel to Fontana)	50 miles	145	60	50	0.31		8.20		0.09		0.01		0.05		0.04	0.06	0.05		0.01	0.03	1503.0423		0.00
Off-site Emissions																							
Total																							

Average idle time, travel distance, and speed on terminal from 2013 Port AEI, Table 7.3

Composite Emission Factors provided by Starcrest (Starcrest 2015)

ROG fraction of TOG is 0.878407 from EMFAC2014 model run

Tire wear and Brake wear from EMFAC2014

N2O emission factors based on 2013 Port AEI, Table 7.11.

Paved Road Fugitive Dust

EPA's AP-42, Section 13.2.1, January 2011

E = k(sL/2)^0.91 x (W)^1.02

W for trucks, tons	18.9
Assume silt loading for onsite travel, g/m3	0.6
Assume silt loading for 10,000 ADT roadways, g/m3	0.03
k for PM10	1
k for PM2.5	0.25
Emission Factor, grams/VMT	
PM10, onsite	12.592405
PM2.5, onsite	3.1481012
PM10, offsite	0.8244634
PM2.5, offsite	0.2061159

H4	N2O		Emissions, lbs/day												Total Emissions, tons										
Idling Exhaust, g/hour	Running Exhaust (g/mi)	Idling Exhaust, g/hour	CO	NOx	VOCs	SOx	PM10	PM2.5	Paved Road Fugitive Dust PM10	Road Fugitive Dust PM2.5	CO2	CH4	N2O	Days per Week	CO	NOx	VOCs	SOx	PM10	PM2.5	Paved Road Fugitive Dust PM10	Road Fugitive Dust PM2.5	CO2	CH4	N2O
0.08		0.04	0.07	0.67	0.02	0.00	0.00	0.00			72.57	0.00	0.00	365	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	12.01	0.00	0.00
0.08		0.04	0.02	0.22	0.01	0.00	0.00	0.00			24.19	0.00	0.00	365	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	4.00	0.00	0.00
0.08		0.04	0.24	2.22	0.06	0.00	0.00	0.00			241.90	0.00	0.00	365	0.04	0.41	0.01	0.00	0.00	0.00	0.00	0.00	40.05	0.00	0.00
	0.02		0.73	3.47	0.26	0.00	0.03	0.02	2.01	0.50	513.28	0.01	0.00	365	0.13	0.63	0.05	0.00	0.01	0.00	0.37	0.09	84.98	0.00	0.00
			1.06	6.58	0.34	0.01	0.03	0.02	2.01	0.50	851.93	0.02	0.00		0.19	1.20	0.06	0.00	0.01	0.00	0.37	0.09	141.05	0.00	0.00
	0.02		5.00	131.04	1.41	0.23	2.39	1.35	13.18	3.29	24024.55	0.07	0.24	365	0.91	23.91	0.26	0.04	0.44	0.25	2.40	0.60	3977.57	0.01	0.04
			5.00	131.04	1.41	0.23	2.39	1.35	13.18	3.29	24024.55	0.07	0.24		0.91	23.91	0.26	0.04	0.44	0.25	2.40	0.60	3977.57	0.01	0.04
			6.07	137.62	1.76	0.24	2.42	1.38	15.19	3.80	24876.49	0.08	0.24		1.11	25.12	0.32	0.04	0.44	0.25	2.77	0.69	4118.62	0.01	0.04

Table A-40. Summary, Air Emissions

Emission Source	*Tons Per Year*					
	ROG	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*
Ship Emissions	0.55	1.31	15.61	3.80	0.51	0.45
Rail Emissions	0.73	4.47	17.92	0.02	0.44	0.41
Truck Emissions (decrease)	(0.32)	(1.11)	(25.12)	(0.04)	(3.21)	(0.94)
Total	0.96	4.67	8.41	3.77	(2.26)	(0.08)

Emissions reports as increase (decrease)

Table A-41. Summary, Air Emissions by Berths

Berths 174-181	*Tons Per Year*					
Emission Source	*ROG*	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*
Ship Emissions	0.55	1.31	15.61	3.80	0.51	0.45
Rail Emissions	0.73	4.47	17.92	0.02	0.44	0.41
Truck Emissions (decrease)	(0.39)	(1.33)	(30.14)	(0.05)	(3.86)	(1.13)
Total	0.90	4.44	3.39	3.76	(2.90)	(0.27)

Berths 153-155	*Tons Per Year*					
Emission Source	*ROG*	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*
Truck Emissions	0.03	0.11	2.60	0.00	0.33	0.10
Total	0.03	0.11	2.60	0.00	0.33	0.10

Berths 206-209	*Tons Per Year*					
Emission Source	*ROG*	*CO*	*NOx*	*SOx*	*PM10*	*PM2.5*
Truck Emissions	0.06	0.22	5.02	0.01	0.64	0.19
Total	0.06	0.22	5.02	0.01	0.64	0.19

APPENDIX A2

BACKUP DATA FOR THE LOCALIZED AIR QUALITY IMPACT SCREENING ANALYSIS

AERMOD Output files

```
 *** AERMOD - VERSION  14134 ***   *** Berth 206
***        03/20/15
 *** AERMET - VERSION  14134 ***   *** LST Analysis
***        14:44:52

PAGE   1
 **MODELOPTs:   RegDFAULT CONC      ELEV      WARNCHKD  NODRYDPLT
NOWETDPLT

                                                ***     MODEL SETUP OPTIONS
SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses URBAN Dispersion Algorithm for the SBL for   421 Source(s),
   for Total of    1 Urban Area(s):
   Urban Population =    535500.0 ;  Urban Roughness Length =  1.000 m

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay for URBAN/Non-SO2.
        6. Urban Roughness Length of 1.0 Meter Assumed.

 **Other Options Specified:
        WARNCHKD - Issues warning messages for records out of sequence
                   in meteorology files
        CCVR_Sub - Meteorological data includes CCVR substitutions
        TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  CO

 **Model Calculates  2 Short Term Average(s) of:   1-HR   8-HR

 **This Run Includes:    421 Source(s);       1 Source Group(s); and
1248 Receptor(s)

 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  14134
```

```
 **Output Options Selected:
          Model Outputs Tables of Highest Short Term Values by Receptor
(RECTABLE Keyword)
          Model Outputs External File(s) of High Values for Plotting
(PLOTFILE Keyword)
          Model Outputs Separate Summary File of High Ranked Values
(SUMMFILE Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for
Calm Hours
                                                                 m for
Missing Hours
                                                                 b for
Both Calm and Missing Hours

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =     7.62 ;
Decay Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units = GRAMS/SEC
;  Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.9 MB of RAM.

 **Input Runstream File:          Berth 206 LST_2yrs_CO.DTA
 **Output Print File:             Berth 206 LST_2yrs_CO.LST

 **File for Summary of Results:   D:\BEEST\POLA\Berth 206 LST_2yrs_CO.SUM
```

**MODELOPTs: RegDFAULT CONC ELEV WARNCHKD NODRYDPLT NOWETDPLT

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

**MODELOPTs: RegDFAULT CONC ELEV WARNCHKD NODRYDPLT
NOWETDPLT

*** UP TO THE FIRST 24 HOURS OF
METEOROLOGICAL DATA ***

Surface file: SPPS_SEP06-AUG07.SFC
Met Version: 14134
Profile file: SPPS_SEP06-AUG07.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 99999 Upper air station no.:
3190
Name: UNKNOWN Name:
UNKNOWN
Year: 2006 Year:
2006

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
06	09	01	244	01	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	03	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	04	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	05	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	06	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.75	999.00	999.	0.0	999.0	0.0
06	09	01	244	07	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.33	999.00	999.	0.0	999.0	0.0
06	09	01	244	08	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.21	999.00	999.	0.0	999.0	0.0
06	09	01	244	09	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.18	999.00	999.	0.0	999.0	0.0
06	09	01	244	10	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.17	999.00	999.	0.0	999.0	0.0
06	09	01	244	11	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.17	999.00	999.	0.0	999.0	0.0
06	09	01	244	12	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.17	999.00	999.	0.0	999.0	0.0

```
 06 09 01 244 13 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.17  999.00  999.    0.0  999.0    0.0
 06 09 01 244 14 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.17  999.00  999.    0.0  999.0    0.0
 06 09 01 244 15 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.17  999.00  999.    0.0  999.0    0.0
 06 09 01 244 16 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.18  999.00  999.    0.0  999.0    0.0
 06 09 01 244 17 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.23  999.00  999.    0.0  999.0    0.0
 06 09 01 244 18 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.39  999.00  999.    0.0  999.0    0.0
 06 09 01 244 19 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 22 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 06 09 01 01   10.0 1 -999.  -99.00  -999.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
```

**MODELOPTs: RegDFAULT CONC ELEV WARNCHKD NODRYDPLT
NOWETDPLT

*** THE SUMMARY OF HIGHEST
1-HR RESULTS ***

** CONC OF CO IN MICROGRAMS/M**3
**

NETWORK GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	
RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID	
ALL HIGH 1ST HIGH VALUE IS	0.21778	ON 07073006:	AT (384975.00, 3736475.00, 0.00, 0.00, 0.00) DC
HIGH 2ND HIGH VALUE IS	0.21738	ON 06102022:	AT (384975.00, 3736475.00, 0.00, 0.00, 0.00) DC

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

 **MODELOPTs: RegDFAULT CONC   ELEV   WARNCHKD NODRYDPLT
NOWETDPLT

*** THE SUMMARY OF HIGHEST
8-HR RESULTS ***

** CONC OF CO   IN MICROGRAMS/M**3
**

NETWORK GROUP ID	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	AVERAGE CONC OF TYPE	DATE (YYMMDDHH) GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	0.20695c	ON 07013108: AT (384975.00, 3736475.00, 0.00, 0.00, 0.00) DC
	HIGH 2ND HIGH VALUE IS	0.20246c	ON 06110808: AT (384975.00, 3736475.00, 0.00, 0.00, 0.00) DC

 *** RECEPTOR TYPES: GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR

 **MODELOPTs: RegDFAULT CONC   ELEV   WARNCHKD NODRYDPLT
NOWETDPLT

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of   0 Fatal Error Message(s)
 A Total of   1 Warning Message(s)
 A Total of   229 Informational Message(s)

 A Total of   8760 Hours Were Processed

 A Total of   140 Calm Hours Identified

 A Total of   89 Missing Hours Identified (1.02 Percent)

    ******** FATAL ERROR MESSAGES ********
               *** NONE ***

    ********   WARNING MESSAGES   ********
 MX W394   1   METEXT: Met data may be from outdated version of
AERMET: No NAD/ADJ

 **MODELOPTs: RegDFAULT CONC   ELEV   WARNCHKD NODRYDPLT
NOWETDPLT

                                                ***   MODEL SETUP OPTIONS
SUMMARY   ***
 -
- -

 **Model Is Setup For Calculation of Average CONCentration Values.

   -- DEPOSITION LOGIC --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION. DRYDPLT = F
 **Model Uses NO WET DEPLETION. WETDPLT = F

 **Model Uses URBAN Dispersion Algorithm for the SBL for   421 Source(s),
   for Total of   1 Urban Area(s):
   Urban Population =   535500.0 ; Urban Roughness Length = 1.000 m

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay for URBAN/Non-SO2.
        6. Urban Roughness Length of 1.0 Meter Assumed.

 **Other Options Specified:
        WARNCHKD - Issues warning messages for records out of sequence
                   in meteorology files
        CCVR_Sub - Meteorological data includes CCVR substitutions
        TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of: NOX

 **Model Calculates 1 Short Term Average(s) of: 1-HR

 **This Run Includes: 421 Source(s);   1 Source Group(s); and
1248 Receptor(s)

 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date: 14134

 **Output Options Selected:

Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 7.62 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC
; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.8 MB of RAM.

**Input Runstream File: Berth 206 LST_2yrs_NOX.DTA
**Output Print File: Berth 206 LST_2yrs_NOX.LST

**File for Summary of Results: D:\BEEST\POLA\Berth 206 LST_2yrs_NOX.SUM

*** AERMOD - VERSION 14134 *** *** Berth 206
*** 03/20/15
*** AERMET - VERSION 14134 *** *** LST Analysis
*** 17:11:50

PAGE 2
**MODELOPTs: RegDFAULT CONC ELEV WARNCHKD NODRYDPLT
NOWETDPLT

*** METEOROLOGICAL DAYS
SELECTED FOR PROCESSING ***
(1=YES;
0=NO)

```
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO
DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH
WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14,
8.23, 10.80,

**MODELOPTs: RegDFAULT CONC ELEV WARNCHKD NODRYDPLT
NOWETDPLT

*** UP TO THE FIRST 24 HOURS OF
METEOROLOGICAL DATA ***

Surface file: SPPS_SEP06-AUG07.SFC
Met Version: 14134
Profile file: SPPS_SEP06-AUG07.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 99999 Upper air station no.:
3190
Name: UNKNOWN Name:
UNKNOWN
Year: 2006 Year:
2006

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
06	09	01	244	01	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	03	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	04	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	05	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	06	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.75	999.00	999.	0.0	999.0	0.0
06	09	01	244	07	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.33	999.00	999.	0.0	999.0	0.0
06	09	01	244	08	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.21	999.00	999.	0.0	999.0	0.0
06	09	01	244	09	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.18	999.00	999.	0.0	999.0	0.0
06	09	01	244	10	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.17	999.00	999.	0.0	999.0	0.0
06	09	01	244	11	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.17	999.00	999.	0.0	999.0	0.0
06	09	01	244	12	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.17	999.00	999.	0.0	999.0	0.0

```
 06 09 01 244 13 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.17  999.00  999.    0.0  999.0    0.0
 06 09 01 244 14 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.17  999.00  999.    0.0  999.0    0.0
 06 09 01 244 15 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.17  999.00  999.    0.0  999.0    0.0
 06 09 01 244 16 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.18  999.00  999.    0.0  999.0    0.0
 06 09 01 244 17 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.23  999.00  999.    0.0  999.0    0.0
 06 09 01 244 18 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.39  999.00  999.    0.0  999.0    0.0
 06 09 01 244 19 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 22 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 06 09 01 01   10.0 1 -999.  -99.00  -999.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
```

**MODELOPTs: RegDFAULT CONC ELEV WARNCHKD NODRYDPLT
NOWETDPLT

*** THE SUMMARY OF HIGHEST
1-HR RESULTS ***

** CONC OF NOX IN MICROGRAMS/M**3
**

NETWORK GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	1ST HIGH VALUE IS	1.53148	ON 07073006:	AT (384975.00, 3736475.00, 0.00, 0.00, 0.00)	DC
	2ND HIGH VALUE IS	1.52865	ON 06102022:	AT (384975.00, 3736475.00, 0.00, 0.00, 0.00)	DC

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

 **MODELOPTs: RegDFAULT CONC   ELEV   WARNCHKD NODRYDPLT
NOWETDPLT

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of   0 Fatal Error Message(s)
 A Total of   1 Warning Message(s)
 A Total of   229 Informational Message(s)

 A Total of   8760 Hours Were Processed

 A Total of   140 Calm Hours Identified

 A Total of   89 Missing Hours Identified (1.02 Percent)

    ******** FATAL ERROR MESSAGES ********
               *** NONE ***

    ********   WARNING MESSAGES   ********
 MX W394   1   METEXT: Met data may be from outdated version of
AERMET: No NAD/ADJ

**MODELOPTs: RegDFAULT CONC ELEV WARNCHKD NODRYDPLT NOWETDPLT

*** MODEL SETUP OPTIONS SUMMARY ***

- -

**Model Is Setup For Calculation of Average CONCentration Values.

-- DEPOSITION LOGIC --
**NO GAS DEPOSITION Data Provided.
**NO PARTICLE DEPOSITION Data Provided.
**Model Uses NO DRY DEPLETION. DRYDPLT = F
**Model Uses NO WET DEPLETION. WETDPLT = F

**Model Uses URBAN Dispersion Algorithm for the SBL for 421 Source(s),
for Total of 1 Urban Area(s):
Urban Population = 535500.0 ; Urban Roughness Length = 1.000 m

**Model Uses Regulatory DEFAULT Options:
1. Stack-tip Downwash.
2. Model Accounts for ELEVated Terrain Effects.
3. Use Calms Processing Routine.
4. Use Missing Data Processing Routine.
5. No Exponential Decay for URBAN/Non-SO2.
6. Urban Roughness Length of 1.0 Meter Assumed.

**Other Options Specified:
WARNCHKD - Issues warning messages for records out of sequence in meteorology files
CCVR_Sub - Meteorological data includes CCVR substitutions
TEMP_Sub - Meteorological data includes TEMP substitutions

**Model Assumes No FLAGPOLE Receptor Heights.

**The User Specified a Pollutant Type of: PM

**Model Calculates 1 Short Term Average(s) of: 24-HR

**This Run Includes: 421 Source(s); 1 Source Group(s); and 1248 Receptor(s)

**Model Set To Continue RUNning After the Setup Testing.

**The AERMET Input Meteorological Data Version Date: 14134

**Output Options Selected:

Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 7.62 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC
; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.8 MB of RAM.

**Input Runstream File: Berth 206 LST_2yrs_PM.DTA
**Output Print File: Berth 206 LST_2yrs_PM.LST

**File for Summary of Results: D:\BEEST\POLA\Berth 206 LST_2yrs_PM.SUM

**MODELOPTs: RegDFAULT CONC   ELEV   WARNCHKD NODRYDPLT
NOWETDPLT

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54,   3.09,   5.14,   8.23, 10.80,

**MODELOPTs: RegDFAULT CONC ELEV WARNCHKD NODRYDPLT
NOWETDPLT

*** UP TO THE FIRST 24 HOURS OF
METEOROLOGICAL DATA ***

Surface file: SPPS_SEP06-AUG07.SFC
Met Version: 14134
Profile file: SPPS_SEP06-AUG07.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 99999 Upper air station no.:
3190
Name: UNKNOWN Name:
UNKNOWN
Year: 2006 Year:
2006

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
06	09	01	244	01	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	03	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	04	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	05	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	06	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.75	999.00	999.	0.0	999.0	0.0
06	09	01	244	07	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.33	999.00	999.	0.0	999.0	0.0
06	09	01	244	08	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.21	999.00	999.	0.0	999.0	0.0
06	09	01	244	09	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.18	999.00	999.	0.0	999.0	0.0
06	09	01	244	10	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.17	999.00	999.	0.0	999.0	0.0
06	09	01	244	11	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.17	999.00	999.	0.0	999.0	0.0
06	09	01	244	12	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.17	999.00	999.	0.0	999.0	0.0

```
 06 09 01 244 13 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.17  999.00  999.    0.0  999.0    0.0
 06 09 01 244 14 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.17  999.00  999.    0.0  999.0    0.0
 06 09 01 244 15 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.17  999.00  999.    0.0  999.0    0.0
 06 09 01 244 16 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.18  999.00  999.    0.0  999.0    0.0
 06 09 01 244 17 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.23  999.00  999.    0.0  999.0    0.0
 06 09 01 244 18 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.39  999.00  999.    0.0  999.0    0.0
 06 09 01 244 19 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 22 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 06 09 01 01   10.0 1 -999.  -99.00  -999.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
```

**MODELOPTs: RegDFAULT CONC ELEV WARNCHKD NODRYDPLT
NOWETDPLT

*** THE SUMMARY OF HIGHEST
24-HR RESULTS ***

** CONC OF PM IN MICROGRAMS/M**3
**

NETWORK GROUP ID	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	AVERAGE CONC OF TYPE	DATE (YYMMDDHH) GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	0.00375c	ON 07010124: AT (384525.00, 3736625.00, 0.00, 0.00, 0.00) DC
	HIGH 2ND HIGH VALUE IS	0.00373	ON 07011524: AT (384525.00, 3736625.00, 0.00, 0.00, 0.00) DC

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

 **MODELOPTs: RegDFAULT CONC   ELEV   WARNCHKD NODRYDPLT
NOWETDPLT

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of   0 Fatal Error Message(s)
 A Total of   1 Warning Message(s)
 A Total of   229 Informational Message(s)

 A Total of   8760 Hours Were Processed

 A Total of   140 Calm Hours Identified

 A Total of   89 Missing Hours Identified (1.02 Percent)

    ******** FATAL ERROR MESSAGES ********
               *** NONE ***

    ********   WARNING MESSAGES   ********
 MX W394   1   METEXT: Met data may be from outdated version of
AERMET: No NAD/ADJ

```
 **MODELOPTs:   RegDFAULT CONC      ELEV      WARNCHKD  NODRYDPLT
NOWETDPLT

                                             ***     MODEL SETUP OPTIONS
SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses URBAN Dispersion Algorithm for the SBL for   421 Source(s),
   for Total of    1 Urban Area(s):
   Urban Population =    535500.0 ;  Urban Roughness Length =  1.000 m

 **Model Uses Regulatory DEFAULT Options:
         1. Stack-tip Downwash.
         2. Model Accounts for ELEVated Terrain Effects.
         3. Use Calms Processing Routine.
         4. Use Missing Data Processing Routine.
         5. No Exponential Decay for URBAN/Non-SO2.
         6. Urban Roughness Length of 1.0 Meter Assumed.

 **Other Options Specified:
         WARNCHKD - Issues warning messages for records out of sequence
                    in meteorology files
         CCVR_Sub - Meteorological data includes CCVR substitutions
         TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  PM25

 **Model Calculates  1 Short Term Average(s) of:  24-HR

 **This Run Includes:    421 Source(s);       1 Source Group(s); and
1248 Receptor(s)

 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  14134

 **Output Options Selected:
```

Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 7.62 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC
; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.8 MB of RAM.

**Input Runstream File: Berth 206 LST_2yrs_PM25.DTA
**Output Print File: Berth 206 LST_2yrs_PM25.LST

**File for Summary of Results: D:\BEEST\POLA\Berth 206 LST_2yrs_PM25.SUM

**MODELOPTs: RegDFAULT CONC ELEV WARNCHKD NODRYDPLT
NOWETDPLT

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

**MODELOPTs: RegDFAULT CONC ELEV WARNCHKD NODRYDPLT
NOWETDPLT

*** UP TO THE FIRST 24 HOURS OF
METEOROLOGICAL DATA ***

Surface file: SPPS_SEP06-AUG07.SFC
Met Version: 14134
Profile file: SPPS_SEP06-AUG07.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 99999 Upper air station no.:
3190
Name: UNKNOWN Name:
UNKNOWN
Year: 2006 Year:
2006

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
06	09	01	244	01	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	03	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	04	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	05	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	06	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.75	999.00	999.	0.0	999.0	0.0
06	09	01	244	07	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.33	999.00	999.	0.0	999.0	0.0
06	09	01	244	08	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.21	999.00	999.	0.0	999.0	0.0
06	09	01	244	09	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.18	999.00	999.	0.0	999.0	0.0
06	09	01	244	10	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.17	999.00	999.	0.0	999.0	0.0
06	09	01	244	11	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.17	999.00	999.	0.0	999.0	0.0
06	09	01	244	12	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.17	999.00	999.	0.0	999.0	0.0

```
 06 09 01 244 13 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.17  999.00  999.    0.0  999.0    0.0
 06 09 01 244 14 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.17  999.00  999.    0.0  999.0    0.0
 06 09 01 244 15 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.17  999.00  999.    0.0  999.0    0.0
 06 09 01 244 16 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.18  999.00  999.    0.0  999.0    0.0
 06 09 01 244 17 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.23  999.00  999.    0.0  999.0    0.0
 06 09 01 244 18 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.39  999.00  999.    0.0  999.0    0.0
 06 09 01 244 19 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 22 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 06 09 01 01   10.0 1 -999.  -99.00  -999.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
```

**MODELOPTs: RegDFAULT CONC ELEV WARNCHKD NODRYDPLT
NOWETDPLT

*** THE SUMMARY OF HIGHEST
24-HR RESULTS ***

** CONC OF PM25 IN MICROGRAMS/M**3
**

NETWORK GROUP ID	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	AVERAGE CONC OF TYPE	DATE (YYMMDDHH) GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	0.00246c	ON 07010124: AT (384525.00, 3736625.00, 0.00, 0.00, 0.00) DC
	HIGH 2ND HIGH VALUE IS	0.00245	ON 07011524: AT (384525.00, 3736625.00, 0.00, 0.00, 0.00) DC

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

 **MODELOPTs: RegDFAULT CONC   ELEV   WARNCHKD NODRYDPLT
NOWETDPLT

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of   0 Fatal Error Message(s)
 A Total of   2 Warning Message(s)
 A Total of   229 Informational Message(s)

 A Total of   8760 Hours Were Processed

 A Total of   140 Calm Hours Identified

 A Total of   89 Missing Hours Identified (1.02 Percent)

    ******** FATAL ERROR MESSAGES ********
               *** NONE ***

    ********   WARNING MESSAGES   ********
 CO W363   14   COCARD: Multiyr 24h/Ann PM25 processing not
applicable for   WARNCHKD
 MX W394   1   METEXT: Met data may be from outdated version of
AERMET: No NAD/ADJ

**MODELOPTs: RegDFAULT CONC   ELEV   WARNCHKD NODRYDPLT
NOWETDPLT

***   MODEL SETUP OPTIONS
SUMMARY   ***

- -

**Model Is Setup For Calculation of Average CONCentration Values.

-- DEPOSITION LOGIC --
**NO GAS DEPOSITION Data Provided.
**NO PARTICLE DEPOSITION Data Provided.
**Model Uses NO DRY DEPLETION. DRYDPLT = F
**Model Uses NO WET DEPLETION. WETDPLT = F

**Model Uses URBAN Dispersion Algorithm for the SBL for   59 Source(s),
for Total of   1 Urban Area(s):
Urban Population =   535500.0 ; Urban Roughness Length = 1.000 m

**Model Uses Regulatory DEFAULT Options:
1. Stack-tip Downwash.
2. Model Accounts for ELEVated Terrain Effects.
3. Use Calms Processing Routine.
4. Use Missing Data Processing Routine.
5. No Exponential Decay for URBAN/Non-SO2.
6. Urban Roughness Length of 1.0 Meter Assumed.

**Other Options Specified:
WARNCHKD - Issues warning messages for records out of sequence
in meteorology files
CCVR_Sub - Meteorological data includes CCVR substitutions
TEMP_Sub - Meteorological data includes TEMP substitutions

**Model Assumes No FLAGPOLE Receptor Heights.

**The User Specified a Pollutant Type of: CO

**Model Calculates 2 Short Term Average(s) of: 1-HR   8-HR

**This Run Includes: 59 Source(s);   1 Source Group(s); and
791 Receptor(s)

**Model Set To Continue RUNning After the Setup Testing.

**The AERMET Input Meteorological Data Version Date: 14134

**Output Options Selected:

Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 7.62 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC
; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.7 MB of RAM.

**Input Runstream File: Berth 153 LST_2yrs_CO.DTA
**Output Print File: Berth 153 LST_2yrs_CO.LST

**File for Summary of Results: D:\BEEST\POLA\Berth 153 LST_2yrs_CO.SUM

**MODELOPTs: RegDFAULT CONC   ELEV   WARNCHKD NODRYDPLT
NOWETDPLT

*** METEOROLOGICAL DAYS
SELECTED FOR PROCESSING ***
(1=YES;
0=NO)

```
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO
DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH
WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54,   3.09,   5.14,
8.23, 10.80,

**MODELOPTs: RegDFAULT CONC ELEV WARNCHKD NODRYDPLT
NOWETDPLT

*** UP TO THE FIRST 24 HOURS OF
METEOROLOGICAL DATA ***

Surface file: SPPS_SEP06-AUG07.SFC
Met Version: 14134
Profile file: SPPS_SEP06-AUG07.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 99999 Upper air station no.:
3190
Name: UNKNOWN Name:
UNKNOWN
Year: 2006 Year:
2006

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
06	09	01	244	01	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	03	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	04	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	05	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	06	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.75	999.00	999.	0.0	999.0	0.0
06	09	01	244	07	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.33	999.00	999.	0.0	999.0	0.0
06	09	01	244	08	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.21	999.00	999.	0.0	999.0	0.0
06	09	01	244	09	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.18	999.00	999.	0.0	999.0	0.0
06	09	01	244	10	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.17	999.00	999.	0.0	999.0	0.0
06	09	01	244	11	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.17	999.00	999.	0.0	999.0	0.0
06	09	01	244	12	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.17	999.00	999.	0.0	999.0	0.0

```
 06 09 01 244 13 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.17  999.00  999.    0.0  999.0    0.0
 06 09 01 244 14 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.17  999.00  999.    0.0  999.0    0.0
 06 09 01 244 15 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.17  999.00  999.    0.0  999.0    0.0
 06 09 01 244 16 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.18  999.00  999.    0.0  999.0    0.0
 06 09 01 244 17 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.23  999.00  999.    0.0  999.0    0.0
 06 09 01 244 18 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.39  999.00  999.    0.0  999.0    0.0
 06 09 01 244 19 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 22 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 06 09 01 01   10.0 1 -999.  -99.00  -999.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
```

**MODELOPTs: RegDFAULT CONC ELEV WARNCHKD NODRYDPLT
NOWETDPLT

*** THE SUMMARY OF HIGHEST
1-HR RESULTS ***

** CONC OF CO IN MICROGRAMS/M**3
**

NETWORK GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	1ST HIGH	0.37040	ON 07073006:	AT (382525.00, 3735825.00, 0.00, 0.00, 0.00)	DC
	2ND HIGH	0.36975	ON 06102022:	AT (382525.00, 3735825.00, 0.00, 0.00, 0.00)	DC

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

**MODELOPTs: RegDFAULT CONC ELEV WARNCHKD NODRYDPLT
NOWETDPLT

*** THE SUMMARY OF HIGHEST
8-HR RESULTS ***

** CONC OF CO IN MICROGRAMS/M**3
**

NETWORK GROUP ID	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	AVERAGE CONC OF TYPE	DATE (YYMMDDHH) GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	0.35278c ON	07013108: AT (382525.00, 3735825.00, 0.00, 0.00, 0.00) DC
	HIGH 2ND HIGH VALUE IS	0.34542c ON	06110808: AT (382525.00, 3735825.00, 0.00, 0.00, 0.00) DC

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

 **MODELOPTs: RegDFAULT CONC   ELEV   WARNCHKD NODRYDPLT
NOWETDPLT

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of   0 Fatal Error Message(s)
 A Total of   1 Warning Message(s)
 A Total of   229 Informational Message(s)

 A Total of   8760 Hours Were Processed

 A Total of   140 Calm Hours Identified

 A Total of   89 Missing Hours Identified (1.02 Percent)

    ******** FATAL ERROR MESSAGES ********
               *** NONE ***

    ********   WARNING MESSAGES   ********
 MX W394   1   METEXT: Met data may be from outdated version of
AERMET: No NAD/ADJ

```
 **MODELOPTs:   RegDFAULT CONC      ELEV      WARNCHKD  NODRYDPLT
NOWETDPLT

                                             ***     MODEL SETUP OPTIONS
SUMMARY       ***
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - -

 **Model Is Setup For Calculation of Average CONCentration Values.

   --  DEPOSITION LOGIC  --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
 **Model Uses NO WET DEPLETION.  WETDPLT  =  F

 **Model Uses URBAN Dispersion Algorithm for the SBL for    59 Source(s),
   for Total of    1 Urban Area(s):
   Urban Population =    535500.0 ;  Urban Roughness Length =  1.000 m

 **Model Uses Regulatory DEFAULT Options:
         1. Stack-tip Downwash.
         2. Model Accounts for ELEVated Terrain Effects.
         3. Use Calms Processing Routine.
         4. Use Missing Data Processing Routine.
         5. No Exponential Decay for URBAN/Non-SO2.
         6. Urban Roughness Length of 1.0 Meter Assumed.

 **Other Options Specified:
         WARNCHKD - Issues warning messages for records out of sequence
                    in meteorology files
         CCVR_Sub - Meteorological data includes CCVR substitutions
         TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of:  NOX

 **Model Calculates  1 Short Term Average(s) of:   1-HR

 **This Run Includes:     59 Source(s);       1 Source Group(s); and
791 Receptor(s)

 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date:  14134

 **Output Options Selected:
```

Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 7.62 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC
; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.6 MB of RAM.

**Input Runstream File: Berth 153 LST_2yrs_NOX.DTA
**Output Print File: Berth 153 LST_2yrs_NOX.LST

**File for Summary of Results: D:\BEEST\POLA\Berth 153 LST_2yrs_NOX.SUM

**MODELOPTs: RegDFAULT CONC   ELEV   WARNCHKD NODRYDPLT
NOWETDPLT

*** METEOROLOGICAL DAYS
SELECTED FOR PROCESSING ***
(1=YES;
0=NO)

```
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO
DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH
WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54,   3.09,   5.14,
8.23, 10.80,

**MODELOPTs: RegDFAULT CONC ELEV WARNCHKD NODRYDPLT
NOWETDPLT

*** UP TO THE FIRST 24 HOURS OF
METEOROLOGICAL DATA ***

Surface file: SPPS_SEP06-AUG07.SFC
Met Version: 14134
Profile file: SPPS_SEP06-AUG07.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 99999 Upper air station no.:
3190
Name: UNKNOWN Name:
UNKNOWN
Year: 2006 Year:
2006

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
06	09	01	244	01	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	03	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	04	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	05	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	06	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.75	999.00	999.	0.0	999.0	0.0
06	09	01	244	07	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.33	999.00	999.	0.0	999.0	0.0
06	09	01	244	08	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.21	999.00	999.	0.0	999.0	0.0
06	09	01	244	09	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.18	999.00	999.	0.0	999.0	0.0
06	09	01	244	10	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.17	999.00	999.	0.0	999.0	0.0
06	09	01	244	11	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.17	999.00	999.	0.0	999.0	0.0
06	09	01	244	12	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.17	999.00	999.	0.0	999.0	0.0

```
 06 09 01 244 13 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.17  999.00  999.    0.0  999.0    0.0
 06 09 01 244 14 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.17  999.00  999.    0.0  999.0    0.0
 06 09 01 244 15 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.17  999.00  999.    0.0  999.0    0.0
 06 09 01 244 16 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.18  999.00  999.    0.0  999.0    0.0
 06 09 01 244 17 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.23  999.00  999.    0.0  999.0    0.0
 06 09 01 244 18 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.39  999.00  999.    0.0  999.0    0.0
 06 09 01 244 19 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 22 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 06 09 01 01   10.0 1 -999.  -99.00  -999.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
```

**MODELOPTs: RegDFAULT CONC ELEV WARNCHKD NODRYDPLT
NOWETDPLT

*** THE SUMMARY OF HIGHEST
1-HR RESULTS ***

** CONC OF NOX IN MICROGRAMS/M**3
**

NETWORK GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	1ST HIGH VALUE IS	2.37507	ON 07073006:	AT (382525.00, 3735825.00, 0.00, 0.00, 0.00)	DC
	2ND HIGH VALUE IS	2.37090	ON 06102022:	AT (382525.00, 3735825.00, 0.00, 0.00, 0.00)	DC

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

 **MODELOPTs: RegDFAULT CONC   ELEV   WARNCHKD NODRYDPLT
NOWETDPLT

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of   0 Fatal Error Message(s)
 A Total of   1 Warning Message(s)
 A Total of   229 Informational Message(s)

 A Total of   8760 Hours Were Processed

 A Total of   140 Calm Hours Identified

 A Total of   89 Missing Hours Identified (1.02 Percent)

    ******** FATAL ERROR MESSAGES ********
               *** NONE ***

    ********   WARNING MESSAGES   ********
 MX W394   1   METEXT: Met data may be from outdated version of
AERMET: No NAD/ADJ

**MODELOPTs: RegDFAULT CONC   ELEV   WARNCHKD NODRYDPLT
NOWETDPLT

*** MODEL SETUP OPTIONS SUMMARY ***

- -

**Model Is Setup For Calculation of Average CONCentration Values.

-- DEPOSITION LOGIC --
**NO GAS DEPOSITION Data Provided.
**NO PARTICLE DEPOSITION Data Provided.
**Model Uses NO DRY DEPLETION. DRYDPLT = F
**Model Uses NO WET DEPLETION. WETDPLT = F

**Model Uses URBAN Dispersion Algorithm for the SBL for   59 Source(s),
for Total of   1 Urban Area(s):
Urban Population =   535500.0 ; Urban Roughness Length = 1.000 m

**Model Uses Regulatory DEFAULT Options:
1. Stack-tip Downwash.
2. Model Accounts for ELEVated Terrain Effects.
3. Use Calms Processing Routine.
4. Use Missing Data Processing Routine.
5. No Exponential Decay for URBAN/Non-SO2.
6. Urban Roughness Length of 1.0 Meter Assumed.

**Other Options Specified:
WARNCHKD - Issues warning messages for records out of sequence in meteorology files
CCVR_Sub - Meteorological data includes CCVR substitutions
TEMP_Sub - Meteorological data includes TEMP substitutions

**Model Assumes No FLAGPOLE Receptor Heights.

**The User Specified a Pollutant Type of: PM

**Model Calculates 1 Short Term Average(s) of: 24-HR

**This Run Includes: 59 Source(s);   1 Source Group(s); and
791 Receptor(s)

**Model Set To Continue RUNning After the Setup Testing.

**The AERMET Input Meteorological Data Version Date: 14134

**Output Options Selected:

Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 7.62 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC
; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.6 MB of RAM.

**Input Runstream File: Berth 153 LST_2yrs_PM.DTA
**Output Print File: Berth 153 LST_2yrs_PM.LST

**File for Summary of Results: D:\BEEST\POLA\Berth 153 LST_2yrs_PM.SUM

**MODELOPTs: RegDFAULT CONC   ELEV   WARNCHKD NODRYDPLT
NOWETDPLT

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54,   3.09,   5.14,   8.23, 10.80,

**MODELOPTs: RegDFAULT CONC ELEV WARNCHKD NODRYDPLT
NOWETDPLT

*** UP TO THE FIRST 24 HOURS OF
METEOROLOGICAL DATA ***

Surface file: SPPS_SEP06-AUG07.SFC
Met Version: 14134
Profile file: SPPS_SEP06-AUG07.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 99999 Upper air station no.:
3190
Name: UNKNOWN Name:
UNKNOWN
Year: 2006 Year:
2006

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
06	09	01	244	01	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	03	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	04	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	05	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	06	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.75	999.00	999.	0.0	999.0	0.0
06	09	01	244	07	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.33	999.00	999.	0.0	999.0	0.0
06	09	01	244	08	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.21	999.00	999.	0.0	999.0	0.0
06	09	01	244	09	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.18	999.00	999.	0.0	999.0	0.0
06	09	01	244	10	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.17	999.00	999.	0.0	999.0	0.0
06	09	01	244	11	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.17	999.00	999.	0.0	999.0	0.0
06	09	01	244	12	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.17	999.00	999.	0.0	999.0	0.0

```
 06 09 01 244 13 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.17  999.00  999.    0.0  999.0    0.0
 06 09 01 244 14 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.17  999.00  999.    0.0  999.0    0.0
 06 09 01 244 15 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.17  999.00  999.    0.0  999.0    0.0
 06 09 01 244 16 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.18  999.00  999.    0.0  999.0    0.0
 06 09 01 244 17 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.23  999.00  999.    0.0  999.0    0.0
 06 09 01 244 18 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.39  999.00  999.    0.0  999.0    0.0
 06 09 01 244 19 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 22 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 06 09 01 01   10.0 1 -999.  -99.00  -999.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
```

**MODELOPTs: RegDFAULT CONC ELEV WARNCHKD NODRYDPLT NOWETDPLT

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF PM IN MICROGRAMS/M**3 **

NETWORK GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	0.00676c	ON 07010124:	AT (382525.00, 3735775.00, 0.00, 0.00, 0.00)	DC
	HIGH 2ND HIGH VALUE IS	0.00669c	ON 06110424:	AT (382525.00, 3735775.00, 0.00, 0.00, 0.00)	DC

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

 **MODELOPTs: RegDFAULT CONC   ELEV   WARNCHKD NODRYDPLT
NOWETDPLT

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of   0 Fatal Error Message(s)
 A Total of   1 Warning Message(s)
 A Total of   229 Informational Message(s)

 A Total of   8760 Hours Were Processed

 A Total of   140 Calm Hours Identified

 A Total of   89 Missing Hours Identified (1.02 Percent)

    ******** FATAL ERROR MESSAGES ********
               *** NONE ***

    ********   WARNING MESSAGES   ********
 MX W394   1   METEXT: Met data may be from outdated version of
AERMET: No NAD/ADJ

 **MODELOPTs: RegDFAULT CONC   ELEV   WARNCHKD NODRYDPLT
NOWETDPLT

                                                ***   MODEL SETUP OPTIONS
SUMMARY   ***
 -
- -

 **Model Is Setup For Calculation of Average CONCentration Values.

   -- DEPOSITION LOGIC --
 **NO GAS DEPOSITION Data Provided.
 **NO PARTICLE DEPOSITION Data Provided.
 **Model Uses NO DRY DEPLETION. DRYDPLT = F
 **Model Uses NO WET DEPLETION. WETDPLT = F

 **Model Uses URBAN Dispersion Algorithm for the SBL for   59 Source(s),
   for Total of   1 Urban Area(s):
   Urban Population =   535500.0 ; Urban Roughness Length = 1.000 m

 **Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay for URBAN/Non-SO2.
        6. Urban Roughness Length of 1.0 Meter Assumed.

 **Other Options Specified:
        WARNCHKD - Issues warning messages for records out of sequence
                   in meteorology files
        CCVR_Sub - Meteorological data includes CCVR substitutions
        TEMP_Sub - Meteorological data includes TEMP substitutions

 **Model Assumes No FLAGPOLE Receptor Heights.

 **The User Specified a Pollutant Type of: PM25

 **Model Calculates 1 Short Term Average(s) of: 24-HR

 **This Run Includes: 59 Source(s);   1 Source Group(s); and
791 Receptor(s)

 **Model Set To Continue RUNning After the Setup Testing.

 **The AERMET Input Meteorological Data Version Date: 14134

 **Output Options Selected:

Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 7.62 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC
; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.6 MB of RAM.

**Input Runstream File: Berth 153 LST_2yrs_PM25.DTA
**Output Print File: Berth 153 LST_2yrs_PM25.LST

**File for Summary of Results: D:\BEEST\POLA\Berth 153 LST_2yrs_PM25.SUM

**MODELOPTs: RegDFAULT CONC ELEV WARNCHKD NODRYDPLT
NOWETDPLT

*** METEOROLOGICAL DAYS
SELECTED FOR PROCESSING ***
(1=YES;
0=NO)

```
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1
1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO
DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH
WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14,
8.23, 10.80,

**MODELOPTs: RegDFAULT CONC ELEV WARNCHKD NODRYDPLT
NOWETDPLT

*** UP TO THE FIRST 24 HOURS OF
METEOROLOGICAL DATA ***

Surface file: SPPS_SEP06-AUG07.SFC
Met Version: 14134
Profile file: SPPS_SEP06-AUG07.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 99999 Upper air station no.:
3190
Name: UNKNOWN Name:
UNKNOWN
Year: 2006 Year:
2006

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
06	09	01	244	01	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	03	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	04	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	05	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	1.00	999.00	999.	0.0	999.0	0.0
06	09	01	244	06	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.75	999.00	999.	0.0	999.0	0.0
06	09	01	244	07	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.33	999.00	999.	0.0	999.0	0.0
06	09	01	244	08	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.21	999.00	999.	0.0	999.0	0.0
06	09	01	244	09	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.18	999.00	999.	0.0	999.0	0.0
06	09	01	244	10	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.17	999.00	999.	0.0	999.0	0.0
06	09	01	244	11	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.17	999.00	999.	0.0	999.0	0.0
06	09	01	244	12	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.84	1.87	0.17	999.00	999.	0.0	999.0	0.0

```
 06 09 01 244 13 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.17  999.00  999.    0.0  999.0    0.0
 06 09 01 244 14 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.17  999.00  999.    0.0  999.0    0.0
 06 09 01 244 15 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.17  999.00  999.    0.0  999.0    0.0
 06 09 01 244 16 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.18  999.00  999.    0.0  999.0    0.0
 06 09 01 244 17 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.23  999.00  999.    0.0  999.0    0.0
 06 09 01 244 18 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   0.39  999.00  999.    0.0  999.0    0.0
 06 09 01 244 19 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 20 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 21 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 22 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 23 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0
 06 09 01 244 24 -999.0 -9.000 -9.000 -9.000 -999. -999. -99999.0  0.84
1.87   1.00  999.00  999.    0.0  999.0    0.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 06 09 01 01   10.0 1 -999.  -99.00  -999.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
```

**MODELOPTs: RegDFAULT CONC ELEV WARNCHKD NODRYDPLT
NOWETDPLT

*** THE SUMMARY OF HIGHEST
24-HR RESULTS ***

** CONC OF PM25 IN MICROGRAMS/M**3
**

NETWORK GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	0.00448c	ON 07010124:	AT (382525.00, 3735775.00, 0.00, 0.00, 0.00)	DC	
	HIGH 2ND HIGH VALUE IS	0.00443c	ON 06110424:	AT (382525.00, 3735775.00, 0.00, 0.00, 0.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

 **MODELOPTs: RegDFAULT CONC   ELEV   WARNCHKD NODRYDPLT
NOWETDPLT

 *** Message Summary : AERMOD Model Execution ***

  --------- Summary of Total Messages --------

 A Total of   0 Fatal Error Message(s)
 A Total of   2 Warning Message(s)
 A Total of   229 Informational Message(s)

 A Total of   8760 Hours Were Processed

 A Total of   140 Calm Hours Identified

 A Total of   89 Missing Hours Identified (1.02 Percent)

    ******** FATAL ERROR MESSAGES ********
               *** NONE ***

    ********   WARNING MESSAGES   ********
 CO W363   14   COCARD: Multiyr 24h/Ann PM25 processing not
applicable for   WARNCHKD
 MX W394   1   METEXT: Met data may be from outdated version of
AERMET: No NAD/ADJ

APPENDIX B

BACKUP GREENHOUSE GAS EMISSION SCREENING ANALYSIS

Table B.1. Estimated Ship Calls - PASHA Terminal

Project Scenario/Ship Type	*Annual Ship Visits*	*Hoteling Time/ Visit (Hours) (2)*
New Ship Calls		
Bulk Carrier	4	53.00
Subtotal	4	

Notes: (1) Source: Discussion on PASHA Lease Renewal Project, based on 4 additional bulk carriers per year. Assume the 4 additional carriers are for slab steel only.

(2) Based on Starcrest data, average hotelling time for bulk cargo vessels at Berth 176.

Table B.2. Bulk Cargo Vessel Propulsion Engine Usage per One-Way Ship Trip in Zone 6, 50 nm to 170 nm

Vessel Type	*Propulsion Max Hp (2)*	*Zone 6 (1)*							
		Load Factor (3)	*Modal Hp*	*Distance (NM)*	*Max Speed (kts)*	*Speed (Kts) (4)*	*Hours Per Trip*	*Hp-Hrs/ Trip*	*kW-Hrs/ Trip (5)*
Non-Compliance with VSRP (6)									
Bulk Carrier	13,798	0.83	11,460	120.0	14.5	13.6	8.80	100,898	75,270

Notes: (1) Vessel route between the boundary of the SCAB waters and State Over-water Boundary, 20 nm to 170 nm, assuming northern route.

(2) POLA 2013 AEI Table 3.22, Page 100. Using Bulk - Heavy Load for main engine kW.

(3) Calculated using Port 2013 AEI, Equation 3.3, LF = $(Speed_{actual}/Speed_{maximum})^3$

(4) Represents service speed, which is 94% of maximum speed (2009 PEI Table 2.25).

(5) 1 kW-Hr = 0.746 Hp-Hrs.

(6) Assuming VSRP does not apply in Zone 6.

Table B.3. Bulk Cargo Vessel Propulsion Engine Usage per One-Way Ship Trip in Zone 5, 40 nm to 50 nm

Vessel Type	*Propulsion Max Hp (2)*	*Zone 5 (1)*							
		Load Factor (3)	*Modal Hp*	*Distance (NM)*	*Max Speed (kts)*	*Speed (Kts) (4)*	*Hours Per Trip*	*Hp-Hrs/ Trip*	*kW-Hrs/ Trip (5)*
Non-Compliance with VSRP (6)									
Bulk Carrier	13,798	0.83	11,460	10.0	14.5	13.6	0.73	8,408	6,273

Notes: (1) Vessel route between the boundary of the SCAB waters and State Over-water Boundary, 20 nm to 170 nm, assuming northern route.

(2) POLA 2013 AEI Table 3.22, Page 100. Using Bulk - Heavy Load for main engine kW.

(3) Calculated using Port 2013 AEI, Equation 3.3, LF = $(Speed_{actual}/Speed_{maximum})^3$

(4) Represents service speed, which is 94% of maximum speed (2009 PEI Table 2.25).

(5) 1 kW-Hr = 0.746 Hp-Hrs.

(6) Length of fairway within the Vessel Speed Reduction Program (VSRP) Zone (VSRPZ) = 22 nautical miles (NM).

Table B.4. Bulk Cargo Vessel Propulsion Engine Usage per One-Way Ship Trip in Zone 4, 22 nm to 40 nm (using VSRP zone)

Vessel Type	*Propulsion Max Hp (2)*	*Zone 4 (1)*							
		Load Factor (3)	*Modal Hp*	*Distance (NM)*	*Max Speed (kts)*	*Speed (Kts) (4)*	*Hours Per Trip*	*Hp-Hrs/ Trip*	*kW-Hrs/ Trip (5)*
Non-Compliance with VSRP (6)									
Bulk Carrier	13,798	0.83	11,460	18.0	14.5	13.6	1.32	15,135	11,291

Notes: (1) Vessel route between the boundary of the SCAB waters and State Over-water Boundary, 20 nm to 170 nm, assuming northern route.

(2) POLA 2013 AEI Table 3.22, Page 100. Using Bulk - Heavy Load for main engine kW.

(3) Calculated using Port 2013 AEI, Equation 3.3, LF = $(Speed_{actual}/Speed_{maximum})^3$

(4) Represents service speed, which is 94% of maximum speed (2009 PEI Table 2.25).

(5) 1 kW-Hr = 0.746 Hp-Hrs.

(6) Length of fairway within the Vessel Speed Reduction Program (VSRP) Zone (VSRPZ) = 22 nautical miles (NM).

Table B.5. Bulk Cargo Vessel Propulsion Engine Usage per One-Way Ship Trip in Zone 3, 22 nm to PZ

		VSRP Zone to Precautionary Zone (1)							
Vessel Type	*Propulsion Max Hp (2)*	*Load Factor (3)*	*Modal Hp*	*Distance (NM)*	*Max Speed (kts)*	*Speed (Kts) (4)*	*Hours Per Trip*	*Hp-Hrs/ Trip*	*kW-Hrs/ Trip (5)*
Compliance with VSRP (6)									
Bulk Carrier	13,798	0.24	3,299	23.9	14.5	9.0	2.66	8,765	6,539

Notes: (1) Vessel route between the boundary of the VSRP zone and Precautionary Zone.

(2) POLA 2013 AEI Table 3.22, Page 100. Using Bulk - Heavy Load for main engine kW.

(3) Calculated using Port 2013 AEI, Equation 3.3, LF = $(Speed_{actual}/Speed_{maximum})^3$

(4) Based on speed within the PZ, Port 2013 AEI Table 3.4

(5) 1 kW-Hr = 0.746 Hp-Hrs.

(6) Length of fairway within the Vessel Speed Reduction Program (VSRP) Zone (VSRPZ) = 22 nautical miles (NM). Assuming speed is reduced to average bulk vessel speed of 9 kts

Table B.6. Bulk Cargo Vessel Propulsion Engine Usage per One-Way Ship Trip in Zone 2, Breakwater to PZ

		Precautionary Zone (1)							
Vessel Type	*Propulsion Max Hp (2)*	*Load Factor (3)*	*Modal Hp*	*Distance (NM)*	*Max Speed (kts)*	*Speed (Kts) (4)*	*Hours Per Trip*	*Hp-Hrs/ Trip*	*kW-Hrs/ Trip (5)*
Compliance with VSRP (6)									
Bulk Carrier	13,798	0.24	3,299	8.1	14.5	9.0	0.90	2,969	2,215

Notes: (1) Vessel route between the boundary of the Precautionary Zone and the Breakwater

(2) POLA 2013 AEI Table 3.22, Page 100. Using Bulk - Heavy Load for main engine kW.

(3) Calculated using Port 2013 AEI, Equation 3.3, LF = $(Speed_{actual}/Speed_{maximum})^3$

(4) Based on speed within the PZ, Port 2013 AEI Table 3.4

(5) 1 kW-Hr = 0.746 Hp-Hrs.

(6) Length of fairway within the Vessel Speed Reduction Program (VSRP) Zone (VSRPZ) = 22 nautical miles (NM). Assuming speed is reduced to average bulk vessel speed of 9 kts

Table B.7. Bulk Cargo Vessel Propulsion Engine Usage per One-Way Ship Trip in Zone 1, Harbor

		Harbor (1)							
Vessel Type	*Propulsion Max Hp (2)*	*Load Factor (3)*	*Modal Hp*	*Distance (NM)*	*Max Speed (kts)*	*Speed (Kts) (4)*	*Hours Per Trip*	*Hp-Hrs/ Trip*	*kW-Hrs/ Trip (5)*
Compliance with VSRP (6)									
Bulk Carrier	13,798	0.09	1,243	4.2	14.5	6.5	0.65	803	599

Notes: (1) Vessel route within the Harbor. Assuming 4.2 nm to terminal.

(2) POLA 2013 AEI Table 3.22, Page 100. Using Bulk - Heavy Load for main engine kW.

(3) Calculated using Port 2013 AEI, Equation 3.3, LF = $(Speed_{actual}/Speed_{maximum})^3$

(4) Based on speed within the Harbor, Port 2013 AEI Page 81, inbound slow ships, average between 5 kts and 8 kts

(5) 1 kW-Hr = 0.746 Hp-Hrs.

(6) Assuming that speeds are reduced to 5 kts upon arrival, 8 kts upon departure within breakwater per POLA AEI, Page 81.

Table B.8. Bulk Cargo Vessel Propulsion Engine Usage, Docking

Operational Mode/Vessel Type	*Propulsion Max Hp*	*Load Factor (2)*	*Modal Hp*	*Hours/* Mode (3)	*Hp-Hrs/ Trip*	*kW-Hrs/ Trip*
Docking (1)						
Bulk Carrier	13,798	0.02	276	0.25	69	51

Notes: (1) Assuming 0.25 hours for docking at berth

(2) Transit load factors based upon the average of inbound and outbound load factors in 2005 PEI Table 2.9. Docking load factors obtained from 2005 PEI page 68.

(3) One-way transit durations = 4.2 nm @ 5 kts. Docking durations obtained from 2005 PEI page 68.

Table B.9. Bulk Cargo Vessel Auxiliary Generator Usage per One-Way Fairway Transit - 22 nm to 170 nm

Vessel Type	*Auxiliary kW per Vessel (1)*	*Load Factor (2)*	*Hours/ Transit*	*kW-Hrs/ Transit*
Non-Compliance with VSRP (3)				
Bulk Carrier	255	1.00	10.86	2,769

Notes: (1) Average rating for bulk cargo vessels, Port 2013 AEI Table 3.12, at sea

(2) Load factor assumed to be 1.0.

(3) See Table B.2 through A.8 for estimated vessel transit durations within the fairway for each mode of operation.

Table B.10. Bulk Cargo Vessel Auxiliary Generator Usage per One-Way VSRP Zone Transit - 22 nm to PZ

Vessel Type	*Auxiliary kW per Vessel (1)*	*Load Factor (2)*	*Hours/ Transit*	*kW-Hrs/ Transit*
Non-Compliance with VSRP (3)				
Bulk Carrier	255	1.00	2.66	677

Notes: (1) Average rating for bulk cargo vessels, Port 2013 AEI Table 3.12, at sea

(2) Load factor assumed to be 1.0.

(3) See Table B.2 through A.8 for estimated vessel transit durations within the fairway for each mode of operation.

Table B.11. Bulk Cargo Vessel Auxiliary Generator Usage per One-Way Precautionary Zone Transit -PZ to Breakwater

Vessel Type	*Auxiliary kW per Vessel (1)*	*Load Factor (2)*	*Hours/ Transit*	*kW-Hrs/ Transit*
Non-Compliance with VSRP (3)				
Bulk Carrier	675	1.00	0.90	608

Notes: (1) Average rating for bulk cargo vessels, Port 2013 AEI Table 3.12, maneuvering

(2) Load factor assumed to be 1.0.

(3) See Table B.2 through A.8 for estimated vessel transit durations within the fairway for each mode of operation.

Table B.12. Bulk Cargo Vessel Auxiliary Generator Usage per One-Way Harbor Transit and Docking

Vessel Type	*Auxiliary kW per Vessel (1)*	*Load Factor (2)*	*Hours/ Transit*	*kW-Hrs/ Transit*
Non-Compliance with VSRP (3)				
Bulk Carrier	675	1.00	0.90	605

Notes: (1) Average rating for bulk cargo vessels, Port 2013 AEI Table 3.12, maneuvering

(2) Load factor assumed to be 1.0.

(3) See Table B.2 through A.8 for estimated vessel transit durations within the fairway for each mode of operation.

Table B.13. Bulk Cargo Vessel Hoteling Auxiliary Generator Usage per Ship Visit -

Vessel Type	*Auxiliary kW per Vessel (1)*	*Load Factor (1)*	*Hours/ Visit (2)*	*kW-Hrs/ Visit*
Bulk Carrier	150	1.00	53.00	7,950

Notes: (1) Average rating for bulk cargo vessels, Port 2013 AEI Table 3.12, berth hotelling

(2) Load factor assumed to be 1.0.

Table B.14. Bulk Cargo Vessel Auxiliary Boiler Usage per Ship Visit -

Vessel Type	*Auxiliary Boiler Load (1)*	*Hourly Fuel Usage (1)*	*Hours/ Visit (2)*	*kW-Hrs/ Visit*
Bulk Carrier	132	0.190	57.45	7,584

Notes: (1) From Port 2013 PEI Table 3.16

(2) Total of hours of operation for all operational modes except fairway transit, including at berth hotelling.

Table B.15. Bulk Cargo Vessel Tugboat Assist Usage

Vessel Type	*Tugboat Max Hp (1)*	*Load Factor (2)*	*Hours/ Assist (3)*	*Hp-Hr/ Assist*	*Annual # of Assists (4)*	*Annual Hp-Hrs*	*Annual kW-Hrs*
Bulk Carrier	1,908	0.31	1.17	689	12	8,269	6,169
Totals						8,269	6,169

Notes: (1) Port 2013 AEI, Table 4.1.

(2) Port 2013 AEI, Table 4.7

(3) Duration 1-way vessel trip due to harbor transit and docking durations times 1.3 to account for tug assist time, travel to/from berth, and idle mode.

(4) Assuming 3 tug assists per ship visit.

Table B.16. Tugboat Auxiliary Generator Usage during Bulk Cargo Vessel Assists

Vessel Type	*Aux. Engine Hp (1)*	*Load Factor (2)*	*Hours/ Assist (3)*	*Hp-Hr/ Assist*	*Annual # of Assists (4)*	*Annual Hp-Hrs*	*Annual kW-Hrs*
Bulk Carrier	179	0.43	1.51	117	12	1,399	1,044
Totals						1,399	1,044

Notes: (1) Port 2013 AEI, Table 4.2

(2) Port 2013 AEI, Table 4.7

(3) Duration = 1.3 times tug assist time in Table13 to account for usage when main engines are shut down in stand-by mode.

(4) Assuming 3 tug assists per ship visit.

Table B.17. GHG Emission Factors for Vessels

Operational Mode/Ship-Engine Type	Emission Factors (Gm/kW-Hr) CO2	CH4	N2O	Source
Cruise/Main Engine				
OGVs - Slow Speed Diesel Main Engines - 0.27% S HFO	620.00	0.01	0.03	(1)
<20% Main Engine Load Emission Factors				
OGVs - Slow Speed Diesel 2% Load Adjustment Factor	1.00	21.18	4.63	(2)
OGVs - Slow Speed Diesel 3% Load Adjustment Factor	1.00	11.68	2.92	(2)
OGVs - Slow Speed Diesel 4% Load Adjustment Factor	1.00	7.71	2.21	(2)
OGVs - Slow Speed Diesel 5% Load Adjustment Factor	1.00	5.61	1.83	(2)
OGVs - Slow Speed Diesel 6% Load Adjustment Factor	1.00	4.35	1.60	(2)
OGVs - Slow Speed Diesel 7% Load Adjustment Factor	1.00	3.52	1.45	(2)
OGVs - Slow Speed Diesel 8% Load Adjustment Factor	1.00	2.95	1.35	(2)
OGVs - Slow Speed Diesel 9% Load Adjustment Factor	1.00	2.52	1.27	(2)
OGVs - Slow Speed Diesel 10% Load Adjustment Factor	1.00	2.20	1.22	(2)
OGVs - Slow Speed Diesel 11% Load Adjustment Factor	1.00	1.96	1.17	(2)
OGVs - Slow Speed Diesel 12% Load Adjustment Factor	1.00	1.76	1.14	(2)
OGVs - Slow Speed Diesel 13% Load Adjustment Factor	1.00	1.60	1.11	(2)
OGVs - Slow Speed Diesel 15% Load Adjustment Factor	1.00	1.36	1.06	(2)
OGVs - Slow Speed Diesel 16% Load Adjustment Factor	1.00	1.26	1.05	(2)
OGVs - Slow Speed Diesel 17% Load Adjustment Factor	1.00	1.18	1.03	(2)
OGVs - Slow Speed Diesel 18% Load Adjustment Factor	1.00	1.11	1.02	(2)
OGVs - Slow Speed Diesel 19% Load Adjustment Factor	1.00	1.05	1.01	(2)
OGVs - Slow Speed Diesel 2% Load Emission Factor	620.00	0.25	0.14	(3)
OGVs - Slow Speed Diesel 3% Load Emission Factor	620.00	0.14	0.09	(3)
OGVs - Slow Speed Diesel 4% Load Emission Factor	620.00	0.09	0.07	(3)
OGVs - Slow Speed Diesel 5% Load Emission Factor	620.00	0.07	0.06	(3)
OGVs - Slow Speed Diesel 6% Load Emission Factor	620.00	0.05	0.05	(3)
OGVs - Slow Speed Diesel 7% Load Emission Factor	620.00	0.04	0.04	(3)
OGVs - Slow Speed Diesel 8% Load Emission Factor	620.00	0.04	0.04	(3)
OGVs - Slow Speed Diesel 9% Load Emission Factor	620.00	0.03	0.04	(3)
OGVs - Slow Speed Diesel 10% Load Emission Factor	620.00	0.03	0.04	(3)
OGVs - Slow Speed Diesel 11% Load Emission Factor	620.00	0.02	0.04	(3)
OGVs - Slow Speed Diesel 12% Load Emission Factor	620.00	0.02	0.04	(3)
OGVs - Slow Speed Diesel 13% Load Emission Factor	620.00	0.02	0.03	(3)
OGVs - Slow Speed Diesel 15% Load Emission Factor	620.00	0.02	0.03	(3)
OGVs - Slow Speed Diesel 16% Load Emission Factor	620.00	0.02	0.03	(3)
OGVs - Slow Speed Diesel 17% Load Emission Factor	620.00	0.01	0.03	(3)

OGVs - Slow Speed Diesel 18% Load Emission Factor	620.00	0.01	0.03	(3)
OGVs - Slow Speed Diesel 19% Load Emission Factor	620.00	0.01	0.03	(3)
Tugboats - Medium Speed Diesel, Marine Gas Oil @ 0.1% S	592.73	0.01	0.03	(4)
Auxiliary Generators				
OGVs - Slow Speed Diesel - Residual Oil @ 2.7% S	722.00	0.01	0.03	(5)
OGVs - Slow Speed Diesel - Marine Gas Oil @ 0.5% S	686.00	0.01	0.03	(5)
OGVs - Slow Speed Diesel - Marine Gas Oil @ 0.1% S	589.00	0.01	0.03	(5)
Tugboats - Medium Speed Diesel, Marine Gas Oil @ 0.1% S	592.73	0.02	0.03	(4)
Auxiliary Boilers				
Commercial Vessels	970.00	0.00	0.08	(6)

Notes: (1) From Port 2013 AEI, Table 3.6

(2) From Port 2013 AEI, Table 3.9

(3) Calculated OGV main power plant low load emission factors.

(4) From Port 2010 GHG Inventory, Table 2.5

(5) From Port 2013 AEI, Table 3.11

(6) From Port 2013 AEI, Table 3.15

Table B.18. Fuel Correction Factors for ULSD

Operational Mode/Ship-Engine Type	*Fuel Correction Factor*			*Source*
	CO2	*CH4*	*N2O*	
Fuel Correction Factors	1.00	0.72	0.95	(1)

Notes: (1) From Port 2013 AEI, Table 4.6

Table B.19. Annual Bulk Cargo Vessel GHG Emissions within Zone 6, Zone 5, and Zone 4

Project Scenario/Vessel Type	*Metric Tons Per Year*		
	CO2	*CH4*	*N2O*
Bulk Carrier	460.58	0.01	0.02
Subtotal	460.58	0.01	0.02

Table B.20. Annual Bulk Cargo Vessel GHG Emissions within Zone 3

Project Scenario/Vessel Type	*Metric Tons Per Year*		
	CO2	*CH4*	*N2O*
Bulk Carrier	32.44	0.00	0.00
Subtotal	32.44	0.00	0.00

Table B.21. Annual Bulk Cargo Vessel GHG Emissions within the PZ

Project Scenario/Vessel Type	*Metric Tons Per Year*		
	CO2	*CH4*	*N2O*
Bulk Carrier	10.99	0.00	0.00
Subtotal	10.99	0.00	0.00

Table B.21. Annual Bulk Cargo Vessel GHG Emissions within the Harbor

Project Scenario/Vessel Type	*Metric Tons Per Year*		
	CO2	*CH4*	*N2O*
Bulk Carrier	2.97	0.00	0.00
Subtotal	2.97	0.00	0.00

Table B.22. Annual Bulk Cargo Vessel GHG Emissions - Docking

Project Scenario/Vessel Type	*Metric Tons Per Year*		
	CO2	*CH4*	*N2O*
Bulk Carrier	0.26	0.00	0.00
Subtotal	0.26	0.00	0.00

Table B.23. Annual Auxiliary Generator GHG Emissions for Bulk Cargo Vessels Transiting the Fairway Zone

Project Scenario/Vessel Type	*Metric Tons Per Year*		
	CO2	*CH4*	*N2O*
Bulk Carrier	16.00	0.00	0.00
Subtotal	16.00	0.00	0.00

Note: (1) Assumes 100% usage of RFO @ 2.7% sulfur.

(2) VSRP compliance = 100% for future years.

Table B.24. Annual Auxiliary Generator GHG Emissions for Bulk Cargo Vessels Transiting the VSRP Zone

Project Scenario/Vessel Type	*Metric Tons Per Year*		
	CO2	*CH4*	*N2O*
Bulk Carrier	3.91	0.00	0.00
Subtotal	3.91	0.00	0.00

Note: (1) Assumes 100% usage of RFO @ 2.7% sulfur.

(2) VSRP compliance = 100% for future years.

Table B.25. Annual Auxiliary Generator GHG Emissions for Bulk Cargo Vessels Transiting the Precautionary Area

Project Scenario/Vessel Type	*Metric Tons Per Year*		
	CO2	*CH4*	*N2O*
Bulk Carrier	3.51	0.00	0.00
Subtotal	3.51	0.00	0.00

Note: (1) Assumes 100% usage of RFO @ 2.7% sulfur.

Table B.26. Annual Auxiliary Generator GHG Emissions for Bulk Cargo Vessels Transiting within the Harbor and Docking

Project Scenario/Vessel Type	*Metric Metric Tons Per Year (1)*		
	ROG	*CO*	*NOx*
Bulk Carrier	3.49	0.00	0.00
Subtotal	3.49	0.00	0.00

Note: (1) Assumes 100% usage of RFO @ 2.7% sulfur.

Table B.27. Annual Auxiliary Generator GHG Emissions during Cargo Vessel Hoteling

Project Scenario/Vessel Type	*Metric Tons Per Year*		
	CO2	*CH4*	*N2O*
Bulk Carrier	45.93	0.00	0.00
Subtotal	45.93	0.00	0.00

Note: (1) Assumes 100% usage of RFO @ 2.7% sulfur.

Table B.28. Annual Auxiliary Boiler Emissions for Bulk Cargo Vessels

Project Scenario/Vessel Type	*Metric Tons Per Year*		
	CO2	*CH4*	*N2O*
Bulk Carrier	58.87	0.00	0.00
Subtotal	58.87	0.00	0.00

Note: (1) VSRP compliance = 100% for future years.

Table B.29. Annual Tugboat GHG Emissions for Bulk Cargo Vessel Assists

Project Scenario/All Vessels	*Metric Tons Per Year*		
	CO2	*CH4*	*N2O*
Bulk Carrier	3.66	0.00	0.00
Subtotal	3.66	0.00	0.00

Note: (1) Assumes 3 tug assists per ship visit for all years.

Table B.30. Annual Tugboat Auxiliary Generator GHG Emissions for Bulk Cargo Vessel Assists

Project Scenario/All Vessels	*Metric Tons Per Year*		
	CO2	*CH4*	*N2O*
Bulk Carrier	0.62	0.00	0.00
Subtotal	0.62	0.00	0.00

Note: (1) Assumes 3 tug assists per ship visit for all years.

Table B.31. Annual Vessel GHG Emissions - PASHA Bulk Terminal Lease Renewal

Project Scenario/Emission Source	*Metric Tons Per Year*		
	CO2	*CH4*	*N2O*
Ships - Fairway Transit (1)	512.93	0.01	0.03
Ships - Precautionary Area Transit (1)	14.50	0.00	0.00
Ships - Harbor Transit and Docking (1)	6.72	0.00	0.00
Ships - Hoteling Aux. Sources	45.93	0.00	0.00
Ships - Boiler Emissions	58.87	0.00	0.00
Tugboats - Cargo Vessel Assist (1)	4.28	0.00	0.00
Subtotal	643.23	0.01	0.03

Note: (1) Includes auxiliary engine emissions.

Table B.32. Equipment Usage Associated with One Inbound/Outbound Train Trip at the PASHA Bulk Termina

Equipment Type	*Hp (1)*	*Load Factor (2)*	*Number Active*	*Hourly Hp-Hr*	*Hours/ Trip*	*Total Hp-Hrs*
Inbound						
Haul Line Locomotive - 40 mph - Port to Alameda Corridor	4,000	0.48	2	3,848	0.525	2,020
Haul Line Locomotive - 50 mph - Alameda Corridor to Fontana	4,000	0.64	2	5,144	1.300	6,687
Outbound						
Haul Line Locomotive - 40 mph - Port to Alameda Corridor	4,000	0.48	4	7,696	0.525	4,040
Haul Line Locomotive - 50 mph - Alameda Corridor to Fontana	4,000	0.64	4	10,288	1.300	13,374
Haul Line Locomotive - Switching	4,000	0.05	1	200	2.5	500

Notes: (1) Average hp assumed the same as YTI Terminal EIR

(2) Line haul loco Notch settings vs. speeds estimated by Starcrest (2007). Notch settings assumed to be 5 for 40 mph, and 6 for 50 mph.

Table B.33. Emission Factors for Rail Equipment

Project Scenario/Equipment	*Emission Factors (g/hp-hr)*			*References*
	CO2	*CH4*	*N2O*	
Line Haul Locomotive	494.00	0.04	0.01	(1)
Switch Yard Locomotive	678.00	0.05	0.02	(2)

Notes: (1) Port 2013 AEI, Table 6.6

(2) Port 2013 AEI, Table 6.2

Table B.34. Train Trip Generation Rates

Project Scenario/Rail Yard	*Annual Round Trips*
To/from PASHA Terminal	130
Distances (1)	
To/from PASHA Terminal to Alameda Corridor	21
Alameda Corridor to SCAB Boundary	65

Notes: (1) from Port 2013 AEI, Page 159.

Table B.35. Annual Train GHG Emissions

Train Direction/Source Activity	*Metric Tons Per Year*		
	CO2	*CH4*	*N2O*
Inbound			
Haul Line Locomotive - 40 mph - Port to Alameda Corridor	129.77	0.01	0.00
Haul Line Locomotive - 50 mph - Alameda Corridor to Fontana	429.57	0.03	0.01
Inbound Tons per Year	429.57	0.03	0.01
Outbound			
Haul Line Locomotive - 50 mph - Alameda Corridor to Fontana	259.54	0.02	0.01
Haul Line Locomotive - Switching	859.13	0.07	0.02
Outbound Tons per Year	1,118.68	0.09	0.03
Switching	44.08	0.00	0.00
Total Metric Tons per Year	1,592.32	0.13	0.04

Table B-36. Operational On-Road Vehicles, All Berths, 2018

Vehicle	Vehicle Class	Net Reduction in Peak No. of Vehicles per day	Speed or idle time (mph or minutes)	VMT (mi/vehicle-day)	CO2		CH4		N2O			Total Emissions, Metric tons		
					Running Exhaust (g/mi)	Idling Exhaust, g/hour	Running Exhaust (g/mi)	Idling Exhaust, g/hour	Running Exhaust (g/mi)	Idling Exhaust, g/hour	Days per Week	CO2	CH4	N2O
Truck Trips	T6 Small	145	Aggregated	50										
Average Idling Time at In-Gate	1.8 minutes	145	1.8			7567.0507		0.08		0.04	365	12.01	0.00	0.00
Average Idling Time at Out-Gate	0.6 minutes	145	0.6			7567.0507		0.08		0.04	365	4.00	0.00	0.00
Average On-Terminal Idling Time	6 minutes	145	6			7567.0507		0.08		0.04	365	40.05	0.00	0.00
Average Truck On-Terminal Travel Distance	0.5 miles	145	8	0.5	3211.2101		0.08		0.02		365	84.98	0.00	0.00
On-site Emissions												141.05	0.00	0.00
Average Truck Off-Terminal Travel Distance (assume travel to Fontana)	68 miles	145	60	50	1503.0423		0.00		0.02		365	3977.57	0.01	0.04
Off-site Emissions												3977.57	0.01	0.04
Total Decrease in Truck Emissions												4118.62	0.01	0.04

Average idle time, travel distance, and speed on terminal from 2013 Port AEI, Table 7.3

Composite Emission Factors provided by Starcrest (Starcrest 2015)

ROG fraction of TOG is 0.878407 from EMFAC2014 model run

Tire wear and Brake wear from EMFAC2014

N2O emission factors based on 2013 Port AEI, Table 7.11.

Paved Road Fugitive Dust

EPA's AP-42, Section 13.2.1, January 2011

E = k(sL/2)^0.91 x (W)^1.02

W for trucks, tons	18.9
Assume silt loading for onsite travel, g/m3	0.6
Assume silt loading for 10,000 ADT roadways, g/m3	0.03
k for PM10	1
k for PM2.5	0.25
Emission Factor, grams/VMT	
PM10, onsite	12.592405
PM2.5, onsite	3.1481012
PM10, offsite	0.8244634
PM2.5, offsite	0.2061159

Table B-37. Summary - GHG Emissions

Project Scenario/Emission Source	*Metric Tons Per Year*			
	CO2	*CH4*	*N2O*	*CO2e (1)*
Ship Emissions	643.23	0.01	0.03	652.44
Rail Emissions	1,592.32	0.13	0.04	1,607.01
Truck Emissions Decrease	(4,118.62)	(0.01)	(0.04)	(4,129.70)
Total	(1,883.07)	0.13	0.04	(1,870.24)

Notes: (1) Using ARB's 2014 Scoping Plan GWPs, CO2=1, CH4=28, N2O=265.

APPENDIX C

RAIL CROSSING ANALYSIS

Memorandum

TO: Kerry Cartwright, Shozo Yoshikawa, James Bahng - POLA; Jayna Morgan - AECOM

FROM: Chiranjivi S Bhamidipati, Ramesh Thammiraju - Cambridge Systematics, Inc.

DATE: February 25, 2015

RE: Documentation on Draft 2040 Rail/Highway At-Grade Crossing Pasha Terminal Project Impacts Analysis

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Draft 2040 rail/highway at-grade crossings project impacts spreadsheet for Pasha Terminal Project is enclosed with this memorandum. The project trains travel through 75 at-grade crossings on rail segments belonging to the BNSF San Bernardino subdivision between Hobart Junction and San Bernardino Junction (56 in no.) and the SCRRA San Gabriel subdivision between San Bernardino Junction and CP Beech (19 in no.), hence these at-grade crossings were analyzed. **The draft analysis did not find any at-grade crossings that have significant delay impacts due to the project when using the thresholds as shown in the Table 1 below that were set by the San Pedro Bay Ports.**

Table 1. Threshold of Significance for At-Grade Crossings Project Impacts

Level of Service (LOS) with Project	Change in Average Delay per Vehicle
A – D	Not Significant
E (55 – 80 seconds of average delay per vehicle)	2 seconds
F (over 80 seconds of average delay per vehicle)	1 second

The draft analysis used "At Grade" spreadsheet based model for estimating vehicular delays at highway-railroad at-grade crossings. For any particular train crossing event, vehicular delay is a function of the square of the gate down time. For individual streets crossing the rail line, the model predicts gate down times, vehicle hours of delay per day, and average peak hour delay per vehicle. The model can be used to test the incremental impact of new projects that generate additional train traffic. Specific "thresholds of significant impact" are coded into the model for testing significance of project impacts. Major inputs to the model include Average Daily Traffic (ADT) crossing the tracks, number of traffic lanes, train speed, queue departure rate in vehicles per minute, peak hour factor, and number of trains by type and length.

The draft analysis made use of traffic data collected for BNSF San Bernardino subdivision at-grade crossing streets from previous project impacts analysis work for SCIG, ICTF and Yang

Ming project EIRs for the Port of Los Angeles ("the Port"), and for SCRRA San Gabriel subdivision at-grade crossing streets from city websites[1].

2040 draft traffic volumes on BNSF San Bernardino subdivision at-grade crossing streets were projected from available ADT data using county level growth rates, similar to the method used in the previous Port project EIRs. On the other hand, 2040 draft traffic volumes on SCRRA San Gabriel subdivision at-grade crossing streets were projected from available ADT data using the average growth rate for all at-grade crossing streets combined as seen between PortTAM model runs for 2012 baseline and 2035 I-710 no project scenario.

The 2040 draft daily traffic volumes and number of lanes by at-grade crossing street used in the draft analysis are shown in Table 2 below.

Table 2. Daily Traffic Volumes by At-Grade Crossing Street, 2040

Boundary/Junction	STREET	# of Lanes	Average Daily Traffic (vehicles/day)
BNSF San Bernardino Subdivision At-Grade Crossing Streets			
San Bernardino MP 0.0			
	LAUREL ST	2	3,550
	OLIVE ST	2	4,220
	E ST	2	1,110
	H ST	2	2,220
	VALLEY BL	2	16,660
Colton Crossing M.P. 3.2			
Highgrove Junction MP 6.1 (Connection to Perris via Metrolink)			
	MAIN ST	2	4,050
Riverside-San Bernardino County Line MP 6.41			
	CENTER ST	4	8,910
	IOWA AV	4	32,830
	PALMYRITA AV	2	5,380
	CHICAGO AV	4	19,440
	SPRUCE ST	4	10,380
	3RD ST	4	15,620
	MISSION INN (7TH ST)	4	7,640
Riverside Yard and Amtrak Station MP 10.02 - 10.16			
	CRIDGE ST	2	5,400
West Riverside Junction M.P. 10.6 (Connection to UP Los Angeles Sub)			
	JANE ST	2	3,100
	MARY ST	4	17,110
	WASHINGTON ST	2	11,880
	MADISON ST	4	22,520

[1]http://www.fontana.org/DocumentCenter/View/8538, http://www.rialtoca.gov/documents/downloads/ADT_Map-Oct27.pdf, and https://www.ci.san-bernardino.ca.us/pdf/DevSvcs/traffic%20map.pdf (last accessed on February 25, 2015)

Boundary/Junction	STREET	# of Lanes	Average Daily Traffic (vehicles/day)
	JEFFERSON ST	2	11,750
	ADAMS ST	4	25,090
	JACKSON ST	4	11,200
	GIBSON ST	2	1,220
	HARRISON ST	2	9,540
	TYLER ST	4	22,390
	PIERCE ST	2	16,020
	BUCHANAN ST	2	13,710
	MAGNOLIA AV EB	2	12,600
	MAGNOLIA AV WB	2	12,600
	MCKINLEY ST	4	38,180
	RADIO RD	2	6,170
	JOY ST	2	10,430
	SHERIDAN ST	2	3,390
	COTA ST	4	8,650
	RAILROAD ST	4	13,860
	SMITH ST	4	19,620
	AUTO CENTER DR	2	16,580
Riverside-Orange County Line			
	KELLOGG DR	4	7,890
	LAKEVIEW AV	3	21,680
	RICHFIELD RD	4	10,880
Atwood Junction M.P. 40.6 (Connection to Old Olive Sub)			
	VAN BUREN ST	2	7,780
	JEFFERSON ST	3	7,300
	TUSTIN AV (ROSE DR)	4	33,520
	ORANGETHORPE AV	4	32,550
	KRAEMER BL	4	22,730
	PLACENTIA AV	4	16,660
	STATE COLLEGE BL	4	27,090
	ACACIA AV	4	7,740
	RAYMOND AV	4	24,160
Fullerton Junction			
Orange-L.A. County Line			
	VALLEY VIEW AV	4	27,220
	ROSECRANS/MARQUARDT AV	4	25,710
	LAKELAND RD	2	7,250
	LOS NIETOS RD	4	22,680
	NORWALK BL	4	29,070
	PIONEER BL	4	16,960
	PASSONS BL	4	14,070
	SERAPIS AV	2	6,950
Commerce Yard M.P. 148.5			
Hobart Yard M.P. 146.0			

Boundary/Junction	STREET	# of Lanes	Average Daily Traffic (vehicles/day)
SCRRA San Gabriel Subdivision At-Grade Crossing Streets			
CP Beech M.P. 47.5			
	BEECH AV	2	3,060
	CITRUS AV	4	39,340
	JUNIPER AV	4	21,170
	SIERRA AV	4	36,190
	MANGO AV	4	17,940
	PALMETTO AV	2	13,590
	ALDER AV	4	16,640
	LOCUST AV	2	11,830
	CEDAR AV	4	35,420
	CACTUS AV	4	10,620
	LILAC AV	2	10,620
	WILLOW AV	2	10,620
	RIVERSIDE AVENUE	4	35,420
	SYCAMORE AVENUE	2	10,620
	ACACIA AV	2	10,620
	EUCALYPTUS AVENUE	2	10,620
	PEPPER AV	4	25,400
	RIALTO AV	2	12,290
	RANCHO AV	2	6,710
San Bernardino Junction M.P. 56.2 (Connection to BNSF San Bernardino Sub)			

The draft analysis also made use of 2040 train volumes for rail segments by train length, which were estimated as the sum of estimated San Pedro Bay Ports-related intermodal trains, estimated domestic intermodal trains and non-intermodal freight train and passenger train forecasts. The individual components of the total train volume were estimated using the following assumptions:

- 2040 ports-related intermodal train volumes, including direct on-dock/of-dock intermodal, transloaded intermodal imports and westbound domestic intermodal to balance transloaded intermodal imports, were assumed to remain similar to the 2030 train volumes developed in Yang Ming DEIR as the ports would be near their throughput capacity by 2030 (capacity is expected to be reached in 2032).
- 2040 other domestic intermodal train volumes were derived from 2030 other domestic intermodal train volumes from Yang Ming DEIR using the growth rate seen in the QuickTrip-Train Builder model for this DEIR between 2013 and 2030, which is about 1.55% per annum.
- Non-intermodal freight train and passenger train forecasts on BNSF San Bernardino subdivision as developed in SCAG's regional rail simulation update study of 2011 were used. The projected years for these train categories are 2035 and 2030, respectively. However, these are assumed to remain the same in 2040.

- 2013 weekday non-intermodal freight and passenger train volumes on SCRRA's San Gabriel subdivision were collected from a SCRRA website[2], these were 10 and 42 trains per day, respectively. These were distributed into trains of various lengths using data on nearby UP Pomona-Montclair rail segment. On the basis of the SCAG study forecast for San Bernardino Metrolink passenger rail service, no growth was assumed in the passenger trains. However, non-intermodal freight trains on this rail segment were assumed to increase by 1.5% annual average growth rate.

The Port staff provided information on project trains. One bulk train per day was assumed as the project traffic. The train length was estimated at 4,325 feet using the following assumptions: 76 nos. of 51-foot slab cars plus 1 no. 67-foot safety car plus 4 nos. of 73 feet locomotives. For the worst case scenario analysis, the train was assumed to travel through the study grade at-crossing streets during the PM peak period.

The 2040 daily train volumes by rail segment and train length used in the draft analysis are shown in Table 3 below.

Table 3. Daily Train Volumes by Rail Segment and Train Length, 2040

Length (in ft) / Type	12K Cont.	10K Cont.	8K Cont.	6K Cont.	5K Unit bulk	6K Unit Auto	6.5K Carload	500 Metro-Link	1000 Amtrak	All Base Frt.	All Base Pas.	All Base	4,325 Proj. bulk
BNSF San Bernardino Sub													
Hobart - Fullerton	4.6	15.5	35.9	0.0	2.0	4.0	7.0	51.0	26.0	69.0	77.0	146.0	1.0
Fullerton - Atwood	4.6	15.5	35.9	0.0	2.0	4.0	7.0	20.0	2.0	69.0	22.0	91.0	1.0
Atwood - W Riverside	4.6	15.5	35.9	0.0	5.0	7.0	10.0	40.0	2.0	78.0	42.0	120.0	1.0
W Riverside - Riverside	7.5	25.4	53.2	0.0	9.0	15.0	10.0	52.0	2.0	120.1	54.0	174.1	1.0
Riverside - Highgrove	7.5	25.4	53.2	0.0	9.0	15.0	10.0	40.0	2.0	120.1	42.0	162.1	1.0
Highgrove – Colton	7.5	25.4	53.2	0.0	9.0	15.0	10.0	20.0	2.0	120.1	22.0	142.1	1.0
Colton - San Bernardino	5.1	17.0	38.5	0.0	9.0	7.0	12.0	20.0	2.0	88.5	22.0	110.5	1.0
SCRRA San Gabriel Subdivision													
Pomona – Montclair	0.0	0.0	0.0	0.0	2.4	0.6	12.0	42.0	0.0	14.9	42.0	56.9	1.0

Other data for the study at-grade crossings on BNSF San Bernardino subdivision were used from the previous Port project EIRs.

[2]http://www.metrolinktrains.com/pdfs/EngineeringConstruction/TrainTrafficDensityExhibitforSCRRASystem.pdf (last accessed on February 25, 2015)

A few data inputs were newly established for the study at-grade crossings on SCRRA San Gabriel subdivision. The number of traffic lanes were confirmed using Google Maps' aerial images, the speed of the non-intermodal and passenger trains and the project train was assumed at 50 mph, queue departure rate was assumed at 25 vehicles per minute, and the peak hour factor was assumed to be the same as the average value used for study at-grade crossing streets on BNSF San Bernardino subdivision that fall within San Bernardino County.

The draft results of the 2040 at-grade crossings project impact analysis are shown in Table 4 below. As mentioned earlier, the analysis did not find any at-grade crossings that have significant delay impacts due to the project.

Table 4. At-Grade Crossings Pasha Terminal Project Delay Impacts Summary, 2040

Boundary/ Junction	STREET	# of Lns	Average Daily Traffic (vehicles/day)	Average Daily Train Volume (trains/day)			Daily Total Gate Down Time (minutes/day)			Daily Total Vehicle Hours of Delay (veh-hrs/day)			PM Peak Average Delay per Vehicle (seconds/vehicle)			PROJ. IMPACTS SIGNIFICANT?
				W/ Proj	W/O Proj	Chg	W/ Proj	W/O Proj	Chg	W/ Proj	W/O Proj	Chg	W/ Proj	W/O Proj	Chg	
BNSF San Bernardino Subdivision At-Grade Crossing Streets																
San Bernardino MP 0.0																
	LAUREL ST	2	3,550	111.5	110.5	1.0	232.7	231.1	1.6	12.9	12.7	0.2	13.9	13.5	0.4	NO
	OLIVE ST	2	4,220	111.5	110.5	1.0	232.7	231.1	1.6	15.6	15.4	0.2	14.3	13.9	0.4	NO
	E ST	2	1,110	111.5	110.5	1.0	232.7	231.1	1.6	3.8	3.7	0.0	12.6	12.3	0.3	NO
	H ST	2	2,220	111.5	110.5	1.0	232.7	231.1	1.6	7.7	7.7	0.1	13.2	12.8	0.4	NO
	VALLEY BL	2	16,660	111.5	110.5	1.0	232.7	231.1	1.6	106.1	104.4	1.7	30.9	30.0	0.8	NO
Colton Crossing M.P. 3.2																
Highgrove Junction MP 6.1 (Connection to Perris via Metrolink)																
	MAIN ST	2	4,050	163.1	162.1	1.0	327.4	325.8	1.6	21.1	20.9	0.2	20.0	19.6	0.4	NO
Riverside-San Bernardino County Line MP 6.41																
	CENTER ST	4	8,910	163.1	162.1	1.0	328.3	326.7	1.6	46.5	46.1	0.3	20.0	19.6	0.4	NO
	IOWA AV	4	32,830	163.1	162.1	1.0	328.3	326.7	1.6	262.2	259.7	2.5	36.0	35.3	0.7	NO
	PALMYRITA AV	2	5,380	163.1	162.1	1.0	327.4	325.8	1.6	28.6	28.4	0.2	20.6	20.2	0.4	NO
	CHICAGO AV	4	19,440	163.1	162.1	1.0	328.3	326.7	1.6	118.8	117.8	1.0	24.9	24.4	0.5	NO
	SPRUCE ST	4	10,380	163.1	162.1	1.0	328.3	326.7	1.6	55.2	54.8	0.4	20.6	20.2	0.4	NO
	3RD ST	4	15,620	163.1	162.1	1.0	328.3	326.7	1.6	89.7	89.0	0.7	22.9	22.4	0.4	NO
	MISSION INN (7TH ST)	4	7,640	163.1	162.1	1.0	328.3	326.7	1.6	39.2	38.9	0.3	19.5	19.2	0.4	NO
Riverside Yard and Amtrak Station MP 10.02 - 10.16																
	CRIDGE ST	2	5,400	175.1	174.1	1.0	336.2	334.6	1.6	29.4	29.2	0.2	21.3	20.9	0.4	NO
West Riverside Junction M.P. 10.6 (Connection to UP Los Angeles Sub)																
	JANE ST	2	3,100	121.0	120.0	1.0	224.0	222.5	1.6	10.2	10.1	0.1	12.7	12.3	0.4	NO
	MARY ST	4	17,110	121.0	120.0	1.0	224.7	223.1	1.6	65.7	65.0	0.8	15.7	15.2	0.4	NO

Boundary/ Junction	STREET	# of Lns	Average Daily Traffic (vehicles/day)	Average Daily Train Volume (trains/day)			Daily Total Gate Down Time (minutes/day)			Daily Total Vehicle Hours of Delay (veh-hrs/day)			PM Peak Average Delay per Vehicle (seconds/vehicle)			PROJ. IMPACTS SIGNIFICANT?
				W/ Proj	W/O Proj	Chg	W/ Proj	W/O Proj	Chg	W/ Proj	W/O Proj	Chg	W/ Proj	W/O Proj	Chg	
	WASHINGTON ST	2	11,880	121.0	120.0	1.0	224.0	222.5	1.6	50.6	50.0	0.6	18.1	17.6	0.5	NO
	MADISON ST	4	22,520	121.0	120.0	1.0	224.7	223.1	1.6	94.4	93.3	1.1	17.7	17.2	0.5	NO
	JEFFERSON ST	2	11,750	121.0	120.0	1.0	224.0	222.5	1.6	49.8	49.2	0.6	18.0	17.5	0.5	NO
	ADAMS ST	4	25,090	121.0	120.0	1.0	224.7	223.1	1.6	110.1	108.7	1.3	18.9	18.3	0.5	NO
	JACKSON ST	4	11,200	121.0	120.0	1.0	224.7	223.1	1.6	39.6	39.1	0.4	13.9	13.5	0.4	NO
	GIBSON ST	2	1,220	121.0	120.0	1.0	224.0	222.5	1.6	3.8	3.8	0.0	11.9	11.6	0.3	NO
	HARRISON ST	2	9,540	121.0	120.0	1.0	224.0	222.5	1.6	37.6	37.2	0.4	16.3	15.8	0.5	NO
	TYLER ST	4	22,390	121.0	120.0	1.0	224.7	223.1	1.6	93.7	92.5	1.1	17.6	17.1	0.5	NO
	PIERCE ST	2	16,020	121.0	120.0	1.0	224.0	222.5	1.6	80.3	79.2	1.0	22.8	22.1	0.7	NO
	BUCHANAN ST	2	13,710	121.0	120.0	1.0	224.0	222.5	1.6	62.5	61.7	0.8	19.9	19.4	0.6	NO
	MAGNOLIA AV EB	2	12,600	121.0	120.0	1.0	224.0	222.5	1.6	55.1	54.4	0.7	18.8	18.3	0.5	NO
	MAGNOLIA AV WB	2	12,600	121.0	120.0	1.0	224.0	222.5	1.6	55.1	54.4	0.7	18.8	18.3	0.5	NO
	MCKINLEY ST	4	38,180	121.0	120.0	1.0	224.7	223.1	1.6	222.9	219.8	3.1	28.1	27.3	0.8	NO
	RADIO RD	2	6,170	121.0	120.0	1.0	224.0	222.5	1.6	22.0	21.8	0.2	14.2	13.8	0.4	NO
	JOY ST	2	10,430	121.0	120.0	1.0	224.0	222.5	1.6	42.3	41.8	0.5	16.9	16.5	0.5	NO
	SHERIDAN ST	2	3,390	121.0	120.0	1.0	224.0	222.5	1.6	11.3	11.1	0.1	12.8	12.4	0.4	NO
	COTA ST	4	8,650	121.0	120.0	1.0	224.7	223.1	1.6	29.5	29.2	0.3	13.3	12.9	0.4	NO
	RAILROAD ST	4	13,860	121.0	120.0	1.0	224.7	223.1	1.6	50.8	50.2	0.6	14.7	14.2	0.4	NO
	SMITH ST	4	19,620	121.0	120.0	1.0	224.7	223.1	1.6	78.4	77.5	0.9	16.6	16.1	0.5	NO
	AUTO CENTER DR	2	16,580	121.0	120.0	1.0	224.0	222.5	1.6	85.2	84.1	1.1	23.6	22.9	0.7	NO
Riverside-Orange County Line																
	KELLOGG DR	4	7,890	121.0	120.0	1.0	224.7	223.1	1.6	26.9	26.6	0.3	13.2	12.9	0.4	NO
	LAKEVIEW AV	3	21,680	121.0	120.0	1.0	224.4	222.8	1.6	105.5	104.1	1.4	21.8	21.2	0.6	NO
	RICHFIELD RD	4	10,880	121.0	120.0	1.0	224.7	223.1	1.6	38.6	38.2	0.5	14.0	13.6	0.4	NO
Atwood Junction M.P. 40.6 (Connection to Old Olive Sub)																
	VAN BUREN ST	2	7,780	92.0	91.0	1.0	191.9	190.3	1.6	26.4	26.1	0.3	13.7	13.3	0.4	NO
	JEFFERSON ST	3	7,300	92.0	91.0	1.0	192.1	190.5	1.6	22.8	22.5	0.3	12.2	11.8	0.4	NO

Boundary/ Junction	STREET	# of Lns	Average Daily Traffic (vehicles/day)	Average Daily Train Volume (trains/day)			Daily Total Gate Down Time (minutes/day)			Daily Total Vehicle Hours of Delay (veh-hrs/day)			PM Peak Average Delay per Vehicle (seconds/vehicle)			PROJ. IMPACTS SIGNIFICANT?
				W/ Proj	W/O Proj	Chg	W/ Proj	W/O Proj	Chg	W/ Proj	W/O Proj	Chg	W/ Proj	W/O Proj	Chg	
	TUSTIN AV (ROSE DR)	4	33,520	92.0	91.0	1.0	192.4	190.8	1.6	161.4	158.9	2.5	22.5	21.8	0.7	NO
	ORANGETHORPE AV	4	32,550	92.0	91.0	1.0	192.4	190.8	1.6	153.1	150.7	2.4	21.8	21.1	0.7	NO
	KRAEMER BL	4	22,730	92.0	91.0	1.0	192.4	190.8	1.6	87.3	86.0	1.2	16.3	15.8	0.5	NO
	PLACENTIA AV	4	16,660	92.0	91.0	1.0	192.4	190.8	1.6	57.8	57.0	0.8	14.1	13.7	0.4	NO
	STATE COLLEGE BL	4	27,090	92.0	91.0	1.0	192.4	190.8	1.6	113.0	111.4	1.6	18.4	17.8	0.6	NO
	ACACIA AV	4	7,740	92.0	91.0	1.0	192.4	190.8	1.6	23.6	23.3	0.3	11.8	11.4	0.4	NO
	RAYMOND AV	4	24,160	92.0	91.0	1.0	192.4	190.8	1.6	95.2	93.9	1.4	16.9	16.4	0.5	NO
Fullerton Junction																
Orange-L.A. County Line																
	VALLEY VIEW AV	4	27,220	147.0	146.0	1.0	235.7	234.1	1.6	131.8	130.0	1.8	21.6	21.0	0.6	NO
	ROSECRANS/MARQUARDT AV	4	25,710	147.0	146.0	1.0	235.7	234.1	1.6	120.4	118.8	1.6	20.7	20.1	0.6	NO
	LAKELAND RD	2	7,250	147.0	146.0	1.0	234.9	233.3	1.6	27.4	27.1	0.3	15.4	14.9	0.4	NO
	LOS NIETOS RD	4	22,680	147.0	146.0	1.0	235.7	234.1	1.6	99.8	98.5	1.3	18.9	18.4	0.5	NO
	NORWALK BL	4	29,070	147.0	146.0	1.0	235.7	234.1	1.6	146.9	144.8	2.1	22.9	22.3	0.7	NO
	PIONEER BL	4	16,960	147.0	146.0	1.0	235.7	234.1	1.6	67.2	66.3	0.8	16.4	15.9	0.5	NO
	PASSONS BL	4	14,070	147.0	146.0	1.0	235.7	234.1	1.6	53.1	52.5	0.7	15.3	14.9	0.4	NO
	SERAPIS AV	2	6,950	147.0	146.0	1.0	234.9	233.3	1.6	26.0	25.7	0.3	15.2	14.7	0.4	NO
Commerce Yard M.P. 148.5																
Hobart Yard M.P. 146.0																
SCRRA San Gabriel Subdivision At-Grade Crossing Streets																
CP Beech M.P. 47.5																
	BEECH AV	2	3,060	57.9	56.9	1.0	62.9	61.3	1.6	2.0	1.9	0.1	2.6	2.3	0.3	NO
	CITRUS AV	4	39,340	57.9	56.9	1.0	63.2	61.6	1.6	50.1	46.5	3.6	6.4	5.6	0.8	NO
	JUNIPER AV	4	21,170	57.9	56.9	1.0	63.2	61.6	1.6	17.4	16.3	1.1	3.6	3.1	0.4	NO
	SIERRA AV	4	36,190	57.9	56.9	1.0	63.2	61.6	1.6	41.8	38.9	2.9	5.6	5.0	0.7	NO
	MANGO AV	4	17,940	57.9	56.9	1.0	63.2	61.6	1.6	13.9	13.1	0.8	3.3	2.9	0.4	NO

Boundary/ Junction	STREET	# of Lns	Average Daily Traffic (vehicles/day)	Average Daily Train Volume (trains/day)			Daily Total Gate Down Time (minutes/day)			Daily Total Vehicle Hours of Delay (veh-hrs/day)			PM Peak Average Delay per Vehicle (seconds/vehicle)			PROJ. IMPACTS SIGNIFICANT?
				W/ Proj	W/O Proj	Chg	W/ Proj	W/O Proj	Chg	W/ Proj	W/O Proj	Chg	W/ Proj	W/O Proj	Chg	
	PALMETTO AV	2	13,590	57.9	56.9	1.0	62.9	61.3	1.6	12.5	11.6	0.8	4.1	3.6	0.5	NO
	ALDER AV	4	16,640	57.9	56.9	1.0	63.2	61.6	1.6	12.6	11.9	0.8	3.2	2.8	0.4	NO
	LOCUST AV	2	11,830	57.9	56.9	1.0	62.9	61.3	1.6	10.1	9.4	0.6	3.8	3.3	0.5	NO
	CEDAR AV	4	35,420	57.9	56.9	1.0	63.2	61.6	1.6	40.1	37.3	2.8	5.5	4.8	0.7	NO
	CACTUS AV	4	10,620	57.9	56.9	1.0	63.2	61.6	1.6	7.3	6.9	0.4	2.8	2.5	0.3	NO
	LILAC AV	2	10,620	57.9	56.9	1.0	62.9	61.3	1.6	8.6	8.1	0.5	3.5	3.1	0.4	NO
	WILLOW AV	2	10,620	57.9	56.9	1.0	62.9	61.3	1.6	8.6	8.1	0.5	3.5	3.1	0.4	NO
	RIVERSIDE AVENUE	4	35,420	57.9	56.9	1.0	63.2	61.6	1.6	40.1	37.3	2.8	5.5	4.8	0.7	NO
	SYCAMORE AVENUE	2	10,620	57.9	56.9	1.0	62.9	61.3	1.6	8.6	8.1	0.5	3.5	3.1	0.4	NO
	ACACIA AV	2	10,620	57.9	56.9	1.0	62.9	61.3	1.6	8.6	8.1	0.5	3.5	3.1	0.4	NO
	EUCALYPTUS AVENUE	2	10,620	57.9	56.9	1.0	62.9	61.3	1.6	8.6	8.1	0.5	3.5	3.1	0.4	NO
	PEPPER AV	4	25,400	57.9	56.9	1.0	63.2	61.6	1.6	22.6	21.2	1.4	4.0	3.5	0.5	NO
	RIALTO AV	2	12,290	57.9	56.9	1.0	62.9	61.3	1.6	10.7	10.0	0.7	3.9	3.4	0.5	NO
	RANCHO AV	2	6,710	57.9	56.9	1.0	62.9	61.3	1.6	4.8	4.5	0.3	3.0	2.6	0.4	NO
San Bernardino Junction M.P. 56.2 (Connection to BNSF San Bernardino Sub)																

Overall:	Total Daily Vehicle Hours of Delay (veh-hrs/day)			PM Peak Average Delay per Vehicle (seconds / vehicle)			Concln. on Project Impacts
BNSF San Bernardino Subdivision At-Grade Crossing Streets	3,772	3,725	47	20.0	19.5	0.55	None Significant
SCRRA San Gabriel Subdivision At-Grade Crossing Streets	329	307	22	4.5	4.0	0.55	None Significant
Combined At-Grade Crossing Streets	4,101	4,033	69	15.5	14.9	0.55	None Significant