APP Nos.: 180430-070, 200305-038, 200325-052, and 200325-053

BERTH 163-164 [NuStar-Valero] MARINE OIL TERMINAL WHARF IMPROVEMENTS PROJECT

DRAFT INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

THE PORT OF LOS ANGELES

May 2021

PREPARED BY:

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

with assistance from:

RAMBOLL

Draft Initial Study/Mitigated Negative Declaration

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1.0 PROJECT OVERVIEW AND BACKGROUND

The Los Angeles Harbor Department (LAHD) has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) to address potential environmental impacts associated with the proposed Berth 163-164 [NuStar-Valero] Marine Oil Terminal Wharf Improvements Project (proposed Project) located at 841 La Paloma Avenue on Mormon Island in the Port of Los Angeles (POLA or Port). Shore Terminals, LLC, a subsidiary of NuStar Energy L.P. (NuStar) and Ultramar, Inc., a subsidiary of Valero Energy Corporation, doing business as Valero Wilmington Marine Terminal (collectively, "Valero") are the co-applicants for the proposed Project and LAHD is the lead agency under the California Environmental Quality Act (CEQA).

The primary objective of the proposed Project is to comply with the State of California's Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS) at the marine oil terminal currently at Berth 163 (NuStar). The proposed Project also includes consideration by the Board of Harbor Commissioners of issuance of 30-year leases to NuStar, for continued operation of the Berth 163 Marine Oil Terminal and for operation of a backlands portion of Berth 162, and to Valero, for continued operation of oil terminal facilities on backlands at Berth 164. There are currently four NuStar storage tanks located on the Berth 162 backlands area. Neither NuStar nor Valero conduct vessel operations at Berth 162. Valero's marine operations would be transferred from Berth 164 to Berth 163. Construction activities would include demolition of the existing timber wharf structures at Berth 163 and 162 and construction of a new loading/unloading platform at Berth 163, piping to the Valero terminal, fire pump platform, access/pipeline trestle, mooring and breasting dolphins, catwalks, a hose tower and an onshore valve vault.

1.1 CEQA PROCESS

This document was prepared in accordance with CEQA (California Public Resources Code, Section 21000 et seq.), the CEQA Guidelines (14 California Code of Regulations [CCR] 15000 et seq.), and the City of Los Angeles CEQA Guidelines (2006). One of the main objectives of CEQA is to disclose the reasonably foreseeable and potentially significant adverse environmental effects of a proposed project to the public and decision-makers. CEQA requires that the potential environmental effects of a project be evaluated prior to implementation. This IS/MND includes a discussion of the proposed Project's effects on the existing environment, including the identification of avoidance, minimization, and mitigation measures. This document is an IS/MND because all impacts associated with the proposed Project can be mitigated to below the thresholds of significance.

Under CEQA, the lead agency is the public agency with primary responsibility over approval of a proposed Project. Pursuant to Section 15367 of the CEQA Guidelines (14 CCR 15000 et seq.), LAHD is the lead agency for the proposed Project. LAHD has directed the preparation of an environmental document that complies with CEQA. LAHD will consider the information in this document when determining whether to approve the proposed Project.

The preparation of an IS is guided by Section 15063 of the CEQA Guidelines, while Sections 15070–15075 of the CEQA Guidelines direct the process for the preparation of a Negative

Declaration or an MND (14 CCR 15000, et seq.). Where appropriate and supportive, references will be made to CEQA, the CEQA Guidelines, or appropriate case law.

This IS/MND meets CEQA content requirements by including a project description; a description of the environmental setting, potential environmental impacts, mitigation measures for any significant effects; discussion of consistency with plans and policies; and names of the document preparers.

In accordance with CEQA and the CEQA Guidelines, this IS/MND will be circulated for a period of 30 days for public review and comment. The public review period for this IS/MND is scheduled to begin on May 13, 2021 and will conclude on June 11, 2021. This IS/MND will be distributed to responsible and trustee public agencies, other interested or involved agencies, organizations, and private individuals for review and will be made available for general public review online at the Port's website at http://portoflosangeles.org. A copy of the document is also available for public review at the Harbor Department Environmental Management Division (EMD) located at 425 South Palos Verdes Street, San Pedro, CA 90731. Due to COVID-19, please send your request to ceqacomments@portla.org or call (310) 732-3675 to schedule an appointment to pick up a copy.

During the 30-day public review period, the public has an opportunity to provide written comments on the information contained within this IS/MND. The public comments on the IS/MND 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 proposed Project will have a significant effect on the environment and that the negative declaration or mitigated negative declaration reflects the lead agency's independent judgment and analysis" (14 CCR 15070).

In reviewing the IS/MND, 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 and ways in which the potential significant effects of the proposed Project are proposed to be avoided or mitigated. Comments on the IS/MND should be submitted in writing prior to the end of the 30-day public review period and must be postmarked by June 11, 2021.

Please submit written comments to:

Chris Cannon, Director
City of Los Angeles Harbor Department
Environmental Management Division
425 S. Palos Verdes Street
San Pedro, California 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. For additional information, please contact the LAHD Environmental Management Division at 310.732.3675.

1.2 DOCUMENT FORMAT

This IS/MND contains the following eight sections:

Section 1.0. **Project Overview and Background.** 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's 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. Environmental Analysis and Discussion of Impacts and Mitigation Measures. This section presents the environmental analysis for each issue area identified on the environmental checklist. 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. If the proposed Project could have a potentially significant impact on a resource, the issue area discussion provides a description of potential impacts and the appropriate mitigation measures and/or permit requirements that would reduce those impacts to a less-than-significant level.

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/MND.

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

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

The environmental analysis included in Section 4.0, Impacts and Mitigation Measures, is consistent with the CEQA Initial Study format presented in Section 3.0, Initial Study Checklist. 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/MND, no impacts were identified that fall into this category.

Less-than-Significant Impact 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).

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 a 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 that show that the impact does not apply to the specific project (e.g., the project falls outside of a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors and general standards (e.g., the proposed Project would not expose sensitive receptors to pollutants based on a project-specific screening analysis).

2.0 PROJECT DESCRIPTION

2.1 PROJECT OVERVIEW

This IS/MND is being prepared to evaluate the reasonably foreseeable and potentially significant adverse environmental impacts that may result from approval of the proposed Project. The proposed Project consists of improvements to comply with MOTEMS at the NuStar and Valero marine oil terminals by combining vessel operations at the two existing wharfs into a single new wharf structure to be located at Berth 163 and decommissioning Berth 164 as a marine oil transfer facility. It also includes the consideration of a 30-year lease to NuStar by the Board of Harbor Commissioners for continued operation of the Berth 163 marine oil terminal and a portion of the Berth 162 backland area. Consideration of a 30-year lease to Valero by the Board of Harbor Commissioners to continue landside operations at their current oil terminal behind Berth 164 is also a project element.

This chapter discusses the location, description, background, and objectives of the proposed Project. This document has been prepared in accordance with CEQA (California Public Resources Code, Section 21000 et seq.) and the CEQA Guidelines (14 CCR 15000 et seq.).

2.1.1 PROJECT LOCATION

Regional Setting

The Port is located in San Pedro Bay, 20 miles south of downtown Los Angeles. Figure 2.1-1 shows the location of the proposed Project relative to the Port. The Port encompasses 7,500 acres of land and 43 miles of waterfront and provides a major gateway for international goods and services. The Port comprises approximately 24 major cargo terminals, including dry and liquid bulk, container, breakbulk, automobile, and passenger facilities (LAHD, 2019a). In addition to cargo business operations, the Port is home to commercial fishing vessels, shipyards, boat repair facilities, as well as recreational, community, and educational facilities. The Port also provides slips for approximately 3,800 recreational vessels, 78 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.

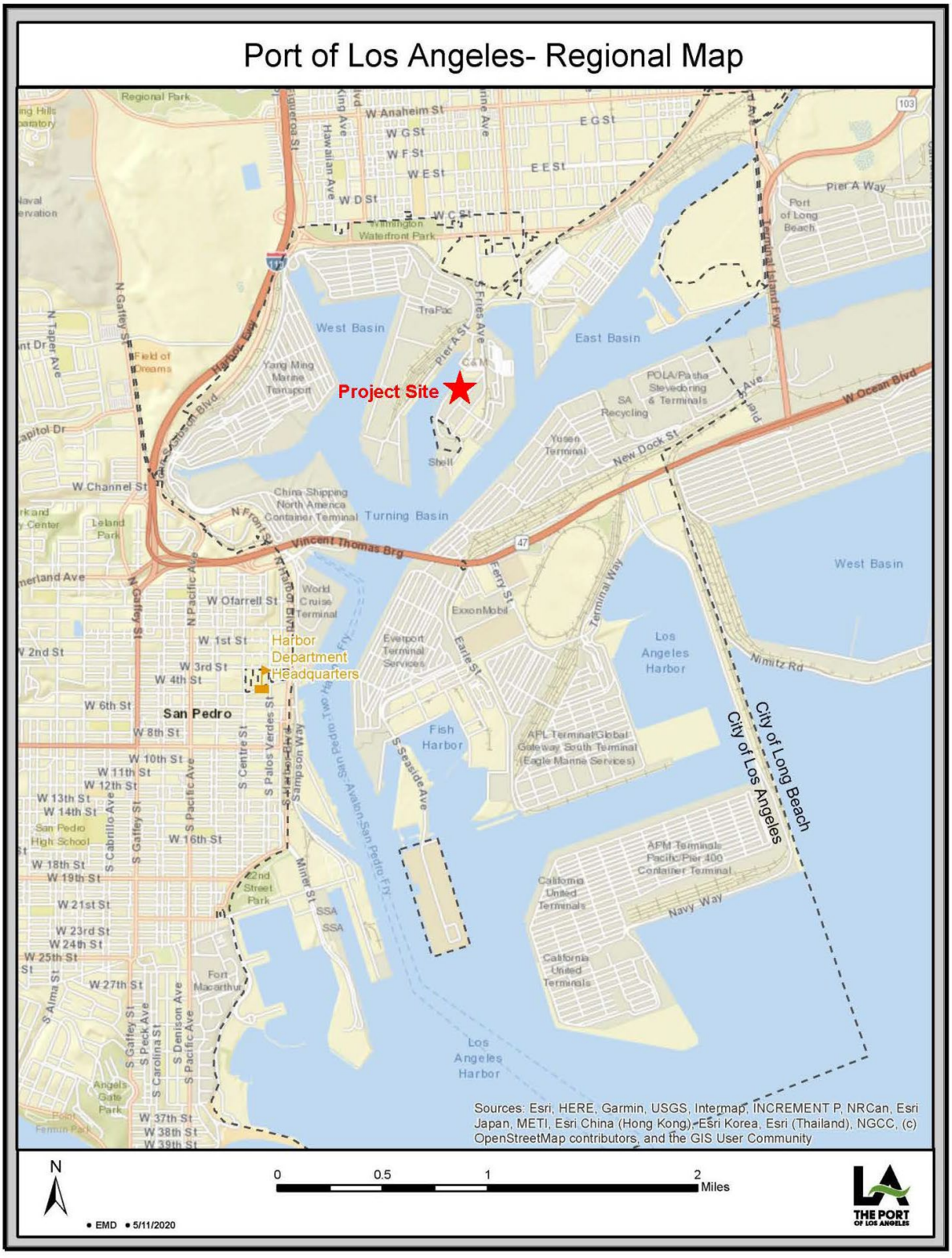

Figure 2.1-1. Regional Location of the Proposed Project (dashed line represents Port property boundary)

Project Setting

The Project site is located at Berths 162, 163, and 164 in the Port of Los Angeles, adjacent to the City of Los Angeles communities of San Pedro and Wilmington. The Project site occupies the west side of Mormon Island along South La Paloma Street and Slip 1. It is bounded by the Rio Tinto Minerals borax export terminal (Berth 165) to the south; Slip 1 to the west; Slip 1 and the LAHD maintenance yards to the north; and the Pasha breakbulk terminal to the east. Land access to and from the Project site is provided by a network of freeways and arterial routes. The freeway network consists of the Harbor Freeway (Interstate-110 (I-110)), the Long Beach Freeway (Interstate-710 (I-710)), the San Diego Freeway (Interstate-405 (I-405)), and the Terminal Island Freeway (State Route (SR)-103/SR-47). Local access is provided by John S. Gibson Boulevard and South Fries Avenue.

Land Use and Zoning

The Project site is located in Planning Area 2, as designated in the Port Master Plan (PMP) (LAHD, 2018a). The PMP establishes policies and guidelines to direct the future development of the Port. The original plan became effective in April 1980 after it was approved by the Board of Harbor Commissioners and certified by the California Coastal Commission. Planning Area 2 includes container terminals (682 acres), recreational boating (29 acres), maritime support (17 acres), institutional (30 acres), visitor-serving commercial (three acres), open space (34 acres), and a mix of breakbulk, dry bulk, and or liquid bulk uses (261 acres). According to the PMP, Planning Area 2 designates the Project site for liquid bulk uses (LAHD, 2018a).

The Project site is identified as Los Angeles County Assessor's Parcel Number (APN) 7440014904 and is zoned for qualified heavy industrial uses ([Q] M3-1) by the City of Los Angeles Zoning Ordinance. [Q] M3-1 is designated as "qualified-heavy industrial" uses (City of Los Angeles, 2020). The Project site is also designated a "ZI No. 2130 Harbor Gateway State Enterprise Zone", "ZI-2471 Coastal Zone", and "ZI-1b92ZI-1192 Buffer Zone for Border Zone Protection site". The overall character of the surrounding area is primarily marine cargo handling (liquid and dry bulk). The properties adjacent to the Project site are also zoned as [Q] M3-1.

2.1.2 EXISTING CONDITIONS

Facilities

The existing NuStar and Valero marine oil terminals (Figure 2.1-2) are immediately adjacent to one another along Slip 1 on the west side of Mormon Island. The two terminals include a wharf structure, parking areas, several ancillary buildings, and 39 storage tanks of various sizes. Each terminal occupies a land area of approximately 10 acres and has one dedicated berth (Berth 163 for NuStar and Berth 164 for Valero). Valero and NuStar currently also have secondary use rights to each other's wharves at Berth 163 and Berth 164. NuStar has access to part of the backlands at Berth 162, which is used for tank storage.

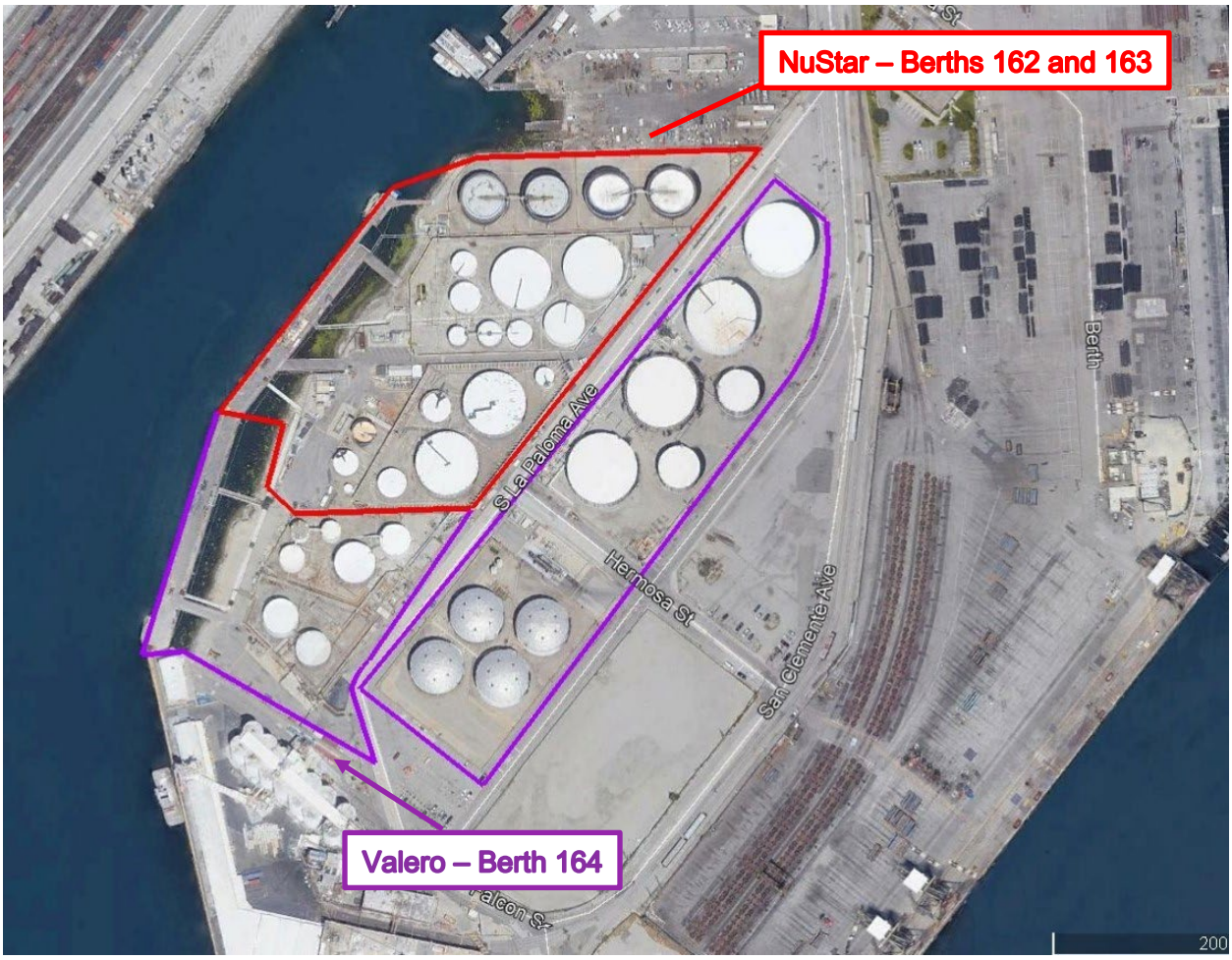

Figure 2.1-2. Existing NuStar and Valero Marine Oil Terminals

A single wooden wharf structure dating from 1923 serves both terminals; the northern half of the structure is designated Berth 163 and the southern half is Berth 164. The existing structure is approximately 900 feet long and 40 feet wide and includes mooring cleats and bollards, safety and spill containment gear, vessel loading/unloading gear, and piping. It is connected to the two terminals with three access trestles and five pipe trestles. Since its original construction, the wharf has undergone numerous alterations to accommodate safety upgrades and changing vessel mooring and product transfer requirements, and many of its original elements have been replaced in the course of routine maintenance. The adjacent Berth 162 in-water structure, which is attached to Berth 163, consists of an additional 2,100-square-foot timber wharf and an access trestle. It is not in active service.

Operations

Typically, the two terminals operate 24 hours a day, seven days a week, with up to ten employees working on-site. Vessels of up to 70,000 deadweight tons (DWT), both barges and ocean-going tankers, are currently able to call at Berth 163, and vessels up to 85,000 DWT currently call at Berth 164.

The NuStar marine terminal can or has imported or handled multiple products, including lube oils, gasoils, renewable diesel fuel, and bunker stocks (for fueling oceangoing vessels) via barges and oceangoing tanker vessels. Until the end of 2019, the terminal also engaged in bunkering operations via barges to serve the oceangoing vessels calling at the Port of Los Angeles. Imported bunker stocks were blended in the terminal's on-site tanks and then loaded back onto barges at the Berth 163 wharf for bunker deliveries. As of the time this document was prepared, the bunkering business is no longer part of the NuStar Terminal's operation. Nevertheless, bunkering operations at Berth 163 could resume sometime in the future, and therefore bunkering operations are included in the Project operational scenario analyzed in this document.

In 2019, 90 barges and 23 oceangoing tanker vessels called at Berth 163 (Table 2.1-1); approximately 82 percent of the barge calls at Berth 163 involved bunkering operations while the remainder of the barge calls and all of the ship calls involved imported product. The NuStar terminal includes truck traffic for unloading products from on-site storage tanks as shown in Table 2.1-1. Lube oils leave the terminal in tanker trucks that go to local destinations (i.e., within 50 miles of the terminal), primarily the Phillips 66 refineries in Wilmington and Carson, but also to various distribution centers. Renewable diesel leaves the terminal in tanker trucks that go to various retail and fleet fueling stations in the region. No product enters or leaves the terminal by pipeline or rail.

Most of the Valero terminal's operation consists of importing petroleum products such as gasoil, naphtha, and other refinery feedstocks (except crude oil), as well as renewable diesel, but approximately 15% of its throughput is exported product. In 2019, 40 barges and 41 oceangoing tanker vessels called at Berth 164 (Table 2.1-1). Imported product is pumped into the on-site storage tanks, then conveyed to the nearby Valero Wilmington Refinery by pipeline. No product leaves the terminal by rail or truck, however, trucks carrying product are unloaded into tanks at the terminal.

Table 2.1-1. Berths 163-164 (NuStar and Valero Terminal) Activity in 2019

	Vessel Traffic			Throughput (barrels)	Truck Traffic
	Barges	Tankers	Total	Total	(Annual truck visits)
NuStar	90	23	113	3,253,418	6,580
Valero	40	41	81	10,075,510	11,943
Total	130	64	194	13,328,928	18,523

Source: NuStar/Valero, 2020 (Figures are 2019 calendar year).

Throughput at the NuStar terminal has fluctuated in recent years between 2.6 million and 4.8 million barrels, depending on refinery operations and the economic climate for bunker fuels and

renewable diesel, but has averaged approximately 3.4 million barrels per year. Vessel traffic has fluctuated as much as throughput, ranging between 54 and 130 vessel calls per year, but has averaged 90 vessel calls per year.

Activity levels at the Valero Terminal are largely dictated by activity at the Valero Wilmington Refinery, which already operates at near-capacity. For the Valero Terminal to expand its throughput beyond normal market fluctuations, the Valero Wilmington Refinery would have to expand its operations, which would trigger other permitting and CEQA requirements and is not, in any case, currently envisioned by Valero. Accordingly, terminal throughput has fluctuated in a narrow range centered on an average of approximately 10.6 million barrels per year. Vessel calls have fluctuated as well, but have typically ranged between 70 and 80 per year. For purposes of this IS/MND evaluation, therefore, the 2019 vessel calls and throughput volumes in Table 2.1-1 are considered to be the CEQA baseline for the evaluations herein. They represent both typical existing conditions as well as actual throughput for 2019, the most recent full calendar year prior to preparation of this CEQA document.

2.1.3 PROJECT BACKGROUND AND OBJECTIVES

Project Background

The MOTEMS are comprehensive engineering standards for the analysis, design, inspection, and maintenance of existing and new marine oil terminals. The MOTEMS were approved by the California Building Standards Commission on January 19, 2005, became effective on January 6, 2006 (CSLC 2005), and are codified as part of California Code of Regulations Title 24, Part 2, Marine Oil Terminals, Chapter 31F. The MOTEMS apply to all existing and proposed marine oil terminals in California and include criteria for inspection, structural analysis and design, mooring and berthing, geotechnical considerations, fire, piping, mechanical and electrical systems. The California State Lands Commission oversees the MOTEMS program. Through ongoing discussions with the California State Lands Commission, the LAHD developed an implementation strategy to complete the necessary MOTEMS requirements. The marine oil terminals at Berths 163 and 164 are currently two of the seven existing marine oil terminals at the Port (Berth 162 is not a marine oil terminal, but instead provides backlands support for the NuStar Terminal).

The MOTEMS require each marine oil terminal to conduct an audit to determine the level of compliance and an evaluation of the continuing fitness-for-purpose of the facility. Depending on the results, the terminal owner and/or terminal operators must then determine what actions are required to meet the standards and provide a schedule for implementation of deficiency corrections and/or rehabilitation. The standards define criteria in the following areas:

- Audit and Inspection
- Structural Loading Criteria
- Seismic Analysis and Structural Performance
- Mooring and Berthing Analysis and Design
- Geotechnical Hazards and Foundations

- Structural Analysis and Design of Components
- Fire Prevention, Detection, and Suppression
- Piping and Pipelines
- Mechanical and Electrical Equipment
- Electrical Systems.

The MOTEMS audits performed for the NuStar and Valero marine oil terminals identified existing infrastructure deficiencies related to structural, mooring, berthing, and piping systems that require upgrading. The proposed Project would correct the identified deficiencies at Berth 163.

The major elements of the proposed Project are:

1. Temporary relocation of NuStar piping from Berth 163 to Berth 164;
2. Utilization of Berth 164 for all oil transfer operations during construction;
3. Construction of temporary mooring points within the Berth 163 berth pocket[1] to provide vessel mooring at Berth 164 and safe site access for marine contractor;
4. Demolition of existing topside equipment, piping, timber wharf, access trestles and pipeways at Berths 162 and 163;
5. Construction of new MOTEMS compliant loading/unloading platform, access and pipeline trestles, mooring structures, berthing structures, catwalks, fire pump platform, topside equipment on unloading platform, landside piping, and other onshore improvements;
6. Remove temporary mooring points;
7. Clean-up dredging at Berth 163 (if needed); and
8. Decommission Berth 164 from oil transfer activities.

Improvements would include the new loading/unloading platform, access and pipeline trestles, mooring structures, berthing structures, catwalks, fire pump platform, topside equipment, landside piping, and necessary utilities, and are described in more detail in Section 2.2, below.

Project Objectives

The Project's overall objective is to bring the marine oil terminal facility at Berth 163 into compliance with MOTEMS. To achieve that goal, the following detailed objectives need to be met:

- Comply with MOTEMS requirements, which would ensure better resistance to earthquakes, reduce the potential for an oil spill, and consequently maintain the operation and viability of the marine oil terminal facility (primary objective).
- Optimize the use of existing land at the terminal and associated waterways in a manner that is consistent with LAHD's Tidelands Trust obligations by maintaining the existing facility's throughput capabilities and operational parameters through a new 30-year lease.

[1] The Berth 163 berth pocket is the water area in which vessels would normally be located when docked at Berth 163

Together, these objectives define the Project need, and are consistent with those set forth by LAHD for marine oil terminal operations.

2.2 PROJECT DECRIPTION

2.2.1 OVERVIEW

The proposed Project involves the construction and operation of a new, MOTEMS-compliant facility, (herein referred to as a marine oil terminal with an access trestle and pipeway, and mooring and breasting dolphins) at Berth 163. The proposed Project also includes consideration by the Board of Harbor Commissioners of renewed rights under new, 30-year leases between the LAHD and NuStar and Valero. The basic facilities at Berth 163 (Figure 2.2-1) would consist of the new loading/unloading platform with hose tower, three breasting dolphins, two onshore/nearshore and two in-water mooring dolphins, a single access and piping trestle, and a fire pump platform. The platforms and breasting dolphins would be interconnected with catwalks and the mooring dolphins would be connected to the shore with catwalks. New landside components would include pipe supports, an operator shelter, and minor supporting structures and infrastructure. The structure would accommodate tanker vessels of up to 85,000 DWT as well as barges. The proposed Project would result in a decrease in over-water structures of approximately 12,010 ft^2 (0.27 ac.) from current baseline conditions.

2.2.2 CONSTRUCTION

Construction of the proposed Project, which is described in more detail below, would include:

- Temporary relocation of NuStar piping from Berth 163 to Berth 164;
- Utilization of Berth 164 for all oil transfer operations during construction;
- Construction of temporary mooring points within the Berth 163 berth pocket to provide vessel mooring at Berth 164 and safe site access for marine contractor;
- Demolition of existing topside equipment, piping, timber wharf, access trestles and pipeways at Berths 162 and 163;
- Construction of new MOTEMS compliant loading/unloading platform, access and pipeline trestles, mooring structures, berthing structures, catwalks, fire pump platform, topside equipment on unloading platform, landside piping, and other onshore improvements;
- Remove temporary mooring points;
- Clean-up dredging at Berth 163 (if needed); and
- Decommission Berth 164 from oil transfer activities.

Demolition, construction, and commissioning activities are expected to take up to 36 months. Due to the nature of the Project, most of the work would be marine-based using waterborne equipment such as derrick barges, tugboats, and work boats. The schedule is based on working approximately 8- to 12-hour days, up to seven days per week. Up to 30 workers would be at the site at any given time, depending on the construction phase.

Both terminals would continue to receive marine vessels throughout the entire demolition and construction period, but because Berth 163 would be out of commission, all vessels would call at the existing Berth 164.

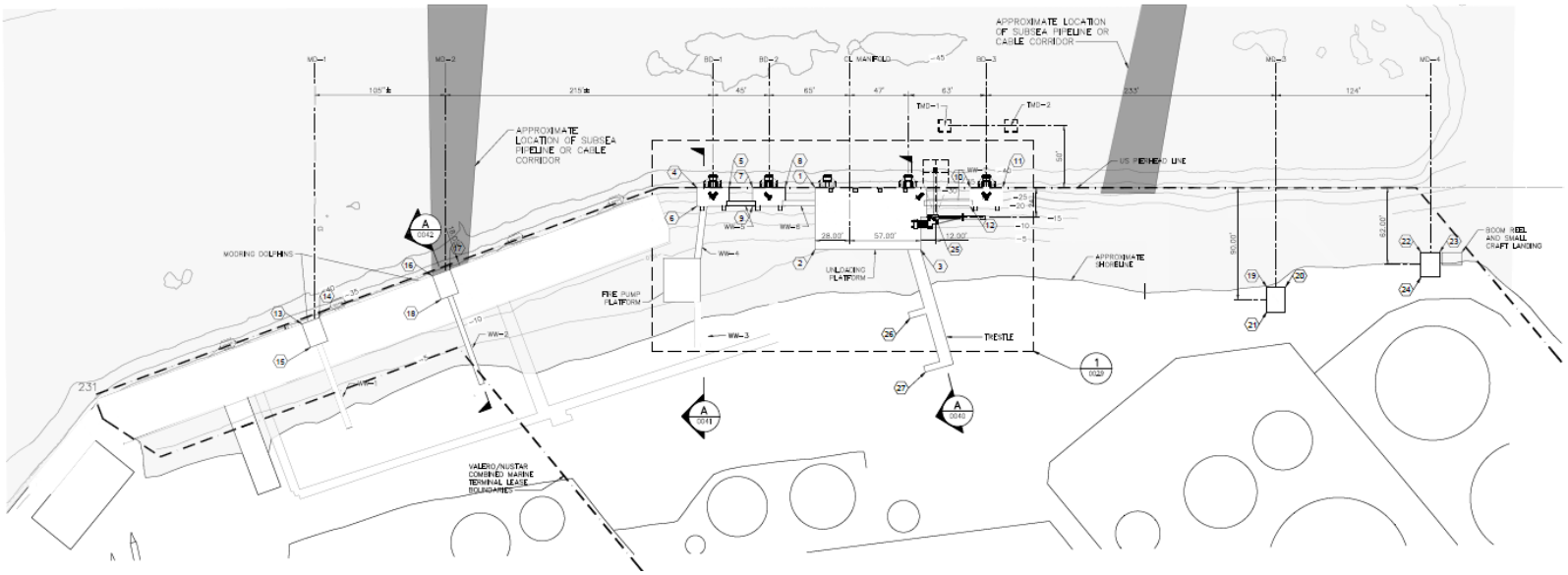

Figure 2.2-1. Proposed Project Elements

Construction would begin with the installation of temporary piping between the NuStar terminal and Berth 164 to support NuStar's use of Berth 164 during construction. Temporary mooring points consisting of steel pipe monopile dolphins would be installed within the vicinity of Berth 163 and near the south end of Berth 164. These mooring points would allow safe use of Berth 164 by tanker vessels of up to 85,000 DWT and would also provide safe site access for the construction contractor.

Once Berth 164 is ready for combined operations, the wharf at Berth 163, including the topside equipment, piping, access trestles, and pipe trestles, and the existing unused timber structure at Berth 162 would be demolished. The existing timber piles would be pulled where feasible or cut at the mudline. Demolition debris, much of which is expected to have been treated with wood preservatives, would be hauled away for disposal to an appropriate landfill licensed to receive such materials. Other demolition debris would be recycled where feasible or disposed of appropriately. Demolition would take approximately four months and would require the use of both waterborne and land-based equipment including cranes, a small tugboat, trucks, and small demolition equipment.

Once the Berth 163 structures are removed, construction would begin on the new loading/unloading platform and associated structures (i.e., access trestle, fire pump platform, breasting and mooring dolphins, hose tower, vessel access gangway structure, and connecting catwalks). Construction would include minor modifications of shoreside facilities (new piping and isolation valves, valve platforms, emergency generator, operator shelter, and associated support equipment) and installation of utilities to support the new platform. The new loading/unloading platform would consist of an 85-foot-long by 40-foot-wide concrete deck supported on steel pipe piles. Piles would likely be driven with a combination of impact and vibratory methods, although it is possible that site conditions will mandate that one or the other method be used exclusively. The new platform would include new cargo transfer piping, risers, piping to the existing marine vapor recovery unit at the backlands of Berth 164, a spill containment structure, and a cargo hose storage tower with a fixed--boom crane.

The new loading/unloading platform would be connected to shore by a 25-foot-wide overwater trestle supported by steel piles that would provide access for maintenance vehicles. A new diesel-powered firewater pump platform would be constructed just behind and adjacent to the loading/unloading platform. The platform would consist of a concrete deck supported on steel piles. Three breasting dolphins, each with a marine fender system and quick release mooring hooks, and four new mooring dolphins, each supported by steel piles and equipped with quick release mooring hooks, would be constructed. A column-style gangway tower structure would be supported by a steel pipe monopile to provide crew access to vessels. Steel-grate catwalks would connect the mooring dolphins to the shore and the firewater pump platform and breasting dolphins to the loading/unloading platform.

The shoreside piping systems at the two terminals would be rerouted to the new loading/unloading platform. Two pile-supported shoreline isolation valve containment platforms would be installed at the shoreline near the access trestle. New utility and vapor recovery lines and MOTEMS-compliant fire suppression equipment, including diesel-powered pumps, monitors, hydrants,

extinguishers, alarms, and a fire detection system, would also be installed. Any required vapor control units (VCU) necessary to control emissions from vessel loading activities would continue to be used.

Construction of the new platform and associated structures and infrastructure would require the use of both waterborne and land-based equipment including cranes, pile drivers, a small tugboat, concrete delivery trucks, small excavators, generators, and assorted minor construction equipment.

Once the new platform at Berth 163 is completed and operational, the temporary mooring points installed at the beginning of the project would be removed. Construction activities could cause minor sloughing of the shoreline slope that could reduce water depths such that larger vessels could not safely berth. In that case, minor clean-up dredging would be conducted to remove excess material. Up to 2,000 cubic yards of sediment may be disposed of at an approved facility within the Port of Los Angeles.

Finally, the existing wharf at Berth 164 would be decommissioned from oil transfer operations, which could involve removing piping, manifolds, and other oil transfer gear and infrastructure. No future cargo handling use for Berth 164 has been identified. However, the wharf could continue to be maintained (e.g., occasional fender, bollard, piling, and deck repairs) to allow safe continuation of the existing condition in which vessels calling the Rio Tinto terminal at Berth 165 use mooring bollards on the Berth 164 wharf for one or two of their mooring lines.

2.2.3 OPERATION

The proposed Project would allow the NuStar and Valero terminals to remain in operation during the term of the renewed rights under 30-year leases. Given the constraints of the new berth and the nature of the activities at the two terminals, NuStar and Valero have indicated that the number of vessel calls, truck trips and the overall average throughput would not increase over the 2019 baseline. Accordingly, the vessel call and cargo throughput data in Table 2.1-1 are applicable following the completion of construction.

During construction, the two terminals would continue to operate, but all vessels would call at Berth 164. For operations after completion of construction, the analysis in this IS/MND assumes that the terminals would berth one 85,000 DWT vessel on a peak day, since that is the maximum the new wharf could handle. The peak day and annual number of truck visits would not increase above the baseline and the only change would be that the future truck fleet would have fewer emissions per vehicle as a result of fleet turnover to cleaner vehicles.

2.3 PROJECT PERMITS AND APPROVALS

Under CEQA, the lead agency is the public agency with primary responsibility over approval of a proposed Project. Pursuant to the CEQA Guidelines (14 CCR 15367), therefore, the CEQA lead agency for the proposed Project is LAHD.

The approvals or permits that could be required for the proposed Project include, but are not limited to, the following actions by the identified agencies:

- Los Angeles Department of Building Department and Safety (LADBS) - approval of mechanical, electrical, demolition, and building permits
- Los Angeles Fire Department (LAFD) - approval of fire suppression system changes (topside equipment)
- Los Angeles Harbor Department (LAHD) – issuance of a Harbor Engineer Permit, Coastal Development Permit and property lease
- Los Angeles Regional Water Quality Control Board (LARWQCB) - issuance of Waste Discharge Requirements (constitutes Section 401 Water Quality Certification)
- U.S. Army Corps of Engineers (USACE) - authorization under Section 10 of the Rivers and Harbors Act
- California State Lands Commission (CSLC) - review Project design elements for compliance with MOTEMS
- South Coast Air Quality Management District (SCAQMD) – permits, including for new firewater system

3.0 INITIAL STUDY CHECKLIST

1.	**Project Title:**	Berths 163 - 164 [NuStar-Valero] Marine Oil Terminal Wharf Improvements Project
2.	**Lead Agency Name and Address:**	LAHD Environmental Management Division 425 South Palos Verdes Street San Pedro, California 90731
3.	**Contact Person and Phone Number:**	Erin Sheehy 310.732.7693
4.	**Project Location:**	Berths 163 -164 (Mormon Island), Port of Los Angeles 841 and 961 S. La Paloma Avenue Wilmington, California 90744
5.	**Project Sponsor's Name and Address**	Shore Terminals LLC, dba NuStar 841 S La Paloma Avenue Wilmington, California 90744 and Ultramar, dba Valero 961 S. La Paloma Avenue Wilmington, CA 90744
6.	**Port Master Plan Designation:**	Liquid Bulk Cargo
7.	**Zoning:**	Qualified Heavy Industrial Zone [Q] M3-1
8.	**Description of Project:**	The proposed Project consists of various wharf improvements to a portion of Berth 164 and all of Berth 163 on Mormon Island in order to bring one marine oil terminal into compliance with MOTEMS. In general, the proposed Project would demolish the existing timber wharf, access trestle, piping trestle, and office building at Berths 162 and 163, and replace the structures at Berth 163 with a new, MOTEMS-compliant loading platform, access trestle, breasting and mooring dolphins, catwalks, and supporting equipment and infrastructure. The proposed Project also includes consideration of a new 30-year lease to NuStar for continued operation of the marine oil terminal and a 30-year lease to Valero by the Board of Harbor Commissioners.
9.	**Surrounding Land Uses/Setting:**	The overall character of the surrounding area is primarily industrial. The Project site and adjacent properties to the north, south, east, and west are all zoned for heavy industrial uses ((Q) M3-1), similar to the Project site. The project area is adjacent to the City of Los Angeles communities of San Pedro and Wilmington. The Project site occupies the west side of Mormon Island along South La Paloma Street and Slip 1, and is generally bounded by the Rio Tinto dry bulk terminal (Berth 165) to the south; Slip 1 to the west; Slip 1 and the LAHD maintenance yards to the north; and the Pasha breakbulk terminal to the east. The nearest sensitive receptors are two schools located approximately a mile from the Project site. The nearest residential receptor

		community is in San Pedro, approximately 1.1 miles southwest of the Project site (apartment complex along Harbor Boulevard just south of State Route 47). Live-aboard tenants (i.e., people living aboard vessels) are located approximately 0.75 miles northeast of the Project site in the marinas at Berths 201 – 205.
10.	**Other Public Agencies Whose Approval Is Required:**	• USACE • LARWQCB • CSLC • SCAQMD • LADBS • LAFD
11.	**Have California Native American Tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code 21808.3.1?**	Yes (see Section 4.18)

3.1 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this Project (i.e., the proposed Project would involve at least one impact that is a “potentially significant impact” prior to mitigation, as indicated by the checklist on the following pages.

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

3.2 DETERMINATION (TO BE COMPLETED BY THE LEAD AGENCY)

On the basis of 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. ☐

Signature

05-13-2021
Date

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

Environmental Checklist

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
1. AESTHETICS. Except as provided in Public Resources Code Section 21099, **would the project:**				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	☐	☐	☒	☐
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☒
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐
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. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. **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?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code §12220(g)), timberland (as defined by Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §51104(g))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
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 or conversion of forest land to non-forest use?	☐	☐	☐	☒
3. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management district 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?	☐	☐	☒	☐
b. 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?	☐	☐	☒	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐
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 Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in the City or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
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?	☐	☐	☒	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
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?	☐	☐	☐	☒
5. CULTURAL RESOURCES. Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	☒
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c. Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☐	☒
6. ENERGY. Would the project:				
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐
7. GEOLOGY AND SOILS. Would the project:				
a. Directly or indirectly cause 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.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c. Be located on geologic units 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?	☐	☐	☒	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?*	☐	☐	☒	☐

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
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?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
8. GREENHOUSE GAS EMISSIONS. Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐
9. 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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
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 or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
10. HYDROLOGY AND WATER QUALITY. Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) result in substantial erosion or siltation on- or off-site;	☐	☐	☐	☒
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
(iii) 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; or	☐	☐	☒	☐
(iv) impede or redirect flood flows?	☐	☐	☐	☒
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒
11. LAND USE PLANNING. Would the project:				
a. Physically divide an established community?	☐	☐	☐	☒
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
12. 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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
13. NOISE. Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. For a project located within the vicinity of a private airstrip or 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?	☐	☐	☐	☒
14. POPULATION AND HOUSING. Would the project:				
a. Induce substantial unplanned 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)?	☐	☐	☐	☒
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
15. PUBLIC SERVICES. 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:				
a. Fire protection?	☐	☐	☒	☐
b. Police protection?	☐	☐	☒	☐
c. Schools?	☐	☐	☐	☒
d. Parks?	☐	☐	☐	☒
e. Other public facilities?	☐	☐	☒	☐

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
16. 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?	☐	☐	☐	☒
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒
17. TRANSPORTATION. Would the project:				
a. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
b. Conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b)?	☐	☐	☐	☒
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d. Result in inadequate emergency access?	☐	☐	☐	☒
18. TRIBAL CULTURAL RESOURCES				
a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
(i) listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code §5020.1(k), or	☐	☐	☐	☒
(ii) a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code §5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☒

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
19. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c. 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?	☐	☐	☐	☒
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒
20. WILDFIRE. If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, **would the project:**				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire?	☐	☐	☐	☒
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒
21. MANDATORY FINDINGS OF SIGNIFICANCE				
a. Does the project have the potential to substantially 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, substantially 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?	☐	☒	☐	☐
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.)	☐	☐	☒	☐
c. Does the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

4.0 ENVIRONMENTAL ANALYSIS AND DISCUSSION OF IMPACTS AND MITIGATION MEASURES

4.1 AESTHETICS

a. Would the project have a substantial adverse effect on a scenic vista?

Less-than-Significant Impact. The Conservation Element of the City of Los Angeles General Plan defines a scenic vista as a panoramic public view with access to natural features, including views of the ocean, striking or unusual natural terrain, or unique urban or historic features (City of Los Angeles, 2001). The Project site is industrial in nature, is located inside a working port, and is not within or near any protected or designated scenic vistas. The site consists of large storage tanks, a timber wharf, and offices and other associated industrial structures. The Project site is surrounded by other port uses, including container terminals and other bulk cargo facilities, in an area of the Port rarely visited by the general public (i.e., along Slip 1), and it is not an individually prominent feature from any scenic vista in the area. Further, the new loading platform, catwalks, and topside equipment would be at the same location as the existing features and would be similar in appearance; thus, the Project improvements would not result in a substantive change in the visual character or quality of the site.

The Port of Los Angeles Master Plan Update Draft Environmental Impact Report (POLA, 2013b) identifies important and representative public views, including panoramic views of the Pacific Ocean and near and distant views that are representative of a working port environment, including vessels, wharves, cranes, and other dockside facilities. These critical views occur from points including the Main Channel and the San Pedro Waterfront, Harbor Freeway, Banning's Landing, San Pedro Bluffs and Lookout Point Park, Wilmington Waterfront Park, and "C" Street residential area in Wilmington. Due to the combination of topography, intervening development, and distance, visibility of the Project site from many of these locations, or from higher locations, is limited. The critical views would not be obstructed by any of the elements of the proposed Project such as the new loading platform, mooring dolphins, catwalks, and topside equipment.

Construction of the proposed Project would involve construction equipment (i.e., cranes and barges) that could temporarily alter views of the Project site; however, this equipment would not obscure views, would be consistent with activities within the Port, and would be used over a short duration. Therefore, construction of the proposed Project would not introduce a new visual element that could have a substantial adverse effect on a scenic resource.

In the future, the NuStar and Valero terminals would not accommodate larger vessels than those that are currently accommodated under baseline conditions (vessels up to a Panamax-class tanker). Furthermore, there would be no increase in the maximum number of vessels at the terminal at one time, since only one vessel could be at berth (rather than two vessels under existing conditions), and the vessels would be consistent in size with the existing vessel fleet. Accordingly, operation of the proposed Project would not substantially change views of the site or any scenic vista.

In summary, the proposed Project would not introduce a new visual element that could alter or obstruct recognized and valued views and would not have a substantial adverse effect on a scenic vista. This impact is would be less than significant and no mitigation is required.

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

Less-than-Significant Impact. The Project site is not located near an eligible or designated state scenic highway, nor are there scenic resources located at the Project site; therefore, the proposed Project activities would not have the potential to damage scenic resources within a state scenic highway. The California Department of Transportation (Caltrans) is responsible for the official nomination and designation of eligible scenic highways. The nearest officially designated state scenic highway is located approximately 32 miles north of the proposed Project (State Highway 2, north of Interstate (I)-210 in La Cañada to the San Bernardino County Line) (Caltrans 2013a). The nearest eligible state scenic highway is approximately 8 miles northeast of the proposed Project (State Highway 1 near Long Beach to I-5 south of San Juan Capistrano) (Caltrans 2013a). The Project site is not visible from either of these locations. Therefore, proposed Project activities would not affect the quality of the scenic views from these locations.

The City of Los Angeles has City-designated scenic highways that are considered during local planning and development decisions, several of which are in the vicinity of the proposed Project (City of Los Angeles 1999). John S. Gibson Boulevard, Pacific Avenue (from Crescent Avenue to Paseo del Mar), Front Street, and Harbor Boulevard (between Front Street and Crescent Avenue) are City-designated scenic highways because they afford views of the Port and the Vincent Thomas Bridge. However, views of the Project site from the City-designated scenic highways are either very limited or non-existent due to topography and/or intervening development, including buildings, gantry cranes, and stacked containers. The visual elements associated with the proposed project have either a low profile (replacement loading platform, catwalks and associated improvements) or would be consistent with the existing terminal features (topside improvements), and would not have any impact on the views of the Vincent Thomas Bridge or from a City-designated scenic highway.

The Vincent Thomas Bridge is not a designated scenic route, but provides brief panoramic views of the Main Channel, West Turning Basin, and Port to observers on the bridge. Although the views of the Port and the Pacific Ocean to from the bridge are panoramic, they are generally fleeting and highly obstructed by the bridge structure itself. Furthermore, the bridge is accessible to vehicles only: no provisions are made for pedestrian or bicycle use. The relatively narrow lanes of the bridge are the primary features of forward views. The project site would not be visible from the Vincent Thomas Bridge because it would be concealed by intervening structures.

The proposed Project would not result in additional vessels moored at the new loading platform or larger vessels than under baseline conditions. Because the vessels that would visit the terminal would be consistent with existing terminal operations and a working port,

they would not have an impact on the fleeting views from the Vincent Thomas Bridge or City-designated scenic highways.

The Project site is located within an existing marine oil terminal. No scenic trees or rock outcroppings exist at the Project site. Improvements associated with the proposed Project, including the loading platform, catwalks, and topside equipment would look similar to the existing facilities, would be consistent with the existing visual context of a working port and would not alter scenic resources visible from a City-designated scenic highway. Therefore, impacts to scenic resources from the proposed Project would be less than significant and no mitigation is required.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

No Impact. The Project site is within an urbanized area and would not conflict with the applicable zoning at the site or surrounding areas, which is [Q] M3-1 (Qualified-Heavy Industrial). The appearance of the facilities in the area of the Project site is functional in nature and is characterized by exposed infrastructure, open storage, the use of unfinished or unadorned building materials, and the use of safety-conscious, high-visibility colors for mobile equipment such as cranes, containers, and railcars. The proposed Project would continue the existing use, which is consistent with the zoning of the site, and would maintain the visual character of the site and its vicinity. Accordingly, the proposed Project would not conflict with existing zoning or regulations governing visual quality, and neither construction nor operations would degrade the existing visual character or quality of public views. No impacts would occur and 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?

Less-than-Significant Impact. The Port is an area of high ambient lighting that includes approximately 32 terminals and other facilities, all of which are illuminated at night. The overall lighting environment includes two types of light sources: 1) fixed , or stationary, light sources associated with terminals (including crane lights), parking lot and backland light standards, building security lighting, and terminal access road or rail spur lighting; and 2) mobile light sources associated with ship, rail and truck traffic, cargo-moving equipment, and other vehicles on interior Port roadways.

The Project site has existing security and general nighttime lighting on the property and along the wharf, but lighting levels are generally lower than in nearby container terminals, which typically have much higher lighting levels associated with illuminated backlands, dockyards, and gantry cranes. Mobile light sources at the Project site include ships berthed at the wharf, trucks, and cars on the site and on the access road leading to the site.

Construction of the proposed Project would require construction lighting, but that lighting would be similar to existing conditions. Therefore, construction lighting would not cause a

substantial change in the light environment. The existing wharf lighting or any unnecessary lighting would be removed from the wharf structures at Berths 163, 164, and 162 and replaced with new lighting. Lights along the new loading platform, the catwalks, and on some topside equipment would comply with the permit requirements of the Port of Los Angeles. Thus, the proposed Project would not result in a substantial increase in light.

Operation of the proposed Project would not result in an increase in vessel calls and truck trips above baseline conditions and thus would not cause a substantial increase in light or glare which would adversely affect day or nighttime views in the area.

The proposed Project would not include elements that can cause glare, such as windows, light-color building surfaces, or metal or other reflective surfaces. Therefore, the proposed Project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Impacts to nighttime or daytime views from light or glare from the proposed Project would be less than significant and no mitigation is required.

4.2 AGRICULTURE AND FORESTRY RESOURCES

a) Would the Project 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 Project site does not contain any Farmland and is not located within any agricultural land use designation. The proposed Project is located in a highly developed area with existing chassis storage, maintenance, repair, and stop/start functions. Although the California Department of Conservation's Farmland Mapping and Monitoring Program has not mapped the Project site, the developed urban character of the surrounding area suggests that the appropriate Farmland Mapping and Monitoring Program mapping designation would be Urban and Built-Up Land (DOC, 2016). Therefore, the proposed Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. No impacts would occur, and no mitigation is required.

b) Would the Project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The Williamson Act, also known as the California Land Conversion Act of 1969 (14 CCR Section 51200 *et seq*.), preserves agricultural and open space lands from the conversion to urban land uses by establishing a contract between local governments and private landowners to voluntarily restrict their land holdings to agricultural or open space use (DOC, 2020a). The Project site is not located on any lands with Williamson Act contracts. The Project site is located in a highly developed area currently designated as [Qualified] Heavy Industrial ([Q]M3-2) and does not support any agricultural uses. As such, the proposed Project would not conflict with existing zoning for agricultural use or a Williamson Act contract. No impacts would occur, and no mitigation is required.

c) Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

No Impact. The Project site is currently zoned for qualified heavy industrial uses ([Q] (M3-1) and ZI-2130 Harbor Gateway State Enterprise Zone. The Project site does not support timberland or forest land. Therefore, the proposed Project would not conflict with existing zoning of, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. Therefore, no impact would occur and no mitigation is required.

d) Would the Project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. As discussed in Section 4.2(c) above, the Project site does not support forest land, nor is any forest land located in the vicinity. Therefore, the proposed Project would not result in the loss of forest land or conversion of forest land to non-forest use. No impacts would occur, and no mitigation is required.

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

No Impact. As discussed in Sections 4.2(a) through (d) above, the Project site is developed and does not have any Farmland or forest land, nor is any Farmland or forest land located in the vicinity. Therefore, the proposed Project would not result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. No impacts would occur, and no mitigation is required.

4.3 AIR QUALITY

a) Would the Project conflict with or obstruct implementation of the applicable air quality plan?

Less-than-Significant Impact

Air Quality Management Plan. The federal Clean Air Act (CAA) of 1970 and its subsequent amendments form the basis for the nation's air pollution control effort. The United States Environmental Protection Agency (EPA) is responsible for implementing most aspects of the CAA. A key element of the CAA is the national ambient air quality standards (NAAQS) for major air pollutants. The CAA delegates enforcement of the NAAQS to the states. In California, the California Air Resources Board (CARB) is responsible for enforcing air pollution regulations. CARB, in turn, delegates to local air agencies the responsibility of regulating stationary emission sources.

The South Coast Air Quality Management District (SCAQMD) monitors air quality within the proposed Project site and the South Coast Air Basin (Basin), which includes Orange County and portions of Los Angeles, Riverside, and San Bernardino Counties. The Basin is bounded by the Pacific Ocean to the west; the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east; and the San Diego County line to the south. For

regions that do not attain the NAAQS, the CAA requires the preparation of a State Implementation Plan (SIP).

The SCAQMD 2016 Air Quality Management Plan (AQMP) (SCAQMD 2016a) focuses on attainment of the ozone and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) NAAQS through the reduction of ozone and $PM_{2.5}$ precursor nitrogen oxides (NOx), as well as through direct control of $PM_{2.5}$. The 2016 AQMP reported that although the population in the Southern California Association of Governments (SCAG) region has increased by more than 20% since 1990, air quality has improved due to air quality control programs at the local, state, and federal levels. In particular, 8-hour ozone levels have been reduced by more than 40%, 1-hour ozone levels by close to 60%, and annual $PM_{2.5}$ levels by close to 55% since 1990 (SCAQMD 2016a).

The AQMP proposes emission-reduction measures designed to bring the Basin into attainment of the national and state Ambient Air Quality Standards (AAQS). AQMP attainment strategies include mobile source control measures and clean fuel programs enforced at the state and federal levels on engine manufacturers and petroleum refiners and retailers. As a result, the proposed Project construction and operational activities would be required to comply with all applicable current local, state and federal air quality regulations along with any developed in the future as part of the AQMP. This would further ensure that the proposed Project's activities would not obstruct implementation of the AQMP.

Clean Air Action Plan. The LAHD adopted the Clean Air Action Plan (CAAP), designed to reduce the health risks posed by air pollution from all port-related emissions sources, including ships, trains, trucks, terminal equipment, and harbor craft, in 2006 and adopted updates in 2010 and 2017 (LAHD 2006, LAHD 2010, LAHD 2017a). The CAAP 2017 Update contains strategies to reduce emissions from sources in and around the Ports, plan for zero-emissions infrastructure, encourage freight efficiency, and address energy resources.

Sustainable Construction Guidelines. As part of LAHD's overall environmental goals and CAAP strategies, any construction at the Port must follow the Sustainable Construction Guidelines. The latest Guideline is attached as Appendix C.

At-Berth Regulation. On August 27, 2020, CARB adopted new requirements for their At Berth Regulation for controlling emissions from ocean-going vessels. The new requirements include controlling emissions from tanker vessels by 2025. Emissions can be controlled in one of three ways: 1) a vessel turns off auxiliary engines and connects to shore power, 2) use of a CARB approved emission control strategy, or 3) use of an innovative concept that reduces emission greater than or equal to emissions reductions achieved by using either control measure 1 or 2. NuStar/Valero will be required to submit terminal plans to CARB on their control strategy.

As mentioned above, the proposed Project's construction and operational activities would be required to comply with all applicable air quality regulations as they are developed further ensuring that the proposed Project's activities would not obstruct implementation of the AQMP, CAAP, the Sustainable Construction Guidelines, or the At-Berth Regulation. Therefore, a less than significant impact is expected and no mitigation is required.

b) Would the project 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?

Less-than-Significant Impact. NAAQS and CAAQS have been established for the following criteria pollutants: CO, ozone, sulfur dioxide, nitrogen dioxide, PM10, PM2.5, and lead. Areas are classified under the federal CAA areas as attainment, nonattainment, or maintenance for each criteria pollutant based on whether the NAAQS have been achieved. The County is designated as a federal nonattainment area for ozone and $PM_{2.5}$ and state nonattainment area for ozone, PM_{10}, and $PM_{2.5}$. The Los Angeles County area of the SCAB, which includes the Port, is also in federal nonattainment for lead. SCAQMD has developed maximum daily emissions significance thresholds for all criteria pollutants (see Table 4.3-1) for both the assessment of construction and operation impacts. The proposed Project would not increase lead emissions above baseline; therefore, lead is not a pollutant of concern for the proposed Project.

It should be noted that air quality in the Basin has improved over the last several decades due to emission reductions from industrial sources, introduction of low-emission fuels used in on-road motor vehicles (e.g., low-sulfur fuels, reformulated gasoline, and low-carbon fuel standards), and implementation of the AQMPs which identify emission reductions strategies and which are subsequently promulgated as enforceable regulations.

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_{10}	150 lbs/day	150 lbs/day
$PM_{2.5}$	55 lbs/day	55 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), Odor, and GHG Thresholds		
TACs (includes 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	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
GHG	10,000 MT/yr CO_{2eq} for industrial facilities	
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) and 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	 1.5 µg/m^3 (state) 0.15 µg/m^3 (federal)	

[a] Source: SCAQMD CEQA Handbook (South Coast AQMD, 2019)
[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; MT/yr CO_{2eq} – metric tons per year of CO_2 equivalents; ≥ - greater than or equal to; > greater than

Construction Impacts

Project construction emissions were calculated for every year of construction, beginning in 2021 through 2024, in accordance with the anticipated Project construction schedule presented in Appendix A. The actual construction schedule may differ from the one used in the analysis, depending on requirements of the Project proponent and construction contractor. The schedule used in the analysis is anticipated to result in conservative emission estimates because assumptions reflect an accelerated schedule and early construction years; postponement of construction activities would result in lower impacts as more stringent regulatory requirements are implemented in later years than those assumed in the analysis years.

The proposed Project would include both land-based and in-water construction activities. Land-based construction activities would require the use of off-road construction equipment and on-road vehicles. In-water construction activities would require the use of barges and tugboats. These emission sources would primarily use diesel fuel, resulting in combustion exhaust emissions in the form of volatile organic compounds (VOCs), carbon monoxide (CO), NO_x, SO_x, and particulate matter. Earth-moving activities, such as excavation/grading and driving over paved and unpaved surfaces, would also generate particulate emissions in the form of fugitive dust.

Land-based construction-related emissions were quantified using CARB's EMFAC2017 model to calculate on-road vehicle emissions and CARB's OFFROAD2017 model to calculate construction emissions. Marine equipment emissions were quantified using CARB's harbor craft emissions inventory database. Activity related to construction (hours of operations, days of construction, number of truck trips) was estimated based on the Project Description. The year with the largest construction emissions (2023) was compared to the SCAQMD regional CEQA significance thresholds for construction activities. Table 4.3-2 presents the proposed Project's regional construction impacts for each source category and shows that peak day construction emissions would not exceed SCAQMD CEQA significance thresholds. Additional emission calculations are included in Appendix A.

Table 4.3-2. Construction Emissions (lbs/day)

Construction Categories	PM_{10}	$PM_{2.5}$	NOx	SOx	CO	VOC
Construction Equipment/Assist Tugs	2	2	53	0	45	7
Construction Vehicles	0.01	0.01	0.96	0.01	1.97	0.04
Total	**2**	**2**	**54**	**0**	**47**	**7**
SCAQMD Significance Threshold	150	55	100	150	550	75
Significant?	No	No	No	No	No	No

Operational Impacts

Project operational emissions were estimated for the 2019 baseline and 2025, the year following project buildout.

Marine oil terminal emissions are primarily comprised of in-water sources including ocean-going vessels (OGVs) (i.e., tankers), ocean-going barges, bunkering barges, and assist

tugboats. The following analysis describes operational emission sources, general source characteristics, and facility activities. For all sources described below, Appendix A presents product throughput, activity, source characteristics, and emission factors; sections 2.2.2 and 2.3.2 present comprehensive descriptions of facility operations during the 2019 baseline period and 2025.

OGVs: In 2019, product was transported to the two terminals via OGV tankers (i.e., Chemical, Handysize, and Panamax), articulated tug barges (ATBs), and ocean-going barges, and transported from the terminals via trucks, ocean-going barges and bunkering barges. This practice would continue during operation of the proposed Project.

ATBs are barges that consist of a tank vessel (barge) and a tug that is positioned in a notch in the stern of the barge, which enables the tug to propel and maneuver the barge. Ocean-going barges are pushed or pulled by separate tugboats. The mix of vessel sizes and types is not expected to change appreciably in the future from the 2019 baseline.

Peak daily emissions of criteria pollutants and DPM from OGV tankers, ATBs, and ocean-going barges were calculated using engine characteristics and loads in the 2018 Port Emissions Inventory (LAHD 2019a), emission factors in the 2019 San Pedro Bay Ports Emissions Inventory Methodology Report (LAHD 2019b) and activity presented in Table 2.1-1 (NuStar 2020, Valero 2020, LAHD 2020a, LAHD 2020b).

Emissions from the OGV tankers will be controlled per the CARB At Berth Regulation after the estimated completion time of this construction project, and were therefore not included in this study.

Bunkering Barges: Bunkering barges are relatively small fuel barges, used at the NuStar Berth 163 terminal. These barges are loaded with fuel at the terminal, using shore-side pumps, and are then pushed/pulled by a tugboat to fuel other vessels in and near the Port. Emissions associated with bunkering barge activity are from tugboats which are used to push/pull the bunkering barges and are discussed below.

Tugboats: Tugboats are used to assist OGV tankers, ocean-going barges, ATBs, and bunkering barges. Two tugboats are needed to assist each OGV tanker, one to assist each ATB, two to assist each ocean-going barge, and one to assist each bunkering barge. Tugboat criteria pollutant and DPM emissions from fuel combustion were calculated using engine characteristics and loads in the 2018 Port Emissions Inventory, emission factors specified in the EPA Marine Engine Standards, and vessel activity presented in Table 2.1-1.

Trucks: Product is transported to the existing NuStar Terminal via tanker trucks. Annual trucking days and corresponding annual activity are anticipated to remain constant as compared to the 2019 baseline, as presented in Table 2.1-1. Truck criteria pollutant and DPM emissions were calculated using the CARB's EMFAC 2017 web-based database (CARB 2017).

Worker Vehicles: Emissions associated with worker vehicles were calculated using CARB's EMFAC 2017 web-based database and activity presented in Appendix A.

Significance of regional impacts was determined by comparing the proposed Project's reasonable, peak day emissions to the SCAQMD thresholds. A reasonable peak day for the baseline consisted of a Panamax tanker discharging at berth and leaving, a Chemical tanker arriving, and a Chemical tanker at anchorage. A reasonable peak day for the future 2025 Project would consist of a Panamax tanker discharging at berth, a Chemical tanker in transit, and a Chemical tanker at anchorage.

Criteria pollutant impacts were based on the proposed Project's peak day emissions that would occur within the Basin's borders and compared against SCAQMD's peak day regional emission thresholds for determination of significance. Table 4.3-3 summarizes 2019 baseline operational peak day emissions and the Project peak day operational emissions, which represent the buildout year of the Project, calendar year 2025. The table shows that proposed Project impacts, as calculated by the difference between Project and baseline emissions for all criteria pollutants, would be below SCAQMD significance thresholds. Projected emission reductions from baseline would be due primarily to the decrease in vessel transit activities (i.e., one vessel transit during Project vs. two vessel transits during 2019) as well as CARB's requirements for cleaner tugboat engines in future years.[2]

Table 4.3-3. Peak Daily Baseline Operational Emissions (lbs/day)

Source Category	PM^{10}	$PM_{2.5}$	NOx	SOx	CO	VOC
2019 Baseline						
Ships - at Berth	29	27	664	110	72	35
Ships – Transit	19	18	1,448	38	115	26
Ships - Anchorage	7	7	251	18	32	15
Tugboats	3	3	91	0	59	5
Trucks	1	0	16	0	1	0
Worker Vehicles	0	0	0	0	1	0
Onsite Equipment	0	0	3	1	0	78
2019 Baseline Total	***59***	***55***	***2,473***	***167***	***281***	***159***
Year 2025						
Ships - at Berth	33	31	759	126	82	40
Ships – Transit	11	11	674	18	63	29
Ships - Anchorage	7	7	286	18	32	15
Tugboats	1	1	46	0	29	3
Trucks	1	0	13	0	1	0
Worker Vehicles	0	0	0	0	1	0
Onsite Equipment	1	1	11	9	0	78
2025 Total	***55***	***51***	***1,789***	***170***	***209***	***165***

[2] Year 2025 emissions at berth are estimated to be higher than baseline because hoteling time was conservatively assumed to increase from the peak day baseline hoteling time of 21 hours to 24 hours in 2025. Transit emissions are generally lower in 2025 because the 2025 peak day includes one transit rather than two as in the 2019 baseline. This decrease is offset for some pollutants because year 2025 emissions assume the conservative use of older, lower tier engines and engines without slide valves as compared to baseline. Details are provided in Appendix A.

Table 4.3-3. Peak Daily Baseline Operational Emissions (lbs/day)

Source Category	PM^{10}	$PM_{2.5}$	NOx	SOx	CO	VOC
CEQA Impacts						
Project Minus CEQA Baseline	-5	-4	-684	3	-71	6
SCAQMD Significance Threshold	150	55	55	150	550	55
Significant?	No	No	No	No	No	No

Notes:
Emissions may not add exactly due to rounding.

Cumulative impacts may result from individually minor but collectively significant projects. CEQA Guidelines Section 15355 define cumulative impacts as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." CEQA Guidelines Section 15064(h)(4) also state that "the mere existence of cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed Project's incremental effects are cumulatively considerable."

The proposed Project would be considered cumulatively significant if its contribution to related projects in the area would be considerable. Per SCAQMD policy (SCAQMD 2003) a project's contribution is considered cumulatively considerable if the project's impacts exceed SCAQMD project-specific significance thresholds. As discussed above, the construction and operation of the proposed Project would not exceed SCAQMD thresholds for regional emissions. Therefore, the proposed Project's contribution would not be considered cumulatively considerable under SCAQMD's policy. Therefore, impacts would be less than significant and no mitigation is required.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less-than-Significant Impact. Sensitive receptors include residences, hospitals, or convalescent facilities. The nearest sensitive receptors would be liveaboard residents located approximately 4,600 feet (1,200 meters) northeast of the proposed Project site in the marinas at Berths 201-205. The closest off-site workers would be located to the north within the Port. Impacts to sensitive receptors are typically evaluated in terms of exposure to toxic air contaminants, in accordance with the 2015 EPA's Office of Environmental Health Hazard Assessment (OEHHA) Guidelines (OEHHA 2015).

Proposed Project construction activities would occur over a period of approximately 36 months and would result in short-term emissions of DPM from the combustion of diesel fuel in offroad construction equipment engines and on-road vehicles.

Annual DPM emissions are expected to increase slightly, by approximately 4 pounds per year from baseline, due to the anticipated use of new onsite equipment (i.e., two new fire pumps and one new emergency generator). However, these sources would be sufficiently distant from sensitive receptors such that their impact contribution would not be considerable.

In order to meet AQMP and SIP requirements, the SCAQMD has developed health-protective significance thresholds for use in CEQA documents[3]. SCAQMD recommends using their regional and localized thresholds to evaluate whether a proposed Project's criteria pollutant emissions would violate any AAQS or contribute substantially to an existing or projected air quality violation. Whereas regional thresholds are mass emission thresholds that are the same for all projects, localized thresholds vary depending on project location. Comparison to the AAQS, which are localized concentration-based standards, requires air dispersion modeling and can be time consuming. To address this, the SCAQMD developed the Localized Significance Thresholds (LST) screening methodology that allows users to determine, in lieu of conducting air dispersion modeling, if a project would cause or contribute to an exceedance of the AAQS (SCAQMD 2008a).

LSTs apply to on-site emissions and are dependent upon the location and size of the project area and the separation distance of the emissions from a human receptor. Proposed Project construction would cover approximately 1 acre, in what is considered SCAQMD source-receptor area (SRA) 4: South Coastal LA County. Construction activities would occur more than 500 meters from the closest sensitive receptor and 25 meters from the closest off-site worker receptor. LSTs used for evaluation of operational emission impacts were conservatively assumed to be for a 5-acre operational area. Table 4.3-4 shows regional and localized thresholds of significance which were applied in evaluating the proposed Project's impacts.

[3] SCAQMD has determined that toxic air contaminant impacts are localized in nature and that exposure from toxic air contaminants decline by approximately 90% at 300 to 500 feet from the emissions source (SCAQMD 2005).

Table 4.3-4. SCAQMD Localized Significance Thresholds for Daily Emissions and Ambient Pollutant Concentrations

Daily Emission Thresholds		
Air Pollutant	**Construction Threshold (lbs/day)**	**Operation Threshold (lbs/day)**
NO_X	100	55
VOC	75	55
PM_{10}	150	150
$PM_{2.5}$	55	55
SO_X	150	150
CO	550	550
Localized Significance Thresholds		
Air Pollutant	**Construction**	**Operations**
NO_2 (residential/worker)	142 / 57	179 / 123
CO (residential/worker)	7558 / 585	10,198 / 1,530
PM_{10} (residential)	158	46
$PM_{2.5}$ (residential)	93	29

Source: SCAQMD CEQA Thresholds 2015.
Appendix C Mass Lookup Table. SCAQMD LST Thresholds 2008.

Notes:

PM_{10} and $PM_{2.5}$ LSTs are relevant to sensitive receptors reasonably likely to be present for 24 hours or more. Since off-site worker receptors are not expected to be present for this duration, significance for particulates have been omitted for off-site worker receptors.

- SCAQMD LSTs are based on:
- Daily area disturbed of 1 acre for construction and 5 acres for operational activities.
- 500-meter separation distance to the closest residential/sensitive receptor. This results in a conservative threshold because the actual separation distance is over 1,000 meters at the California Yacht Marina to the northeast.
- 25-meter separation distance to the closest off-site worker receptor to the north, based on Rio Tinto site location
- Source Receptor Area: 4

Table 4.3-5 presents the proposed Project's localized construction impacts and shows that peak day construction emissions would not exceed SCAQMD's LST significance thresholds.

Table 4.3-5. Localized Peak Daily Construction Emissions (lbs/day)

	Residential Receptors				Off-site Worker Receptors	
	PM_{10}	$PM_{2.5}$	NO_2	CO	NO_2	CO
Construction Equipment/Assist Tugs	2	2	53	45	53	45
Construction Vehicles	0.012	0.011	0.96	1.97	0.96	1.97
Total Onsite	**2**	**2**	**54**	**47**	**54**	**47**
LST Threshold	158	93	142	7,558	57	585
Significant?	No	No	No	No	No	No

Notes:
Daily disturbed area: 1 acre
Closest residential receptor: over 1,000 meters at the California Yacht Marina to the northeast
Closest off-site worker receptor: 25 meters (Rio Tinto Facility)
Source Receptor Area: 4
PM_{10} and $PM_{2.5}$ LSTs are relevant to sensitive receptors reasonably likely to be present for ≥24 hours. Since off-site worker receptors are not expected to be present for this duration, significance for particulates have been omitted for off-site worker receptors.
Source: SCAQMD LSTs, Appendix C Mass Lookup Tables (SCAQMD 2008a).

In addition to evaluating operational emissions against CEQA significance thresholds, the change in operational emissions under the proposed Project (project minus baseline) was compared to SCAMD's operational LSTs. As shown in Table 4.3-6, peak-day emission changes would not exceed SCAQMD LST significance thresholds. In summary, the proposed Project would not exceed SCAQMD thresholds of significance for regional and localized impacts and would not obstruct implementation of the AQMP or the CAAP. Therefore, impacts would be less than significant and no mitigation is required.

Table 4.3-6. Localized Peak Daily Operational Emissions - Onsite Emissions

	Peak Day Emissions (lb/day) - Residential Receptors				Peak Day Emissions (lb/day) - Offsite Worker Receptors	
	PM_{10}	$PM_{2.5}$	NO_2	CO	NO_2	CO
2019 Baseline						
Ships - at Berth	29	27	664	72	664	72
Onsite Equipment	0	0	3	0	3	0
Total Onsite 2019	29	27	667	72	667	72
Year 2025						
Ships - at Berth	33	31	759	82	759	82
Onsite Equipment	1	1	11	0	11	0
Total Onsite 2025	34	32	770	82	770	82
CEQA Increment	5	4	103	10	103	10
LST Threshold	46	29	179	10,198	123	1,530
Significant?	No	No	No	No	No	No

Notes:

SCAQMD LSTs are based on:

- 5 acres. This results in a conservative threshold because the terminal occupies approximately 20 acres.
- 500-meter separation distance to the closest residential/sensitive receptor. This results in a conservative threshold because the actual separation distance is over 1,000 meters at the California Yacht Marina to the northeast.
- 25-meter separation distance to the closest off-site worker receptor (Rio Tinto Facility) to the north.
- Source Receptor Area: 4

PM_{10} and $PM_{2.5}$ LSTs are relevant to sensitive receptors that are reasonably likely to be present for ≥24 hours. Since off-site worker receptors are not expected to be present for this duration, significance for particulates does not apply to off-site worker receptors.

Emissions might not add precisely due to rounding.

The nearest sensitive receptors are more than 4,000 feet (1,200 meters) from the Project site and calculated emissions would not exceed the health-protective LST significance thresholds. As discussed above, the proposed Project construction and operational activities would not expose sensitive receptors to substantial pollutant concentrations. Impacts would be less than significant and no mitigation is required.

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less-than-Significant Impact. Short-term odors from the use of diesel-powered, heavy-duty equipment and tugs may occur during construction. Odors from operation of the proposed Project would be similar to odors produced from existing marine oil terminal

operations and related activity and would be primarily associated with vessels berthed at the terminal.

The distances between proposed Project emission sources and the nearest sensitive receptors, residences in the marinas located approximately 4,000 feet (1200 meters) to the northeast are far enough to allow for adequate dispersion of these emissions to below objectionable odor levels. No new odor sources are anticipated upon final Project buildout. Impacts would be less than significant and no mitigation is required.

4.4 BIOLOGICAL RESOURCES

a) Would the Project 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, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Less-than-Significant Impact with Mitigation. The proposed Project involves both in-water and on-land construction. In-water construction would include demolition and pulling of piles and driving new piles, and on-land construction would include minor trenching and excavation. The new vessel unloading facility at Berth 163 would replace the existing treated timber piles with steel and concrete piles and would be substantially smaller than the existing wooden wharf, thereby reducing the amount of shaded water area by approximately 11,800 ft^2.

Special-Status Plants

The land-based portion of the Project site consists largely of paved surfaces surrounding industrial facilities. A small amount of unpaved area is present near the shoreline, but vegetation there consists of common weedy species and introduced landscaping species (e.g., grasses and iceplant). Vegetation elsewhere on the site consists of patches of grass and ornamental trees and shrubs. No candidate, sensitive, or special-status plant species are known to occur on the Project site and there is no habitat that would support such species. Accordingly, no impacts would occur to special-status plants.

Special-Status Wildlife

A number of Federal and state-listed threatened and endangered species are found in Los Angeles Harbor area (Table 4.4-1). As mentioned above, the current Project area is an active marine oil terminal. Given the industrialized and largely paved nature of these berths, the Project site is highly unlikely to serve as nesting habitat for any of the listed bird species, and it is not considered critical foraging habitat for any of the special-status bird species, including the endangered California least tern (*Sternula antillarum brownii*). Furthermore, construction would not remove the small amount of vegetation present that could be nesting habitat for species afforded protection under the Migratory Bird Treaty Act. As operational activity would be similar to existing conditions, operations would not result in increased disruption of bird activity. Accordingly, impacts on listed bird species would be less than significant and no mitigation is required.

Five species of marine mammals are known to forage in the Port (Table 4.4-1), but none breeds there. Sea lions were observed throughout the Port, including near Berth 163-164, in all of the Biosurveys conducted in the Port Complex (MEC 2002, SAIC 2010, MBC 2016, Wood E&I, 2021), while harbor seals, which were far less abundant than sea lions, were largely limited to Outer Harbor waters and have rarely been observed in the vicinity of the Project site. Neither of these species is endangered, and there are no designated significant ecological areas for either species within the Port.

Table 4.4-1. Special Status Species (Designated by CDFW and USFWS) Observed in the Port Area

Species	Agency/Designation	Notes
	Birds	
Belding's Savannah Sparrow (*Passerculus sandwichensis*)	CDFW – SE	Inhabits coastal salt marches of southern California. Not observed in POLA and POLB Biosurveys performed from 2000 to present (2018-2019)
Black Oystercatcher (*Haematopus palliates*)	USFWS – BCC	Known to nest in the Port Complex. 320 individuals recorded in the Port Complex during the 2018-2019 POLA and POLB Biosurvey. Species observed along Middle Breakwater.
Black Skimmer (*Rhyncops niger*)	USFWS – BCC CDFW – SCC	Year-round species. Known to nest annually at Pier 400. 184 individuals recorded in the Port Complex during the 2018-2019 POLA and POLB Biosurvey. Most observations at Cabrillo Beach.
Black-crowned Night Heron (*Nycticorax nycticorax*)	CDFW – SA	Year-round species. No nesting was observed during the 2018-2019 POLA and POLB Biosurvey, but 37 individuals sighted in the Port Complex.
Brant (*Branta bernicla*)	CDFW – SA	Uncommon in the Port, but found regionally. No known nesting has occurred in the Port Complex. 1 individual observed during the 2018-2019 POLA and POLB Biosurvey.
Brown Pelican (*Pelecanus occidentalis*)	CDFW – FP	No known nesting site in the Port Complex. 2,780 individuals recorded in the Port Complex during the 2018-2019 POLA and POLB Biosurvey. Observation primarily recorded in Outer Harbor along breakwaters and shallow water habitats.
Burrowing Owl (*Athene cunicularia*)	USFWS – BCC	Primarily transient. Last observed nesting in Port Complex during the 2008 POLA and POLB Biosurvey. Not observed during the 2018-2019 POLA and POLB Biosurvey. However, they are observed transiting occasionally during their migration season.
California Gull (*Larus californicus*)	CDFW – WL	Year-round species. 261 individuals recorded in the Port Complex during the 2018-2019 POLA and POLB Biosurvey.
California Least Tern (*Sterna antillarum browni*)	USFWS – FE CDFW – SE, FP	Migratory species. Designated nesting site at Pier 400. 90 individuals recorded in the Port Complex during the 2018-2019 POLA and POLB Biosurvey. Foraging occurs primarily around Pier 400, the breakwater and shallow water habitats.
Caspian Tern (*Hydroprogne caspia*)	USFWS – BCC	Migratory species. Known to nest at Pier 400 CLT nesting site. 210 individuals recorded in the Port

Table 4.4-1. Special Status Species (Designated by CDFW and USFWS) Observed in the Port Area

Species	Agency/Designation	Notes
		Complex during the 2018-2019 POLA and POLB Biosurvey. Most observations at Pier 300, Pier 400, and Cabrillo Beach.
Common Loon (*Gavia immer*)	CDFW – SCC	Migratory species. Not known to nest in the Port complex. 3 individuals observed roosting in the Port complex during the 2018-2019 POLA and POLB Biosurvey.
Double-crested Cormorant (*Phalacrocorax auratus*)	CDFW – WL	Year-round species. Known to nest in Port Complex. 1,894 individuals recorded in the Port Complex during the 2018-2019 POLA and POLB Biosurvey. Observed primarily along the Middle Breakwater.
Elegant Tern (*Thalasseus elegans*)	CDFW – WL	Migratory species. Known to nest at the Pier 400 CLT nesting site. 5,127 individuals recorded in the Port Complex during the 2018-2019 POLA and POLB Biosurvey. Observed regularly foraging at the shallow water habitat at Cabrillo Beach and Seaplane Lagoon during the 2018-2019 POLA Biological Survey.
Great Blue Heron (*Ardea herodias*)	CDFW – SA	Resident species. Known to nest in trees near POLA Main Channel Wilmington marinas. 704 individuals recorded throughout the Port Complex during the 2018-2019 POLA and POLB Biosurvey.
Great Egret (*Ardea alba*)	CDFW – Sensitive	Resident species but rare in the Port Complex. Not known to nest in the Port Complex. 6 individuals recorded in the Port complex during the 2018-2019 POLA and POLB Biosurvey.
Loggerhead Shrike (*Lanius ludovicianus*)	USFWS – BCC	Migratory species. Last observed in Port Complex during 2000 POLA and POLB Biosurvey. Not observed in 2018-2019 POLA and POLB Biosurvey.
Long-billed Curlew (*Numenius americanus*)	USFWS – BCC	Migratory species. Not known to nest in the Port Complex. 2 individuals recorded in the Port complex during the 2018-2019 POLA and POLB Biosurvey.
Marbled Godwit (*Limosa fedoa*)	USFWS – BCC	Migratory species. 3 individuals recorded in the Port Complex during the 2018-2019 POLA and POLB Biosurvey. Observed primarily at Cabrillo Beach.
Osprey (*Pandion halieatus*)	CDFW – WL	Migratory species. Known to nest at Pier E-D in POLB. 43 observations in the Port Complex during the 2018-2019 POLA and POLB Biosurvey.
Peregrine Falcon (*Falco occidentalis*)	USFWS – BCC CDFW – FP	Resident species. Known to nest on Schuyler F. Heim Bridge and former Gerald Desmond Bridge in POLB. 1 individual recorded at Pier 400 during the 2018-2019 POLA and POLB Biosurvey.
Scripps's Murrelet (*Synthliboramphus scrippsi*)	USFWS – BCC	Ocean-dwelling species rarely observed on land. Not observed in 2018-2019 POLA and POLB Biosurvey. Last observed in Port Complex during 2013-2014 POLA and POLB Biosurvey.
Snowy Egret (*Egretta thula*)	CDFW – SA	Known to nest in the Port Complex in 2018-2019. 145 individuals recorded in the Port Complex

Table 4.4-1. Special Status Species (Designated by CDFW and USFWS) Observed in the Port Area

Species	Agency/Designation	Notes
		during the 2018-2019 POLA and POLB Biosurvey, primarily at Cabrillo Beach.
Tufted Puffin (*Fratercula cirrhata*)	CDFW – SSC	Not observed in the 2018-2019 POLA and POLB Biosurvey. Last observed in the Port Complex during the 2000 POLA and POLB Biosurvey.
Western Snowy Plover (*Charadrius nivosus nivosus*)	USFWS – BCC, ESA Threatened	Migratory. Not observed in POLA and POLB Biosurveys performed from 2000 to present (2018-2019)
Whimbrel (*Numenius phaeopus*)	USFWS – BCC	Migratory species. 42 individuals recorded in the Port Complex during the 2018-2019 POLA and POLB Biosurvey. Observed primarily at Cabrillo Beach.
White-faced Ibis (*Plegadis chihi*)	CDFW – WL	Resident species. Not observed in 2018-2019 POLA and POLB Biosurvey. Last observed in the Port Complex during the 2000 POLA and POLB Biosurvey.
Marine Mammals		
California Sea Lion *(Zalphus californianus)*	USFWS, NMFS – MMPA Protected	Resident species. Common. 587 individuals recorded in the Port Complex during the 2018-2019 POLA and POLB Biosurvey.
Common Bottlenose Dolphin *(Tursiops truncatus)*	USFWS, NMFS – MMPA Protected	18 individuals recorded in the Port Complex during the 2018-2019 POLA and POLB Biosurvey.
Common Dolphin (Delphinus spp.)	USFWS, NMFS – MMPA Protected	40 individuals recorded in the Port Complex during the 2018-2019 POLA and POLB Biosurvey.
Gray Whale (Eschrichtius robustus)	USFWS, NMFS – MMPA Protected	Transitory. 1 observation recorded in the Port Complex during the 2018-2019 POLA and POLB Biosurvey.
Harbor Seal *(Phoca vitulina)*	USFWS, NMFS – MMPA Protected	Resident species. Common. 223 individuals recorded in the Port Complex during the 2018-2019 POLA and POLB Biosurvey.
Other		
Green Sea Turtle *(Chelonia mydas)*	USFWS, NMFS – ESA Protected	Not observed in POLA and POLB Biosurveys performed from 2000 to present (2018-2019). Known in region.

Notes: USFWS = United States Fish and Wildlife Service; NMFS = National Marine Fisheries Service; CDFW = California Department of Fish and Wildlife; CDF = California Department of Forestry and Fire Protection; MMPA = Marine Mammal Protection Act; ESA = Endangered Species Act; BCC = Bird of Conservation Concern; SA= Special Animal; SSC = Species of Special Concern; FP = Fully Protected; FE = Federally Endangered; WL = Watch List; SE = State Endangered

Outside the breakwater, a variety of marine mammals use nearshore waters. The most common whale species is the gray whale (*Eschrichtius robustus*), which migrates from the Bering Sea to Mexico and back each year, as well as several species of dolphin and porpoises. During the 2018-2019 Biosurvey, a gray whale mother-calf pair was observed in the vicinity of Cabrillo Beach, but gray whales have never been observed in the Inner Harbor vicinity of the Project site. Bottlenose and common dolphin are most frequently observed in the open water of the Outer Harbor; however, the 2008 and 2018-2019 Biosurveys also observed bottlenose dolphins in the Main Channel and the East Basin. No cetaceans (i.e.

whales or dolphins) have been observed in Slip 1, which is the location of Berths 163-164, during any of the Biosurveys.

Turbidity caused by in-water construction would be temporary and localized and would not substantially reduce foraging by marine mammals (i.e., sea lions) in the vicinity of the construction zone. However, the proposed Project would drive steel pipe piles, and underwater noise from this construction would likely exceed criteria for Level B harassment (i.e., the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns; NOAA Fisheries 2016) of marine mammals that could be present at the Project site, and could potentially result in Level A injury (the potential to injure a marine mammal or marine mammal stock in the wild) if animals were to get very close to the driving operation. This exceedance represents a significant impact on federally-protected marine mammal species, and requires the implementation of mitigation.

Pile-driving could result in temporary avoidance of the construction area and cause mortality of some fish in the Coastal Pelagics Fish Management Plan (FMP), especially smaller fish such as northern anchovy, which are very abundant in the Harbor, as well as Pacific sardine and topsmelt. Although individuals of these species could be adversely affected by pile-driving, the limited area of potential effect and the abundance of Coastal Pelagic species in the Harbor means that populations of these species in the Harbor would not be substantially reduced.

Turbidity and underwater noise from pile driving would affect some individuals of managed fish species. However, due to the limited areal extent and duration of construction, and implementation of a mitigation measure intended to protect marine mammals from underwater noise, construction would not have substantial adverse effects on Essential Fish Habitat (EFH) or managed species, and impacts would be less than significant.

The new loading/unloading platform would have a slightly smaller overwater footprint than the existing wharf and would be of a more open design. Accordingly, potential adverse effects of shading would be reduced compared to baseline conditions. Future maintenance of the Berth 164 wharf such as fender and pile replacement or repair could involve minor in-water work that would generate turbidity, but the effects would be localized and of very short duration. No other operational conditions would change from baseline; accordingly, impacts of operation of the proposed Project on EFH and managed species would be less than significant and mitigation is not required.

Mitigation Measure

Impacts on marine mammals resulting from noise associated with pile driving would be reduced with implementation of MM-BIO-1. This measure would ensure that marine mammals would be readily able to avoid pile driving areas, and no injury to marine mammals from pile driving sounds would be expected.

> **MM-BIO-1 Protect Marine Mammals.** Although it is expected that marine mammals will voluntarily move away from the area at the commencement of the vibratory or "soft start" of pile driving activities, as a precautionary measure, pile driving activities occurring as part of the pile installation will include establishment of a safety zone,

by a qualified marine mammal professional, and the area surrounding the operations (including the safety zones) will be monitored for marine mammals by a qualified marine mammal observer.[4] The pile driving site will move with each new pile; therefore, the safety zones will move accordingly.

MM BIO-1 is based on available information on animal behavior and the characteristics of underwater noise (e.g., LAHD 2017b). It is expected that marine mammals would voluntarily move away from the construction area at the commencement of pile-driving activities, but the mitigation measure minimizes the chance that animals would be injured or harassed by noise before they could get to a safe distance. The safe distances for injury and harassment would be based on the expected noise level from the size and type of piles to be driven and the assumption of impact hammer pile driving. The safety zone distances may be adjusted once contractor-specific pile-driving parameters and other site-specific factors are available.

The "soft start" of the mitigation measure applies to impact-hammer pile drivers and requires that the initial strikes on a piling are performed at a significantly reduced force and slowly build up to full force over several strikes. In a typical scenario the hammer is operated at approximately 40–60% of full energy over a five-minute period with no less than one minute between strikes.

With implementation of MM BIO-1, impacts of the proposed Project on listed and other sensitive species, including marine mammals, would be less than significant.

b) Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in the City or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Less-than-Significant Impact. There is no riparian habitat at the Project site or in the vicinity. Wharf demolition and construction activities would have temporary adverse effects on marine biota through resuspension of sediments and disturbance of benthic communities. However, the impact would be limited in extent and duration (i.e., the period of construction), and the soft-bottom benthic community would re-establish itself.

Eelgrass (*Zostera marina*), which is identified as a special aquatic site in the Clean Water Act, occurs in several locations of the Los Angeles and Long Beach Harbors, including Cabrillo Beach and the Pier 300 Seaplane Lagoon area, that are shallow enough (i.e., less than 14 feet) to support it (MBC, 2016). Eelgrass was observed in approximately one-half acre of Slip 1 during the 2018 Biosurvey (Wood E&I, 2021), including small patches along the shoreline of Berths 163-164. Increased turbidity and physical disturbance during construction of the

[4] Marine mammal professional qualifications shall be identified based on criteria established by LAHD during the construction bid specification process. Upon selection as part of the construction award winning team, the qualified marine mammal professional shall develop site-specific pile driving safety zone requirements, which shall follow NOAA Fisheries Technical Guidance Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (NOAA Fisheries 2016) in consultation with the acoustic threshold white paper prepared for this purpose by LAHD (LAHD 2017b). Final pile driving safety zone requirements developed by the selected marine mammal professional shall be submitted to LAHD Construction and Environmental Management Divisions prior to the commencement of pile driving.

proposed Project could have adverse effects on those patches of eelgrass, possibly including loss of the eelgrass at Berth 163. Such a loss would constitute a significant impact.

Construction activities have the potential to redistribute non-native species locally within the Port through disturbance of the bottom sediments and removal of pilings. However, in general, existing non-native species are widely distributed in the Harbor, so that redistribution from the Project site during construction would not adversely affect the natural community throughout the Harbor and elsewhere in Southern California. In addition, the proposed Project would substantially reduce the number of pilings (a potential habitat for non-native species) at the site, thereby reducing the surface area that could be colonized by invasive species.

The invasive algae *Caulerpa* (*C. taxifolia*) is listed as a federal noxious weed under the U.S. Plant Protection Act. In areas outside its native range, it can grow very rapidly, causing ecological devastation by overwhelming local seaweed species and altering fish distributions. Although this species has never been observed in the Port Complex, it is a threat in Southern California, having been found in two Southern California coastal lagoons in 2000 (MBC, 2016). This has prompted regulatory control measures described in the *Caulerpa* Control Protocol prior to specific underwater construction activities such as bulkhead repair, dredging, and pile driving (NOAA Fisheries, 2008). As required by the US Army Corps of Engineers Rivers and Harbors Act Section 10 permit and the *Caulerpa* Control Protocol, a *Caulerpa* survey would be conducted at the Project site prior to the start of construction activities.

Operation of the proposed Project would involve the loading and unloading of marine vessels, including oceangoing vessels, at the new wharf structure. Invasive non-native marine species can arrive in San Pedro Bay as biofouling organisms attached to hulls and fittings and in ballast water discharged into the harbor as part of vessel loading operations. There are at least 27 non-native aquatic species in the Port Complex and another 95 of uncertain origin (MBC, 2016). Many of these species are present at the Project site in the benthic infauna and riprap community.

California State Lands Commission has developed the Marine Invasive Species Program to reduce the likelihood that harmful non-native species will be introduced into California bays and harbors. New biofouling management requirements became effective in 2018 for vessels arriving in California ports (Title 2, California Code of Regulations, Section 2298.1 et seq.), and now apply to all new and existing vessels.

The United States Coast Guard regulates the management of ballast water to minimize the threat of introducing non-native species. USCG requirements are outlined in 33 CFR 151 Subpart D – Ballast Water Management for Control of Non-Indigenous Species in Waters of the United States, which states, “In 2016, new compliance dates took effect for regulations that set the implementation schedule for ballast water management discharge standards for both existing and new vessels that use Coast Guard approved Ballast Water Management Systems (BWMS).” (USCG, 2018).

Operation of the proposed Project would not increase the number of vessel calls, therefore there would be no increase from the baseline condition’s potential to introduce non-native

species in ballast water or on vessel hulls. Because operational activities would be similar to baseline conditions, which have permitted eelgrass to become established at Berth 163-164, operational activities would not have a significant impact on eelgrass at that location. Accordingly, impacts of operation on sensitive habitats or natural communities would be less than significant and no mitigation is required.

Mitigation Measure

Impacts on eelgrass at the Project site resulting from in-water construction activities would be reduced with implementation of MM-BIO-2. This measure would ensure implementation of construction measures to minimize adverse effects and mitigation of any eelgrass lost to construction.

> **MM BIO-2 Protect Eelgrass**. The proposed Project shall comply with the California Eelgrass Mitigation Policy. Pursuant to the Policy, the following activities shall be performed:
>
> - A preconstruction eelgrass survey to map the location and extent of eelgrass that could potentially be affected by wharf demolition and construction;
> - Use of minimization measures or Best Management Practices, such as silt curtains, to reduce potential effects to eelgrass during Project construction (if present);
> - A post-construction survey to map the location and extent of eelgrass after completion of wharf demolition and construction;
> - If eelgrass is lost due to Project construction, eelgrass shall be mitigated at a ratio of at least 1.2 to 1.
>
> Timing of eelgrass surveys, including frequency of post-mitigation surveys (if applicable), shall comply with the provisions of the California Eelgrass Mitigation Policy.

With implementation of MM BIO-2, impacts of the proposed Project on sensitive natural communities would be less than significant.

c) Would the Project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. The proposed Project would not affect state or federally protected wetlands during in-water construction activities (i.e., wharf demolition and replacement) because there are no state or federally protected wetlands in the Project area. The only federally protected wetlands in the Los Angeles Harbor are the Anchorage Road Salt Marsh and the Cabrillo Salt Marsh, approximately 1.2 and 3.4 miles from the Project site, respectively. Neither of these wetlands would be affected or otherwise disturbed by the proposed Project. Therefore, there would be no impacts to state or federally protected wetlands and no mitigation is required.

d) Would the Project 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?

Less-than-Significant Impact. There are no known terrestrial or marine mammal migration corridors within the Port Complex, including the Project site, because the Port is not located between natural resource areas that terrestrial wildlife would need to traverse. Therefore, the proposed Project would not interfere with terrestrial wildlife migration.

There are only a few species of fish in southern California with true migrations (salmonids and white sturgeon), and they are not known to occur in the Port Complex (Miller and Lea, 1972; SAIC, 2010; Wood E&I, 2021). Therefore, the proposed Project would not interfere with migratory fish. Project construction could result in temporary avoidance of the construction areas by resident fish species; however, these effects would be temporary, lasting for a few days at a time. Construction activities within the study area would not block or interfere with migration or movement of any of the species covered under the Migratory Bird Treaty Act (MBTA), because the work would be in a small portion of the Harbor area and any birds present could easily fly around or over the work.

The approximately 20-acre terminal area is developed and offers minimal habitat for wildlife or bird nesting. The nearest wildlife nesting area is the designated California least tern nesting site located three miles southeast of the Project site on Pier 400; the proposed Project would have no direct or indirect impacts to that nesting site.

Given the limited extent of the Project area, the absence of wildlife corridors and nesting habitat, and the short duration of construction activities, the proposed Project's impacts on the movement of any native resident or migratory fish or wildlife species would be less than significant, and no mitigation is required.

e) Would the Project 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 (City of Los Angeles 2006b) are certain native tree species, none of which occur on the Project site. The Project site is industrialized, paved, and occupied by existing oil terminals. It does not contain any known protected biological resources. The proposed Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; therefore, there would be no impact and no mitigation is required.

f) Would the Project 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. The Project site is not located within an adopted Natural Communities Conservation Plan (NCCP) or Habitat Conservation Plan (HCP). There is only one NCCP approved near the Port, located approximately four miles to the southwest of the proposed Project in the City of Rancho Palos Verdes, and it was designed to protect coastal scrub habitat (CDFW 2015).

HCPs are administered by the USFWS and are designed to identify how impacts would be mitigated when a project would impact endangered species or designated critical habitat. There are no HCPs in place for the Port. A Memorandum of Understanding (MOU) is in place for the LAHD, California Department of Fish and Wildlife (CDFW), USFWS, and the USACE to protect the California least tern, and requires a 15-acre nesting site to be protected during the annual nesting season (May through October). The nesting site is on Pier 400 and is designated as a Significant Ecological Area (SEA) by the County of Los Angeles (County of Los Angeles, Department of Regional Planning 2015). The Project site is located approximately 3.0 miles northwest from the California least tern nesting site and does not contain nesting habitat or foraging habitat.

The proposed Project would have no impact on HCPs, NCCPs, the MOU, or the SEA for California least tern. Therefore, no impact would occur and no mitigation is required.

4.5 CULTURAL RESOURCES

a) Would the Project cause a substantial adverse change in the significance of a historical resource as defined in State CEQA Guidelines Section 15064.5?

No Impact. To be eligible for listing in the National Register, a property must be at least 50 years of age (unless the property is of "exceptional significance") and possesses significance in American history and culture, architecture, or archaeology. A property of potential significance must meet one or more of the following four established criteria:

A. Association with events that have made a significant contribution to the broad patterns of our history; or

B. Association with the lives of persons significant in our past; or

C. Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. Yield, or may be likely to yield, information important in prehistory or history. [Title 36 Code of Federal Regulations Part 60.4]

In addition to possessing significance within a historic context, to be eligible for listing in the National Register, a property must have integrity. Integrity is defined as, "the ability of a property to convey its significance." The National Register recognizes the following seven aspects or qualities that define integrity: feeling, association, workmanship, location, design, setting and materials. The significance of a property must be fully established before integrity is analyzed [National Register Bulletin #15, 44-45].

Eligibility for listing in the California Register of Historic Resources (CRHR) is based on the National Register criteria, but they are identified as 1-4 instead of A-D. In California, a property must generally be at least 50 years of age and must possess significance at the local, state, or national level, under one or more of the following four criteria:

1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States; or
2. It is associated with the lives of persons important to local, California or national history; or
3. It embodies the distinctive characteristics of a type, period or method of construction or represents the work of a master or possesses high artistic values; or
4. It has yielded, or has the potential to yield, information important in the prehistory or history of the local area, California, or the nation.

While slightly less stringent on the topic of integrity, California resources should include properties that reflect their appearance during their period of significance [Public Resources Code Section 4852].

GPA Consulting was retained to analyze Berths 163/162 and 164 as potential historic districts. Their report, entitled, "*Berths 163 and 164 Mormon Island, Los Angeles, California Historical Resource Evaluation*" (included here as Appendix B)[5] concluded that the berths were ineligible for listing in the National Register of Historic Places, California Register of Historic Resources, or as Los Angeles Historic Preservation Overlay Zones. Neither berth met the criteria for significance of listing, particularly in view of the wharf's original integrity being compromised by substantial repairs and alterations over the years. Furthermore, there were no buildings, structures, or objects evaluated as individually eligible as historical resources as defined by CEQA, and the Project site does not contain any properties currently listed under national, state, or local landmark or historic district programs. A records search at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton conducted on February 23, 2017 (SCCIC File No. 17312.3326) revealed two previously recorded properties on the Project site. The State Historic Preservation Officer concurred with GPA's findings. Accordingly, the proposed Project would have no impacts on historical resources and no mitigation is required.

b) Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

No Impact. Mormon Island is comprised of natural land mass largely covered by artificial fill. The proposed Project would result in minor amounts of ground-disturbing activities (i.e., installation of pipes and topside equipment and minor grading). However, the site is disturbed, and the likelihood that archeological resources are present on the site is extremely remote.

The proposed Project would occur primarily in and over harbor waters. The Project area has been routinely dredged over the history of the Port to create shipping channels and increase or maintain the design depth at the berths. The proposed Project's construction would include driving piles and possibly minor amounts of dredging in those previously dredged

[5] Berth 162 is referred to in GPA's report as being located in the northern half of Berth 163.

sediments and would therefore not encounter undisturbed sediments that could contain archeological resources. Given the absence of known archaeological resources in the Project area and the limited ground-disturbing activities and dredging that would be done, there would be no impact and no mitigation is required.

c) Would the Project disturb any human remains, including those interred outside of dedicated cemeteries?

No Impact. No known cemeteries or burials are known to have occurred at the Project site. As discussed above, the Project area is composed of both disturbed natural areas and man-made engineered material constructed in the 20th century. The proposed Project would occur primarily in and over harbor waters. Topside equipment installation would occur on the terminal site, which is not a known burial ground. Therefore, wharf construction, dredging, and topside equipment installation are not expected to encounter human remains. There would be no impact and no mitigation is required.

4.6 ENERGY

a) Would the project result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?

Less-than-Significant Impact. Energy (primarily as diesel fuel but including minor amounts of gasoline and electricity) would be used during construction of the proposed Project. Table 4.6-1 shows the annual energy consumption in terms of daily fuel usage during the peak construction period (2022). Fuel consumption during construction would be temporary, lasting for approximately 36 months, and would represent a tiny fraction of the approximately 4 million gallons of diesel fuel and 14 million gallons of gasoline consumed in California each day (USEIA 2020). This project construction is necessary to achieve the overall project objective of providing a MOTEMS-compliant terminal, and thus does not represent a wasteful or unnecessary use of energy. Construction would be consistent with the policies in the Port of Los Angeles' Sustainable Construction Guidelines (provided in Appendix C), which require minimum engine emission standards for construction equipment in accordance with the San Pedro Bay Clean Air Action Plan.

Operations would not consume more fuel than under baseline conditions, as there would be no increase in vessel or vehicle activity, and would therefore not introduce wasteful, inefficient, or unnecessary consumption of energy resources.

Table 4.6-1. Energy Use of Proposed Project Construction

Source Category	Fuel	Fuel Use (gal/yr)
Marine	Diesel	4,548
Off Road	Diesel	60,262
Hauling	Diesel	621
Vendor Trips	Diesel	409
Worker Vehicles	Gasoline	14,100
Total Diesel Consumption	**--**	**65,841**
Total Gasoline Consumption	**--**	**14,100**

The proposed Project would use electrical energy during construction, but much of it would be supplied by on-site generators, and the total amount, given the scale and duration of construction, would be trivial relative to regional capacity. The Los Angeles Department of Water and Power (LADWP) is charged with maintaining sufficient capability to provide customers with a reliable source of power and will continue to do so with proper planning and development of facilities in accordance with the City Charter, using such mechanisms as the Power Integrated Resources Plan. Based on the LADWP Power Integrated Resources Plan, electricity resources and reserves will adequately provide electricity to all its customers, including the proposed Project (LADWP 2016).

Accordingly, because the proposed Project would not use non-renewable resources in a wasteful or inefficient manner, impacts would be less than significant and no mitigation is required.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less-than-Significant Impact. The proposed Project is not growth-inducing as it does not cause the need for construction of additional public services (i.e. sewer or other infrastructure expansion) or draw additional permanent residents to the area etc., which would be considered growth-inducing, and is required to comply with MOTEMS regulations (Chapter 31F, Title 24, Part 2, California Code of Regulations). These requirements would reduce wasteful, inefficient, and unnecessary consumption of energy over the long term. Other plans and policies pertaining to energy use include the following: Executive Directive No. 10, Sustainable City Plan, Sustainable Construction Guidelines, and San Pedro Bay Clean Air Action Plan. The Port's Development Bureau (Construction and Engineering Divisions) is responsible for design, inspection, management and oversight of construction projects to ensure projects comply with energy efficiency requirements. Energy consumed during construction activities would be used efficiently and would represent a negligible portion of state-wide energy consumption. Therefore, these uses do not conflict with energy plans and impacts would be less than significant. No mitigation is required.

4.7 GEOLOGY AND SOILS

a) Would the Project directly or indirectly cause 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. Southern California is one of the most seismically active areas in the United States. Numerous active faults and fault zones are located within the general region, including the active Palos Verdes Fault that traverses the harbor area, as well as the Newport-Inglewood, Elysian Park, Whittier-Elsinore, and Santa Monica-Raymond faults, which are all within 25 miles of the Project site. The harbor area, as with the southern California region as a whole, cannot avoid earthquake-related hazards, such as liquefaction, ground rupture, ground acceleration, and ground shaking. Although no faults within the Port area are currently zoned under the Alquist-Priolo Act, potential hazards exist due to seismic activities associated with the Palos Verdes Fault Zone and the presence of man-made engineered fill. The exposure of people to seismic ground shaking is a potential risk with or without the proposed Project.

Construction of the proposed Project is required to adhere to seismic performance requirements specified in the MOTEMS regulations (Chapter 31F, Title 24, Part 2, California Code of Regulations), which includes standards intended to limit the severity of consequences from geological hazards such as earthquakes. The goal of the project is to comply with MOTEMS requirements, engineering standards, and building codes to make the facility more earthquake safe. Although the proposed Project could experience strong seismic ground shaking, the Project site is not likely susceptible to surface rupture. Additionally, the proposed Project would not construct any habitable or large permanent structures that would increase the risk of loss, injury, or death in the event of surface rupture. Therefore, impacts associated with the risk of surface rupture due to faulting would be less than significant and no mitigation is required.

ii) Strong seismic ground shaking?

Less-than-Significant Impact. Although no faults within the Port area are currently zoned under the Alquist-Priolo Act, potential hazards exist due to seismic activities associated with the Palos Verdes Fault Zone and the presence of man-made engineered fill. The exposure of people to seismic ground shaking is a potential risk with or without the proposed Project. The risk of seismic hazards such as ground shaking cannot be avoided. As discussed in Threshold 4.7(a)(i), compliance with MOTEMS regulations is designed to minimize structural damage resulting from a seismic event. Building and construction design codes are meant to minimize structural damage resulting from a seismic event. The proposed Project would comply with the applicable engineering standards and building codes, including the MOTEMS regulations, Port engineering criteria, and applicable sections of the Los Angeles Building Code. Emergency planning and coordination would also contribute to reducing injuries to on-

site personnel during seismic activity. As facilities handling potentially hazardous materials, NuStar and Valero maintain comprehensive emergency response plans to be followed during natural disasters (including earthquakes); these plans are required by numerous agencies, notably the US Coast Guard, the LAFD, and the State Lands Commission, and are updated periodically as required by those agencies. With incorporation of emergency planning and compliance with current regulations and standard engineering practices, impacts related to seismic ground shaking would be less than significant and no mitigation is required.

iii) Seismic-related ground failure, including liquefaction?

Less-than-Significant Impact. The harbor area, including the Project site, is identified as an area susceptible to liquefaction in the City of Los Angeles General Plan's Safety Element because of the presence of recent alluvial deposits and groundwater less than 30 feet below ground surface (City of Los Angeles, 1996).

The proposed Project would bring the berthing facilities into compliance with the seismic performance requirements specified in the MOTEMS regulations (Chapter 31F, Title 24, Part 2, California Code of Regulations). This includes standards intended to limit the probability of occurrence and the severity of consequences from geological hazards, such as earthquakes. Accordingly, the proposed Project would decrease risks associated with seismic-related ground failures at the site relative to baseline conditions. Emergency planning and coordination would also contribute to reducing potential injuries on-site resulting from a seismic event. With compliance with appropriate MOTEMS requirements, engineering standards, and building codes, impacts associated with the risk of seismic-related ground failure would be less than significant and no mitigation is required.

iv) Landslides?

No Impact. The proposed Project would be constructed and operated on Mormon Island, which is relatively flat with no significant natural or graded slopes. The proposed Project is also not located near any landslide hazard areas (City of Los Angeles 1996). Therefore, there would be no impacts related to landslides and no mitigation is required.

b) Would the Project result in substantial soil erosion or the loss of topsoil?

No Impact. The Project site is entirely paved. Construction of the landside components of the proposed Project would result in only minor and temporary disturbance of the pavement. Pavement would be repaired following construction, which would prevent substantial soil erosion from the site, and operation of the proposed Project would be identical in nature to existing conditions. Therefore, the proposed Project would not result in soil erosion or the loss of topsoil. There would be no impact and no mitigation is required.

c) Is the Project 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 than-Significant Impact. The Project site is constructed on artificial fill, which could be subject to lateral spreading, subsidence, liquefaction, or collapse. The MOTEMS audits of the NuStar and Valero facilities included geotechnical evaluations that identified

measures needed to meet seismic requirements. The primary element of the proposed Project is the replacement of the existing timber wharf structures with a new loading platform and associated petroleum product handling infrastructure in accordance with the findings of the MOTEMS audits. The proposed Project would not cause or accelerate geologic hazards, but instead would reduce the facility's vulnerability to seismic movement. Potential impacts associated with the risk of unstable soil would be less than significant and no mitigation is required.

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

Less-than-Significant Impact. Expansive soils generally result from specific clay minerals that expand when saturated and shrink when dry. These expansive clay minerals are common in the geologic deposits in the adjacent Palos Verdes Peninsula and in previously imported fill soils used in the development of the Port. Although the proposed Project could be located on expansive soil, it would not include the construction of any new habitable structures. Furthermore, the proposed Project would be constructed and operated in accordance with design and engineering criteria, including MOTEMS regulations and applicable building and safety requirements. With the incorporation of modern engineering and safety standards and compliance with current building regulations, no substantial risk to life or property would be present; accordingly, impacts would be less than significant and no mitigation is required.

e) Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. The Project site is connected by sanitary sewer system to the City of Los Angeles Bureau of Sanitation's Terminal Island Water Reclamation Plant (TIWRP). Therefore, the use of septic tanks would not be necessary. None of the Project improvements would generate wastewater that would be treated by an alternative wastewater disposal system. Therefore, no impacts would occur and no mitigation is required.

f) Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic features?

No Impact. The geologic formation at the Project site consists of artificial fill, engineered fill over natural landforms, and disturbed natural landforms constructed in the 20th century. Before improvements were made to the harbor (beginning in the 19th century), the Project area was covered by harbor waters or mudflats. The Project area has been routinely dredged and filled in the 20th century to create shipping channels and increase or maintain the design depth at the berths, thereby destroying any stratigraphy of the Project area, any unique paleontological resources, and any unique geologic features. The proposed Project would occur primarily in and over harbor waters. Landside equipment installation would occur only within an area with deposited fill material and not in any geologic layer that could yield unique paleontological resources. Therefore, there would be no impact to unique paleontological resources or unique geologic features and no mitigation is required.

4.8 GREENHOUSE GAS EMISSIONS

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

Less-than-Significant Impact. The proposed Project would involve both construction and operational activities that would generate greenhouse gas (GHG) emissions. The methods of analysis for Project GHG emissions are consistent with SCAQMD's guidelines and LAHD's standard protocols.

CEQA Significance Thresholds

State CEQA Guidelines Section 15064.4(b) sets forth the factors that should be considered by a lead agency when assessing the significance of impacts from GHG emissions on the environment. These factors include:

- The extent to which a project may increase or reduce GHG emissions compared with the existing environmental setting.
- Whether project emissions exceed a threshold of significance that the lead agency determines applicable to a project.
- The extent to which a project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of GHG emissions.

The guidelines do not specify significance thresholds and allow the lead agencies discretion in how to address and evaluate significance based on these criteria. The SCAQMD has adopted a CEQA significance threshold of 10,000 metric tons per year (MT/yr) of carbon dioxide equivalent (CO_2e) for industrial projects where SCAQMD is the lead agency (SCAQMD 2008b). This IS/ND used this threshold to evaluate the proposed Project's GHG emissions under CEQA. GHG emissions below this threshold would be considered to produce less-than-significant impacts to GHG levels. LAHD has determined the SCAQMD-adopted 10,000 MT/yr CO_2E threshold to be suitable for LAHD projects for the following reasons:

- The SCAQMD used Governor Schwarzenegger's June 1, 2005 Executive Order S-3-05 as the basis for its development. EO S-3-05 set targets of reducing GHG emissions to 2000 levels by 2010, 1990 levels by 2020, and 80 percent below 1990 levels by 2050 (SCAQMD 2008b). The 2020 target is the core of the California Global Warming Solutions Act of 2006, widely known as Assembly Bill (AB) 32 (SCAQMD 2008).
- The SCAQMD industrial source threshold is appropriate for projects with future operations continuing as far out as 2050. The SCAQMD threshold development methodology used the Governor's Executive Order (EO) #S-3-05 emission reduction targets as the basis in developing the threshold (SCAQMD 2008b), with the Assembly Bill (AB) 32, 2020 reduction requirements incorporated as a subset

of Governor's EO #S-3-05 (SCAQMD 2016b). EO S-3-05 sets an emission reduction target of 80% below 1990 levels by 2050. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020 (SCAQMD 2016b). AB 32 has the goal of achieving 1990 GHG levels by 2020.

- The SCAQMD industrial source threshold is appropriate for projects with both stationary and mobile sources, such as the proposed Project. California Air Pollution Control Officers Association (CAPCOA) guidance considers industrial projects to include substantial GHG emissions associated with mobile sources (CAPCOA 2008, 2010). SCAQMD, on industrial projects for which it is the lead agency, uses the 10,000 MT/yr threshold to determine CEQA significance by combining a project's stationary source and mobile source emissions. Although the threshold was originally developed for stationary sources, SCAQMD staff views the threshold as conservative for projects with both stationary and mobiles sources because it is applied to a larger set of emissions and therefore captures a greater percentage of projects than would be captured if the threshold was only used for stationary sources (SCAQMD 2008).
- The SCAQMD industrial source threshold is appropriate for projects with sources that use primarily diesel fuel. Although most of the sources that were considered by the SCAQMD in the development of the 10,000 MT/yr threshold are natural gas-fueled (SCAQMD 2008b), both natural gas and diesel combustion produce CO_2 as the dominant GHG (The Climate Registry, 2019). Furthermore, the conversion of all GHG species into a CO_2E ensures that the GHG emissions from any source, regardless of fuel type, can be evaluated equitably.

Projects would create a significant GHG impact if annual GHG emissions between the future year and the baseline exceeds the significance threshold of 10,000 MT/yr CO_2E.

Project GHG Emissions

Sources contributing to GHG emissions during construction are described in detail in Section 4.3, Air Quality. The construction contractor shall be required to comply with the LAHD's Sustainable Construction Guidelines (Appendix C). The proposed Project's GHG emissions were calculated using the same project construction and operation assumptions used to estimate the Project's air pollutant emissions. These assumptions are listed in the Section 4.3, Air Quality, and in the air quality appendix (Appendix A).

Based on criteria set by the SCAQMD, a proposed project would have the potential to violate an air quality standard or contribute substantially to an existing violation if emissions exceed the threshold of significance in Table 4.8-1. Impacts are determined by comparing the combined amortized construction and future operational emissions to baseline emissions. The proposed Project would not affect growth at the Port Complex. Table 4.8-1 shows the proposed Project's estimated GHG emissions. The table shows that GHG emissions from amortized construction and annual operations would be 11 MT/yr CO_2e, which is well below the SCAQMD significance threshold of 10,000 MT/yr CO_2e. There would be minimal increase in GHG emissions during future operations because there would be no major increase in operational activity levels. Accordingly, impacts of emissions of GHGs

associated with the proposed Project would be less than significant and no mitigation is required.

Table 4.8-1. Annual GHG Emissions of Proposed Project

Source Category	CO_2	CH_4	N_2O	CO_2e
2019 Baseline Operations				
Ships - at Berth	6,179	0	0	6,296
Ships – Transit	10,129	0	0	10,262
Ships – Anchorage	1,887	0	0	1,919
Tugboats	961	0	0	974
Trucks	549	0	0	572
Worker Vehicles	51	0	0	52
Onsite Equipment	382	0	0	383
2019 Baseline Total	*20,139*	*0*	*1*	*20,458*
Year 2025 Operations				
Ships - at Berth	6,179	0	0	6,296
Ships – Transit	10,129	0	0	10,262
Ships – Anchorage	1,887	0	0	1,919
Tugboats	961	0	0	974
Trucks	488	0	0	508
Worker Vehicles	51	0	0	52
Onsite Equipment	389	0	0	389
2025 Total	***20,085***	***0***	***1***	***20,401***
Amortized Annual Construction	26	0	0	26
2025 Project Total (Operations and Amortized Construction)	20,111	0	1	20,427
CEQA Impacts				
Project Minus CEQA Baseline	-28	0	0	-31
Significance Threshold				10,000
Significant?				No

Note: numbers may not add up due to rounding

b) Would the project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

Less-than-Significant Impact. The State of California is leading the way in the United States with respect to GHG reductions. Several legislative and municipal targets for reducing GHG emissions below 1990 levels have been established. Key examples include, but are not limited to:

- Assembly Bill 32 (AB 32)
  - 1990 GHG emissions levels by 2020
  - 40 percent below 1990 GHG emissions levels by 2030
  - 80 percent below 1990 GHG emissions levels by 2050

- San Pedro Bay Ports CAAP
  - 40 percent below 1990 GHG emissions levels by 2030
  - 80 percent below 1990 GHG emissions levels by 2050
- City of Los Angeles Green New Deal (4-Year Update to the Sustainable City pLAn)
  - Reduce Port-related GHG emissions by 80 percent by 2050

Several state, regional, and local plans have been developed which set goals for the reduction of GHG emissions over the next few years and decades, but no regulations or requirements have been adopted by relevant public agencies to implement those plans for specific projects, within the meaning of CEQA Guidelines Section 15064.4(b)(3).[6] However, there are GHG emissions reduction measures contained in state and local plans, strategies, policies, and regulations that directly or indirectly affect the proposed Project's construction and operation emissions source sectors or specific types. A summary of Project compliance with potentially applicable GHG emissions reductions measures is provided in Table 4.8-2.

Table 4.8-2. Applicable GHG Emissions Reduction Strategies

Strategy	Compliance with Strategy
State AB 32 Plan Strategies (CARB, 2017)	
Vehicle Climate Change Standards	These are CARB enforced standards; vehicles that access the Project site and are required to comply with the standards would comply with these strategies.
Limit Idling Time for Commercial Vehicles (13 CCR § 2485) and Off-Road Equipment (13 CCR § 2449)	The Project applicant, construction contractor, and drayage truck operators would be required to comply with applicable idling regulations for on-road vehicles during project construction and operation.
Use of Low Carbon or Alternative Fuels (Low Carbon Fuel Standard)	The Project's primary source of GHG emissions would be from transportation fuel use. The facility and facility users would use California fuels that are subject to the Low Carbon Fuel Standard regulations. While these regulations are new and have not yet caused a large penetration of low carbon/renewable fuels, over the Project's life, the Project's GHG emissions from transportation and onsite equipment would be reduced as low carbon fuel availability use increases statewide.
Waste Reduction/Increase Recycling (including construction and demolition waste reduction)	Solid waste generated during construction of the proposed Project would be disposed of in accordance with the City of Los Angeles requirements discussed below under the Construction and Demolition (C and D) Waste Recycling Ordinance.
Electricity Use/Renewables Performance Standard	The Project's electricity would come from Los Angeles Department of Water and Power, a California publicly owned utility that is subject to the Renewables Performance Standard that requires increasing renewable energy procurement targets over time and so

[6] Center for Biological Diversity v. Cal. Dept. of Fish and Wildlife [Newhall Ranch] [2015] 62 Cal.4th 204, 223

Table 4.8-2. Applicable GHG Emissions Reduction Strategies

Strategy	Compliance with Strategy
	reduces GHG emissions from electricity generation. Therefore, the electricity used at the site would comply with state electricity sector GHG reduction strategies.
Port of Los Angeles and City of Los Angeles Plans and Strategies	
San Pedro Bay Ports CAAP (POLA and POLB, 2017)	The CAAP has several policy initiatives related to GHG emissions reductions that could apply to the proposed Project, including the vessel speed reduction program, the at-berth emissions program, green ship incentives, and the energy infrastructure program. CAAP initiatives apply to Port tenants, including NuStar and Valero.
City of Los Angeles Construction and Demolition (C and D) Waste Recycling Ordinance	The City of Los Angeles approved a Citywide construction and demolition waste recycling ordinance in 2010. This ordinance requires ALL mixed C&D waste generated within City limits be taken to City-certified C&D waste processors. This would include demolition waste generated by the proposed Project. LA Sanitation (LASAN) is responsible for the C&D waste recycling policy. All haulers and contractors responsible for handling C&D waste must obtain a Private Waste Hauler Permit from LASAN prior to collecting, hauling and transporting C&D waste, and C&D waste can only be taken to City certified C&D processing facilities.

In summary, the proposed Project would conform to state and local GHG emissions/climate change regulations, policies, and strategies. The proposed Project would have less-than-significant GHG impacts and no mitigation is required.

4.9 HAZARDS AND HAZARDOUS MATERIALS

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

Less-than-Significant Impact. Construction activities associated with the proposed Project are not likely to involve the use of substantial quantities of hazardous materials and the most likely source of hazardous materials would be from vehicles and construction equipment at the site. However, there could be small amounts of hazardous materials, principally fuels, solvents, and lubricants used in construction equipment, at the site during construction. The storage and use of those hazardous materials would comply with Federal and state regulations, the State General Permit for Storm Water Discharges Associated with Construction Activity, and a Project-specific Storm Water Pollution Prevention Plan. SWPPP requirements could include, but are not limited to, controls for vehicle and equipment fueling and maintenance; material delivery, storage, and use; spill prevention and control; and solid and hazardous waste management. Implementation of these construction standards would minimize the potential for an accidental release of petroleum products, hazardous materials, and/or explosion that could create a significant hazard during construction activities at the Project site. Demolition of the existing timber wharf would generate several tons of creosote- and/or other-treated wood. That material would be handled in accordance with applicable regulations and disposed of at a landfill approved to receive such material.

As construction would comply with applicable laws and regulations governing hazardous materials, construction would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

General operation of the proposed Project is expected to remain substantially the same as existing conditions, i.e., the loading and unloading of petroleum products to and from barges and ships in similar amounts as under baseline conditions. Furthermore, operation of the marine oil terminal would take place in a MOTEMS-compliant facility, which would be a safer context than baseline conditions. Accordingly, the proposed Project would not substantially increase hazards to people or property through the release of hazardous materials.

Accidental releases or explosions of hazardous materials could occur from vessels in transit to and from the terminal as a result of collisions with other vessels or allisions with fixed structures, or while at berth as a result of accidental releases during vessel loading and unloading. Factors that reduce the probability and consequences of accidental releases include, but are not limited to:

- Spill prevention and response measures;
- Double-hulled tankers;
- Vessel traffic separation and control systems; and
- Petroleum product handling measures.

Spill prevention and response measures are included in the NuStar and Valero facilities' Spill Prevention, Control, and Countermeasure (SPCC) Plans, as required under the Oil Pollution Act of 1990 (OPA; 33 CFR 157.10d), and would ensure that any release is handled quickly and results in minimal adverse effects.

The existing regulatory framework described above and the navigational procedures in place at the Port (see below) would continue to minimize the proposed Project's potential for accidents that could result in a release of product during transport. For example, the vessel traffic lanes that have been established off the coast of California are separated by a zone where vessel transit is to be avoided, thereby minimizing the potential for collisions between vessels traveling in opposite directions. As tank vessels approach the Port Complex, they leave the established traffic lanes and enter the Precautionary Area, where speed limits are in effect, and as the vessels approach within two nautical miles of Point Fermin even lower speed limits apply. In addition, Port Pilots navigate the vessels within the breakwater, and tank vessels must be tug assisted. These navigational safety requirements and practices minimize the potential for collisions, allisions, or groundings that could result in a product spill.

During operation of the proposed Project, accidental releases of hazardous materials could occur from vessels in transit to and from the terminals as a result of collisions with other vessels or allisions with fixed structures, or while at berth as a result of an accidental release or explosion during vessel loading or unloading. Spills of petroleum products from tank vessels and marine oil terminals in the Los Angeles Harbor are infrequent and their consequences have been minor; furthermore, the continued use of double-hulled tank vessels (mandated by the International Maritime Organization's regulation 19 of MARPOL Annex 1) and the spill

response systems that are in place would limit the potential sizes and consequences of any spills that do occur. The purpose of the proposed Project is to increase the safety of product transfer operations at marine oil terminals. The new loading platform, mooring dolphins, and berthing dolphins would be more capable of withstanding vessel movements and seismic events than the existing wharf and dolphins, as they would incorporate components of the mooring systems advocated by the California State Lands Commission for marine oil terminal projects, including tension-monitoring systems and triple quick-release hooks. The proposed Project would replace existing loading hoses, pipelines with modern articulated arms that would reduce the potential for rupture or leakage during product transfer. In addition, when tankers are being unloaded at the terminal, inert gas systems are used to prevent explosive conditions from forming in the vessel tanks. During loading, the vapor control unit (VCU) would capture any vapors that are displaced from the vessel tanks, thereby preventing explosive conditions. Additionally, there is no increase in throughput of product as a result of the proposed Project. Therefore, there would be no increase in explosive conditions.

The Project would not result in an increase in the number of tanker trucks transporting product to and from the Project site. Accordingly, the Project would not substantially increase the likelihood of accidents during truck transport.

In summary, construction and operation of the proposed Project would not substantially increase the frequency or severity, relative to the CEQA baseline, of releases of hazardous materials. Therefore, the proposed Project would not create a significant hazard to the public or the environmental through the routine transport, use, or disposal of hazardous materials. Impacts would be less than significant and no mitigation is required.

b) Would the Project 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. The goal of the MOTEMS requirements is to improve safety at California's marine oil terminals. The purpose of the proposed Project is to increase the safety of product transfer operations at marine oil terminals. The new loading platform, mooring dolphins, and berthing dolphins would be more capable of withstanding vessel movements and loads, wave action, and seismic events than the existing timber wharf, and would be non-flammable, unlike the timber structure. The proposed Project would replace existing loading/unloading hoses and pipelines with modern articulated arms that would further reduce the potential for rupture or leakage during product transfer.

Groundwater beneath the Project site is known to be contaminated with various hydrocarbon contaminants related to the above-ground storage tanks at the NuStar and Valero terminals and from offsite. Site investigation and remediation activities to address groundwater contamination at the existing terminal have been ongoing since 1995, but in April 2018 the LARWQCB determined that the extent and severity of contamination may still not have been adequately delineated.

The groundwater contamination present beneath the Project site is not expected to pose a risk to the public from Project construction due to the minimal potential for exposure. Construction of the proposed Project would demolish the existing wharf, and replace it with

a new loading platform, access trestles, catwalks, and mooring dolphins. This work would involve driving steel piles on the waterside of the terminal but would not involve exposure or extraction of groundwater. Although some of the steel piles installed along the shoreline could encounter contaminated groundwater, the groundwater would not be drawn or extracted to the surface and the piles would be capped. Because the piles would be capped and open excavation to groundwater would not occur, construction of piles under the proposed Project would not create a significant hazard to the public or the environment related to the release of groundwater contaminants. Other landside work (e.g., pipe relocation, utilities, the isolation vault) would not involve excavation sufficiently deep to encounter groundwater, although if contaminated groundwater or soils were to be encountered, they would be managed in accordance with standard removal and disposal/treatment protocols. With implementation of these measures, impacts of construction would be less than significant, and no mitigation is required.

Operation of the proposed Project would allow the Project site to continue to accommodate vessels and the NuStar Terminal to continue to accommodate trucks transporting hazardous materials (i.e., liquid bulk cargo) in the same numbers as under baseline conditions. Because the new loading platform would increase the safety of vessel operations and those operations would be essentially the same as under baseline conditions, operation of the proposed Project would not increase the risk of an accidental spill or upset.

Accordingly, the proposed Project would not create a significant hazard to the public or the environment through upset and accident conditions involving the release of hazardous materials. The impact would be less than significant and no mitigation is required.

c) Would the Project 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. There is no existing or proposed school within 0.25 mile of the Project site. All schools are at least one mile away. Therefore, there would be no impact and no mitigation is required.

d) Is the Project 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?

Less-than-Significant Impact. The provisions in Government Code Section 65962.5 are commonly referred to as the "Cortese List" (after the Legislator who authored the legislation that enacted it). Because this statute was enacted over twenty years ago, some of the provisions refer to agency activities that were conducted many years ago and are no longer being implemented; and, in some cases, the information to be included in the Cortese List does not exist. While Government Code Section 65962.5 makes reference to the preparation of a “list,” many changes have occurred related to web-based information access since 1992 and this information is now largely available on the Internet sites of the responsible organizations (CalEPA, 2015a). The California Environmental Protection Agency (CalEPA) has identified the following data resources that provide information regarding facilities or sites identified as meeting the "Cortese List" requirements (CalEPA, 2012).

- List of Hazardous Waste and Substances sites from Department of Toxic Substances Control (DTSC) EnviroStor database;
- List of Leaking Underground Storage Tank Sites by County and Fiscal Year from State Water Board GeoTracker database;
- List of solid waste disposal sites identified by the State Water Resources Control Board (SWRCB) with waste constituents above hazardous waste levels outside the waste management unit;
- List of "active" Cease and Desist Orders and Cleanup and Abatement Orders from the State Water Board; and
- List of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, identified by DTSC.

The Project site is not listed in any of these databases (CalEPA, 2020). Accordingly, as discussed in 4.9(b), construction and operation of the proposed Project is not expected to result in the release of groundwater contamination that could create a significant hazard to the public or the environment. Therefore, the impact would be less than significant 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 or excessive noise for people residing or working in the project area?

No Impact. The Project site is not located within an airport land use plan or within two miles of a public airport or a public use airport. The closest airport is Zamperini Field in Torrance, approximately five miles from the Project site. The Long Beach Airport and Los Angeles International Airport are approximately eight miles and 15 miles, respectively, from the Project site. The proposed Project would have no effect related to public airports. Accordingly, there would be no impact and no mitigation is required.

f) Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less-than-Significant Impact. The Project site is currently used for the handling and transport of oil and fuel products. Project construction would occur within the Project site boundaries and is not expected to affect emergency response or evacuations. As part of standard procedure for activities occurring on Port property, as well as within the Port area, the contractor would coordinate with the Port Police, Los Angeles Police Department, and fire protection/service providers, as appropriate, on traffic management issues and any Port improvement plans occurring in the vicinity. Traffic control equipment would be in place to direct local traffic around the work area if necessary.

Emergency response action plans have been prepared for the existing NuStar and Valero terminals that provide detailed procedures, including evacuation as necessary, to be followed in the event of an emergency at either terminal. Procedures include:

- Sounding an alarm.

- Following terminal emergency notification processes.
- Dispatching on-call emergency responders to the marine terminal.
- Notifying regulatory agencies as required based on type of emergency (i.e., spill, fire, etc.).
- Calling 911.
- Shutting down loading, unloading, pipeline, and marine operations.
- Evacuating trucks from the facility.
- Diverting incoming trucks or vessels to a safe distance from the facility.
- Evacuating all personnel to a safe distance.

During operation of the proposed Project, the terminals' emergency response plans and those of U.S. Coast Guard, Port Police, and Los Angeles Fire are employed as necessary in accordance with the Port's Risk Management Plan and MOTEMS requirements. The proposed Project would implement the most recent engineering standards required by MOTEMS for the design and maintenance of marine oil terminals to better protect public health, safety and the environment. Because there would be no additional vessels beyond the baseline, operational activities would not impede land-based emergency responses to the terminal nor would they necessitate changes to the terminal's emergency response plan. As a consequence, operations under the proposed Project would not result in adverse physical impacts on the environment that could interfere with emergency responses.

The proposed Project would comply with MOTEMS requirements and would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Accordingly, impacts would be less than significant and no mitigation is required.

g) Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

No Impact. There are no wildlands at or near the Project site (City of Los Angeles 1996). The majority of the site and surrounding area is industrial in nature and paved, and no increase wildland fire hazard would occur as a result of the proposed Project. Therefore, there would be no impact and no mitigation is required.

4.10 HYDROLOGY AND WATER QUALITY

a) Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less-than-Significant Impact. Construction of the proposed Project could result in sediment resuspension during wharf demolition, pile installation, platform construction, possible dredging, and piping installation. The construction contractor must comply with water quality requirements in permits issued from the LARWQCB (such as Waste Discharge Requirements/Section 401 Water Quality Certification). Demolition of the existing timber wharf is not expected to result in a substantial release of contaminants to the water column: although creosote- or other-treated timber debris would be produced, routine precautions

would prevent a significant quantity from falling into the water. The existing timber piles would either be pulled or cut at the mud line (for piles that cannot be extracted via pulling), which could re-suspend some bottom sediments and create localized and temporary turbidity plumes and associated water quality issues.

In addition to turbidity, re-suspended sediments could result in slightly reduced dissolved oxygen (DO) and pH levels. Those reductions would be brief and localized and would therefore not be expected to cause substantial detrimental effects to biological resources. Existing sediment contaminants (e.g., metals and pesticides) and plant nutrients could be re-suspended into the water column. As with turbidity, however, any increases in concentrations would be localized and of short duration. The release of nutrients could promote short-term nuisance growths of phytoplankton, which has occurred during previous dredging projects, including the Deep Draft Navigation Improvement Project (USACE and LAHD 1992). The Los Angeles Basin Plan defines biostimulatory substances such as nutrients as "…concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses" (LARWQCB 1994). Given the limited spatial and temporal extent of construction activities with the potential for releasing nutrients from bottom sediments, substantial adverse effects on beneficial uses of Harbor waters would not be expected to occur.

The new steel piles would be lowered through the water column and then driven into the seafloor with vibratory and hammer methods. Pile installation could re-suspend some bottom sediments, thereby creating localized and temporary turbidity plumes and associated water quality issues similar to those discussed above. As discussed above, any such increases in turbidity, sediment contaminants, or nutrients would not result in substantial adverse effects on beneficial uses of harbor waters or result in violations of water quality standards.

There is a potential for sediment along the existing slope to slough off and settle along the harbor bottom. No dredging would be needed if the authorized -40 feet MLLW elevation is met; however, the construction would include a determination of whether high spots exist, and if that occurs, up to 2,000 cubic yards of sediments could require removal. The following analysis addresses the water quality issues that would arise if dredging were to be conducted.

All of the dredged material would be disposed of at the Berths 243–245 confined disposal facility (CDF). The dredging would re-suspend some bottom sediments, create localized and temporary turbidity plumes, and re-suspend sediments over a relatively small area. Receiving water monitoring studies at other dredge sites in the harbor and other water bodies have documented a relatively small, turbid dredge plume that dissipates rapidly with distance from dredging operations (MBC 2001a, b; Anchor Environmental, 2003; USACE and LAHD, 2009; POLA 2009, 2010). Suspension of sediments during clamshell dredging occurs during bucket impact, penetration, and removal of the bucket from the sediment, as well as during bucket retrieval through the water column.

Sediments were tested in February 2019 per standard USEPA/USACE protocol to determine their suitability to be placed at the Berths 243–245 CDF and to evaluate potential

water quality impacts during dredging and disposal activities. This standard protocol is a requirement of the USEPA/USACE permitting process and therefore considered a project feature. Sediments were determined by the Dredge Material Management Team to be suitable for placement in the Berths 243-245 CDF.

Clean-up dredging for the proposed Project would require a Section 10 permit from the USACE and a Clean Water Act Section 401 Water Quality Certification from the LARWQCB). The Water Quality Certification would be required to include monitoring requirements necessary to assure compliance with applicable effluent limitations, or any other Clean Water Act limitation, or with any State laws or regulations. Monitoring requirements typically include measurements of water quality parameters such as DO, light transmittance (turbidity), pH, and suspended solids at varying distances from the dredging operations. During dredging, as a standard practice, if turbidity levels exceed the threshold established in the Waste Discharge Requirements (WDRs) issued by the LARWQCB, water chemistry analysis would be conducted and the LAHD would immediately meet with the construction manager to discuss modifications of dredging operations to keep turbidity to acceptable levels. Analyses of contaminant concentrations (such as metals, pesticides, and polycyclic aromatic hydrocarbons [PAHs]) in waters during the dredging operations may also be required in the WDR if turbidity levels are elevated above certain established thresholds. Monitoring data would be used by the Port to ensure that water quality limits specified in the permit are not exceeded. Actions to be taken would include alteration of dredging methods and/or implementation of additional BMPs to limit the size and extent of the dredge plume. Given the limited area that would be affected by dredging activities and the controls in place to minimize adverse effects on water quality, dredging would not cause violations of water quality standards or waste discharge requirements. Impacts would be less than significant and no mitigation is required.

In addition to water quality effects related to re-suspended sediments, construction could result in spills of fuel, lubricants, or hydraulic fluid from construction equipment and releases of soils and construction debris. However, experience with this type of work in the harbor indicates that such incidences have a very low probability of occurring. Large volumes of chemicals are not used or stored at construction sites. Furthermore, their storage and use would be controlled by the BMPs specified in the Project-specific SWPPP that would be prepared in accordance with the Construction General Permit (CGP), and by standard Port construction contract requirements and the USACE and LARWQCB permits. The SWPPP would be submitted to the Port by the construction contractor prior to the notice to proceed with construction operations. In addition to specifying BMPs for construction activities, the SWPPP would establish efficient responses to spill events to minimize the magnitude of the spill and extent of impacts. Accordingly, spills and other releases of contaminants during Project construction would not substantially affect beneficial uses of harbor waters or result in violations of water quality standards.

The onshore storm drain systems of the Project site would not be modified, and the proposed Project would not increase the amount of impervious surface area of the terminal. Stormwater from the wharf and access trestle would continue to be managed as under baseline conditions, including percolation into the ground in the unpaved areas and

conveyance to the Port's storm drain system from paved areas. The storm drain system at the terminal would continue to comply with the Los Angeles County Sanitation District (LACSD) discharge permit conditions, as well as National Pollutant Discharge Elimination System (NPDES) requirements regarding discharges, and the City's Low Impact Development (LID) requirements. The facility's SWPPPs, with the associated BMPs, would continue to be implemented to manage runoff and prevent impacts to water quality.

Ocean-going vessels utilize hull coatings to prevent algal growth, which can result in leaching of contaminants to harbor waters. Proposed Project operations also have the potential to result in discharges related to risk of upset, accidental discharges, or ballast water discharges to harbor waters, which could be significant. However, operation of the proposed Project under the new lease would not result in an increase in vessel calls to the terminal, and the proposed Project's operations would adhere to the Vessel General Permit and the NPDES-General Industrial Activities Stormwater Permit to reduce the potential of accidental or incidental discharges to the storm drain and harbor waters. Future maintenance at the Project site such as fender and pile replacement or repair could involve minor in-water work that would generate turbidity, but the effects would be localized and of very short duration.

Given the small scale and short duration of construction and with the controls that would be implemented during construction and operation, impacts would be less than significant and no mitigation is required.

b) Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

No Impact. Groundwater at the Project site is affected by saltwater intrusion (high salinity) and is therefore unsuitable for use as drinking water. Construction would occur primarily in and over harbor waters; the limited landside activities would not adversely affect groundwater recharge because the terminal is not used as a recharge site. They would not adversely affect drinking water supplies because there are none on or near the site. The proposed Project would not change the amount of impervious surface at the site nor would it substantively alter the land surface; therefore, groundwater recharge would not be changed. The proposed Project would not install any new groundwater wells, and groundwater extraction would not occur as part of the proposed Project. Accordingly, the proposed Project would not affect the existing groundwater supplies, drinking water supplies, groundwater recharge facilities, or aquifers. The proposed Project would have no impact with respect to groundwater and no mitigation is required.

c) Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) result in substantial erosion or siltation on- or off-site?

No Impact. The majority of the Project site is currently developed and paved and, as such, is impervious. The amount of impervious surface area at the Project site and its

flat topography would not change, nor would the management of storm water at the two terminals. Construction would comply with the storm water-related requirements in the NPDES Permit, including the use of BMPs, which would minimize the amount of runoff and the potential for substantial erosion or siltation to occur. Therefore, no impacts related to alteration of drainage patterns resulting in erosion or siltation would occur and no mitigation is required.

ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

Less-than-Significant Impact. By decreasing the amount of wharf surface at the proposed Project site would decrease the amount of rainwater runoff from constructed surfaces to harbor waters. Therefore, the proposed Project would not increase surface runoff in a way that could affect the potential for flooding either at the Project site or at adjacent sites. Impacts would be less than significant and no mitigation is required.

iii) 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 existing storm drain system for the land portion of the terminal would not be affected by the proposed Project and would continue to comply with all discharge requirements imposed by USACE and LARWQCB permits. The proposed Project would not alter the existing drainage pattern or result in a substantial increase in surface runoff resulting in flooding. Therefore, impacts would be less than significant and no mitigation is required.

iv) impede or redirect flood flows?

No Impact. According to the Federal Emergency Management Agency's (FEMA's) Flood Hazard Map FM06037C1945F, the Project site is located in Zone AE, which is identified as a Special Flood Hazard Area subject to inundation by the one percent annual chance flood (also known as the base flood), which has a one percent chance of being equaled or exceeded in any given year (FEMA, 2008). The new loading/unloading platform at Berth 163 would be located at the same location and height as the existing wharf and would not impede or redirect flood flows. No structures would be built on land that would alter the site's performance in floods with respect to flood flows, nor would the site's elevation or topography change under the proposed Project. Therefore, the proposed Project would neither impede nor redirect flood flows and no mitigation is required.

d) Would the Project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Less-than-Significant Impact. Tsunamis are high, long-period sea waves caused by earthquakes, submarine landslides, or other large disturbances that, when they reach land, cause water level rise and can cause devastating flooding. Seiches are water waves that surge back and forth in an enclosed basin; seiches can result from earthquakes or other disturbances such as high winds. A computer model of Los Angeles-Long Beach harbor

that assessed tsunami and seiche scenarios determined that in each case modeled, impacts from a tsunami were equal to or more severe than those from a seiche (Moffatt and Nichol, 2007). As a result, the discussion below refers to tsunamis as the worst case of potential impacts; potential impacts related to seiches would be the same as or less than those identified below. In addition, this discussion considers the impacts of 100-year storm tides combined with projected sea level rise.

According to the City of Los Angeles Safety Element of the General Plan (City of Los Angeles, 1996), the Project site is within an area susceptible to impacts from a tsunami and subject to possible inundation. However, the Tsunami Hazard Assessment for the Ports of Los Angeles and Long Beach (Moffatt and Nichol, 2007) concluded on the basis of modeling that, based on seismicity, geodetics, and geology, a large, locally generated tsunami affecting the Port Complex would likely not occur more than once every 10,000 years. Under the maximum future tsunami scenarios, the Port Complex model predicts a maximum tsunami wave height of 9.1 feet along the East Basin Channel (near the Project site) (Moffatt and Nichol, 2007, Table 4-1).

With respect to potential flood hazard or tsunami due to potential sea level rise, Assembly Bill (AB) 691 required POLA, as a local trustee of the lands granted by the State Lands Commission, to address the impacts of Sea Level Rise (SLR) for all of its granted public trust lands. Per that requirement, POLA's Engineering Division developed a Sea Level Rise Adaptation Study (LAHD 2018b). The study identifies all areas of port property and estimates potential increased water intrusion/flooding due to SLR in 2030, 2050 and in 80 years from now (i.e., in 2100).

According to the National Oceanic and Atmospheric Administration (NOAA), sea level rise of approximately 4 inches has occurred in Los Angeles County over the past 100 years.[7] The Port's report estimates that sea level could rise above the level observed in 2000 by up to an additional 12 inches between 2000 and 2030 and between 37 inches (the mid-point estimate) to as much as 66 inches by 2100. The area specifically referenced for Berths 163-164 indicates that SLR alone would not cause permanent inundation or shoreline overtopping until it reaches 37 inches (the mid-range prediction for 2100). Accordingly, SLR alone would not threaten the landside facilities at the Project Site during the projected service life of 50 years. However, under 100-year storm tide conditions, shoreline overtopping and temporary flooding could occur with 12 inches of SLR (the prediction for the year 2030; see LAHD 2018b, Section 4 figures, page 28). The Port's study (LAHD, 2018b) predicts a maximum storm tide would raise water levels approximately 2.6 feet above Mean Higher High Water (MHHW). Accordingly, extreme storm events coupled with projected SLR could cause temporary flooding of backland facilities, with concomitant interruption of terminal activities. Access roads on Mormon Island would not be very sensitive to damage as a result of temporary flooding unless high flood water velocities

[7] National Oceanic and Atmospheric Administration (NOAA) Mean Sea Level Trend: 9410660 Los Angeles, California. Accessed October 19, 2016. http://tidesandcurrents.noaa.gov/sltrends/ sltrends_station.shtml?stnid=9410660

occurred. Furthermore, although traffic would be blocked by water depths of more than a few inches, vehicle movement should be able to resume quickly after waters have receded.

The construction of facilities at adequate elevations and the incorporation of emergency planning in accordance with current state and City regulations minimizes damage to structures and injury to personnel from flooding or inundation. A Port-wide emergency notification system provides phone/text/email notification of tsunami warnings or other emergency situations. Furthermore, the existing terminals have emergency response plans that mention natural disasters, including tsunamis, to identify necessary procedures in the event a tsunami warning is issued. The plan directs terminal staff to drain and disconnect cargo lines, secure the terminal, and if time permits, allow berthed vessels to depart prior to the arrival of a tsunami. The procedures identify priorities including the safety of life for terminal and vessel staff, limitation/mitigation of environmental impact from oil spills, and limitation/mitigation of damage to the marine oil terminal. The tsunami plan would remain in effect under the proposed Project.

Construction and operation of the proposed Project would not increase the potential for release of pollutants due to tsunami or storm tide flooding damage. Under the proposed Project, the vessel berthing and loading/unloading facilities would be improved to meet MOTEMS safety standards, thereby further reducing the risk of product release in the very unlikely event of inundation. The terminals' product-handling facilities would remain largely as under existing conditions, so that the risk of product release would not be increased. Therefore, the proposed Project would not increase risks associated with the release of pollutants due to tsunami or seiche.

As described above, the proposed Project would not increase the potential for a tsunami, seiche, or storm tide to cause inundation at the NuStar and Valero marine oil terminals that could increase the risk of a release of pollutants. Accordingly, impacts would be less than significant and no mitigation is required.

e) Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact. Responsibility for the protection of surface water and groundwater quality in California rests with the SWRCB and nine Regional Water Quality Control Boards (RWQCB). Region-specific water quality regulations are contained in Water Quality Control Plans that recognize regional beneficial uses, water quality characteristics, and water quality problems. The Project area is not located in an area designated for a water quality control plan or sustainable groundwater management plan. Therefore, the proposed Project would not interfere with any water quality or groundwater management plan. No impacts would occur, and no mitigation is required.

4.11 LAND USE AND PLANNING

a) Would the Project physically divide an established community?

No Impact. The proposed Project is located on the north side of Mormon Island, a heavy industrial area of the Port that does not contain any established communities. The nearest

residential receptor community is an apartment complex along C Street in Wilmington, approximately 4,400 feet north-northwest of the Project site. Liveaboard tenants (i.e., people living aboard vessels) are located approximately 4,600 feet (1,400 meters) northeast of the Project site in recreational boating marinas at Berths 201-205. The proposed Project would be confined to the existing marine oil terminals at the Project site and would not physically divide an established community. Therefore, no impacts involving physically dividing an established community would occur with the implementation of the proposed Project and no mitigation is required.

b) Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The location of the Project site is described in Section 2.1. Land uses in the vicinity of the Project site consist of cargo handling operations, including container, liquid bulk, and dry bulk.

As noted in Section 2.1.3, the Project site is governed by two land use plans: the Port of Los Angeles Master Plan, developed in conformance with the California Coastal Act, and the Port of Los Angeles Plan portion of the City of Los Angeles General Plan.

The Port of Los Angeles Plan is part of the City of Los Angeles General Plan Land Use Element, which serves as the guide for the continued development and operation of the Port (City of Los Angeles, 1982). The Project site has a Non-Hazard Industrial and Commercial land use designation and is zoned [Q] M3-1 (Qualified-Heavy Industrial) by the City of Los Angeles Zoning Ordinance. The [Q] designation restricts uses to General Cargo, limited Port-related commercial, industrial, and support uses. The proposed Project would provide for the continuation of the existing use, which is consistent with the [Q] M3-1 zoning of the site. The continuation of the site as marine oil terminals would be consistent with the surrounding uses, which are also port-related.

Because the continuation of the marine oil terminal use would not represent a change in use and would be consistent with applicable land use plans and land use designations, including the Port Master Plan, Port of Los Angeles Plan, and zoning code, the proposed Project would not conflict with any applicable land use plan, policy, or regulation. Therefore, there would be no impact and no mitigation is required.

4.12 MINERAL RESOURCES

a) Would the Project 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. The proposed Project is located on Mormon Island, which is made mostly of artificial fill material. According to the California Department of Conservation Division of Mines and Geology mineral resource maps, the nearest mineral resources area is located in the San Gabriel Valley (California Department of Conservation, 2011a).

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 Project site

is located within the Wilmington Oil Field but outside of the major drilling area (City of Los Angeles, 1996 and California Department of Conservation, 2015). There are no active oil wells on the Project site. Because the proposed Project would not be located within an active oil drilling area and because construction would be at the surface or shallow depths relative to the oil field, no impacts to mineral resources are anticipated. Therefore, no impacts related to the loss of availability of a known valued mineral resource would occur with the implementation of the proposed Project and no mitigation is required.

b) Would the Project 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. 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 Project site is located within the Wilmington Oil Field but outside of the major drilling area (City of Los Angeles, 1996; California Department of Conservation, 2015). The proposed Project would be entirely confined to the Project site and would therefore not result in the loss of availability of a mineral resource recovery site. Therefore, no impact to the availability of a mineral resource would result from construction and operation of the proposed Project and no mitigation is required.

4.13 NOISE

a) Would the Project generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less-than-Significant Impact. The City regulates construction noise via the Los Angeles Municipal Code (LAMC, Chapter IV, Article 1, Section 41.40; Chapter XI, Article 2, Section 112.05). Under the noise provisions, construction equipment noise levels are limited to a maximum noise level of 75 dBA (A-weighted decibel) if located within 500 feet of any residential zone of the City, if technically feasible, and construction is limited to Monday through Saturday exclusive of holidays. However, major public works projects conducted by the City are exempt from this Sunday and holiday restriction, and construction in districts zoned for industrial uses, as is the Project site, is exempt from all noise provisions. The nearest residential area (apartment complex along C Street in Wilmington) to the wharf construction site is approximately 4,600 feet away. Liveaboard tenants are located approximately 4,600 feet northeast of the Project site. Therefore, the proposed Project would not be subject to the maximum noise limits or time restrictions in the LAMC.

The L.A. CEQA Thresholds Guide (2006) does not require a full noise evaluation if construction is not located within 500 feet of a residential zone. Since no residential area is located within 500 feet of the Project site, no quantitative analysis was completed.

The proposed Project would not increase the annual number of vessel calls to the NuStar and Valero terminals. Furthermore, only one vessel could berth at the new B163 terminal, at any given time, unlike the existing condition in which two vessels (a barge and a tanker

or two barges) could be at the site at once (one at each berth). Accordingly, noise from vessel operations would not increase above baseline levels. The proposed Project would not increase the number of trucks visiting the Project site during operations, and residential receptors are located almost one mile away. Therefore, there would be no increase in operational truck noise and in any case, truck noise across that distance would be attenuated to below local noise ordinance thresholds. Accordingly, impacts would be less than significant and no mitigation is required.

b) Would the Project generate excessive groundborne vibration or groundborne noise levels?

Less-than-Significant Impact. Construction equipment and activities associated with the proposed Project, such as drill rigs, pile installation and driving equipment, compaction equipment, and haul trucks, would generate vibrations that could result in groundborne noise or vibration. Transient vibration levels greater than 0.5 inches per second (in/sec) and continuous/frequent intermittent vibration levels greater than 0.3 in/sec have the potential to damage older residential structures. Transient vibration levels greater than 2.0 in/sec, or continuous sources greater than 0.4 in/sec, would cause severe annoyance to a human (Caltrans, 2013b). In addition, continuous vibration levels of 0.08 in/sec would be "readily perceptible" to humans, whereas transient vibration levels of 0.035 in/sec would be "barely perceptible" to humans.

A quantitative analysis of vibration levels was not conducted for the proposed Project because relevant data are available from an analysis performed for a nearly identical project located at Berths 168-169, approximately 0.4 mile south of the proposed Project (LAHD 2015). That analysis showed that construction of that project would produce vibration levels up to approximately 0.02 in/sec at the closest residences. That level is well below the thresholds established by Caltrans (2013b). Given its similarity and proximity to the project at Berths 168-169, the proposed Project's construction would produce virtually identical vibration levels. Accordingly, impacts would be less than significant, and no mitigation is required.

Operation of the proposed Project would not result in a substantial increase in groundborne vibrations or noise levels. The number of vessels and trucks would not increase from baseline and because of the site's distance from sensitive and residential receptors, operations would not result in vibration that would exceed local ordinance thresholds. Therefore, impacts of operations would be less than significant and no mitigation is required.

c) For a project located within the vicinity of a private airstrip or 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?

No Impact. The proposed Project is not located within two miles of a public airport or public use airport. Accordingly, the proposed Project would not expose people residing or working in the area of the Project site to excessive noise related to a public or private airport or airstrip. There would be no impact from implementation of the proposed Project and no mitigation is required.

4.14 POPULATION AND HOUSING

a) Would the Project induce substantial unplanned 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 would not establish new residential uses within the Port, require extension of roads or other growth-accommodating infrastructure, or result in the relocation of substantial numbers of people from outside of the region. Therefore, the proposed Project would not directly or indirectly induce substantial population growth through extension of roads or other infrastructure. There would be no impacts associated with population growth inducement and no mitigation is required.

b) Would the Project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. There is no housing within the proposed Project boundaries that would be displaced as a result of the proposed Project. No replacement housing would be needed associated with the implementation of the proposed Project. No impact would occur and no mitigation is required.

4.15 PUBLIC SERVICES

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 following public services:

a) Fire protection?

Less-than-Significant Impact. The City of Los Angeles Fire Department (LAFD) provides fire protection and emergency services to the Project site and surrounding area; in addition, the Valero Wilmington Refinery provides fire protection to the Berth 164 facility. LAFD facilities in the Port include land-based fire stations and fireboat companies. The nearest station with direct fireboat access is Fire Station No. 112, located about 1.5 miles south of the Project site. This station is equipped with a single engine company and one boat (Fire Boat No. 2). The next closest station is Fire Station No. 49, a travel distance of approximately 1.7 miles to the terminal. This station is equipped with a single engine company and two boats (Fire Boats Nos. 3 and 4) at Berth 194. Fire Station No. 38, located at 124 East I Street, approximately 1.5 miles north of the site, would provide fire service by land.

Construction of the proposed Project would not increase the need for expanded services. Further, construction would occur within the Project site and harbor and would not affect service ratios, response times, or other performance objectives of the LAFD.

The proposed Project would implement the most recent engineering standards related to fire suppression equipment in compliance with MOTEMS High Fire Hazard Classification requirements. Further, the proposed Project improvements would, as a standard practice,

be reviewed by the LAFD, and any recommendations would be incorporated into proposed Project design. Operation of the proposed Project would not result in a substantial increase in demand for LAFD personnel, equipment, facilities, or firefighting capabilities, nor would it affect response times that could lead to a substantial adverse physical impact.

Construction activities would include implementation of standard safety requirements, including preparation of an emergency response plan and coordination with emergency service providers, including the LAFD. Accordingly, construction of the proposed Project is not expected to result in an increase in demand for LAFD personnel, equipment, facilities, or firefighting capabilities, nor would it affect response times which could lead to a substantial adverse physical impact.

Operation of the proposed Project would comply with MOTEMS fire safety requirements and the state and city fire codes, standards and regulations, and would not increase the demand for fire protection services. Therefore, impacts associated with fire protection services would be less than significant and no mitigation is required.

b) Police protection?

Less-than-Significant Impact. The Los Angeles Harbor Department Port Police (Port Police) and the Los Angeles Police Department (LAPD) both provide police services to the Port. The Port Police is the primary law enforcement agency within the Port of Los Angeles and is responsible for patrol and surveillance within the Port property boundaries, including Port-owned properties within the communities of Wilmington, San Pedro, and Harbor City. The Port Police maintains 24-hour land and water patrols and enforces federal, state, and local public safety statutes, Port tariff regulations, as well as environmental and maritime safety regulations. The LAPD Harbor Division is located at 2175 John S. Gibson Boulevard in San Pedro, which is approximately 1.6 miles east of the proposed Project.

The proposed Project would not substantially alter terminal activities and would not increase long-term employment or result in indirect growth that would result in need for additional police protection. Accordingly, the proposed Project would not increase the demand for additional law enforcement officers and/or facilities such that the Port Police or LAPD would not be able to maintain an adequate level of service without additional facilities. Therefore, impacts on police protection services from implementation of the proposed Project would be less than significant and no mitigation is required.

c) Schools?

No Impact. The demand for new schools is generally associated with increases in the school-aged population or decreases in the accessibility and availability of existing schools. The proposed Project would not involve schools or include residential development that could increase school age population. Therefore, no impacts to existing schools, or need for new school facilities, would occur and no mitigation is required.

d) Parks?

No Impact. The proposed Project would not include the creation of new parks or reduction in existing park facilities. In addition, proposed Project improvements would be confined to the Project site within the Port and would not induce population growth that could result in increased demand for parks beyond that which currently exists. Therefore, no impacts to existing parks, or need for new parks would occur from implementation of the proposed Project, and no mitigation is required.

e) Other public facilities?

Less-than-Significant Impact. The USCG is a federal agency responsible for a broad range of regulatory, law-enforcement, humanitarian, and emergency-response duties. The USCG mission includes maritime safety, maritime law enforcement, protection of natural resources, maritime mobility, national defense, and homeland security. The USCG's primary responsibility is to ensure the safety of vessel traffic in the channels of the Port and in coastal waters. The 11th USCG District maintains a post on Terminal Island, south of the Project site. The proposed Project would implement the most recent engineering standards required by MOTEMS for the design and maintenance of marine oil terminals to better protect public health, safety and the environment at an existing marine oil terminal and would not result in impacts to USCG facilities or operations. The proposed Project would not result in an increase in vessel calls and would therefore not require expansion of the Vessel Traffic Information System or other vessel safety systems and programs in the USCG's purview. The proposed Project would not result in an increase in demand for other public facilities that could lead to a substantial adverse physical impact. Impacts would be less than significant and no mitigation is required.

4.16 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?

No Impact. The proposed Project would not directly or indirectly result in physical deterioration of parks or other recreational facilities because it is not near any such facilities and would not induce population increases that would increase use of recreational facilities. Therefore, no impact would occur and no mitigation is required.

b) Would the Project 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 would not include recreational facilities or new residential development that would require construction or expansion of existing recreational facilities. Therefore, no impact would occur and no mitigation is required.

4.17 TRANSPORTATION

a) Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

No Impact. Based on the 2019 update to the City of Los Angeles Thresholds Guidance Document, the following question contains three sub-questions that dictate final determination. If the answer is "no" to all of the following questions, a "no impact" determination can be made (City of Los Angeles, 2019c). The Office of Planning and Research (OPR) has confirmed that heavy-duty truck trips need not be included in this transportation analysis, but are analyzed in other resource areas, such as Air Quality, Greenhouse Gas Emissions, Energy, and Noise (OPR, 2020).

(1) Would the project generate a net increase of 250 or more daily vehicle trips?

Construction of the proposed Project would generate approximately 40 vehicle trips during a peak day, and operation would not generate more trips than under baseline conditions because there would be no additional employees. Therefore, the proposed Project would not generate a net increase of 250 or more daily vehicle trips during construction or operation.

(2) Is the project proposing to, or required to make any voluntary or required modifications to the public right-of-way?

The proposed Project does not include any modifications to existing roadways that support current or future bike lanes or bus stops and is not required to make any voluntary or required modifications to the public right-of-way. The proposed Project does not propose to include dedications or physical modifications to the public right-of-way, nor is it required.

(3) Is the project on a lot that is ½ acre or more in total gross area, or is the project's frontage along a street classified as an Avenue or Boulevard 250 feet or more, or is the project's frontage encompassing an entire block along an Avenue or Boulevard?

The proposed Project site is not located along a street classified as an Avenue or Boulevard but is located on a lot that is greater than ½ acre in total gross area. However, the proposed Project is within an industrialized area and there are no bicycle or pedestrian facilities within Terminal Island (Metro, 2014). With no bicycle or pedestrian facilities within the area, no effect to such facilities is possible. Additionally, there are no bus stops, transit stations, or transit facilities within a 0.25-mile radius of the Project site (LADOT, 2020).

The Los Angeles Mobility Plan 2035, which is the City's General Plan Transportation Element, includes numerous functional classifications to define standard roadway dimensions (Los Angeles Department of City Planning, 2016). None of the streets bordering the Project site is considered to be an Avenue or a Boulevard. The frontage of the NuStar and Valero terminals is along La Paloma Street, but this street is not classified as an Avenue or Boulevard. The proposed Project would not require any modifications or closures to the public right-of-way. There would be no in-street

construction activities. Accordingly, the proposed Project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. Impacts would be less than significant and no mitigation is required.

b) Would the Project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

No Impact. CEQA Guidelines Section 15064.3 subdivision (b), provides criteria for analyzing transportation impacts. The guidelines state that a significant impact may occur if vehicle miles traveled (VMT) exceed an applicable threshold of significance. The analysis below is based on the screening criteria provided by the Los Angeles Department of Transportation (LADOT) in the Transportation Assessment Guidelines (LADOT, 2019). The LADOT Transportation Assessment Guidelines state that if a land use project does not generate a net increase totaling 250 or more daily vehicle trips or does not generate a net increase in daily VMT, then no further analysis for that project is required, and no impacts would occur if the answer is "no" to the following two questions:

(1) Would the Project or Plan located within one-half mile of a fixed-rail or fixed-guideway transit station replace an existing number of residential units with a smaller number of residential units?

(2) If the project includes retail uses, does a portion of the project that contains retail uses exceed a net 50,000 square feet?

As discussed above in Section 4.17(a), construction and operation of the proposed Project would not generate a net increase totaling 250 or more daily vehicle trips.

The Los Angeles City Council approved the LADOT Transportation Assessment Guidelines for CEQA projects in July 2019 (LADOT, 2019). These guidelines state that a VMT analysis is not required if a project generates less than 250 daily trips. The LADOT threshold is proposed for automobiles (as OPR does not require VMT analysis of commercial trucks in CEQA documents). Therefore, based on OPR verbal guidance, heavy-duty truck trips are not included in this transportation analysis, but are analyzed in other resource areas, such as Air Quality, Greenhouse Gas Emissions, Noise, and Energy. (OPR, 2020).

Additionally, the proposed Project is not located within one-half mile of fixed-rail or fixed-guideway transit station, does not replace an existing number of residential units with a smaller number of residential units, and does not include retail uses. Based upon the LADOT Transportation Assessment Guidelines criteria discussed above, no further analysis is required. No impacts would occur and no mitigation is required.

c) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact. Based on the 2019 update to the City of Los Angeles Thresholds Guidance Document, if the answer is "no" to both questions below, a "no impact" determination can be made:

(1) Is the project proposing new driveways, or introducing new vehicle access to the property from the public right-of-way?

(2) Is the project proposing to, or required to make any voluntary or required, modifications to the public right-of-way?

The Project is not proposing new driveways or introducing new vehicle access to the property from the public right-of-way. Also, as previously discussed above, the Project is not proposing or required to make any voluntary or required modifications to the public right-of-way. Therefore, there are no impacts and no mitigation is required.

d) Would the project result in inadequate emergency access?

No Impact. The proposed Project would not alter or close existing roadways or emergency access ways. Because the number of daily truck trips to and from the terminal would not change above baseline levels, traffic patterns would not be altered and emergency access would remain adequate. Accordingly, no impact would occur and no mitigation is required.

4.18 TRIBAL CULTURAL RESOURCES

This section evaluates impacts to tribal cultural resources associated with the implementation of the proposed Project. Pursuant to Assembly Bill (AB) 52, a lead agency is required to consult with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the Project if the tribe requested to the lead agency, in writing, to be informed by the lead agency of proposed projects in that geographic area. As part of Native American consultation associated with the proposed Project, the Native American Heritage Commission (NAHC) was contacted and a consultation list received of tribes that are traditionally and culturally affiliated with the geographic area of the proposed Project.

Anthony Morales, Chief of San Gabriel Band of Mission Indians was informed of the Port's previous proposal to implement a nearly identical project at the adjacent Berth 164. The informational package was delivered by certified mail on October 25, 2017. Pursuant to Public Resources Code Section 21080.3.1(b), LAHD requested a response in writing within 30 days if consultation was desired. The NAC for a prior, nearly identical project for NuStar at Berth 163 was completed in July 2018. The informational package was delivered by certified mail dated June 11, 2018 to Anthony Morales as well as to Andrew Salas, Chairperson of the Gabrieleno Band of Mission Indians – Kizh Nation, Charles Alvarez of the Gabrieleno-Tongva Tribe, Robert Dorame, Chairperson of the Gabrieleno-Tongva Indians Tribal Council, and Sandonne Goad, Chairperson of the Gabrieleno Tongva Nation. LAHD did not receive a request for consultation of either project, the 30-day response period for consultation has closed, and AB 52 was complied with for both proposed projects. Because the proposed Berths 163-164 (NuStar-Valero) Project is located on the same site and consists of essentially the same elements as the two previous proposed projects, AB52 has been complied with.

No consultation was requested.

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i) listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

No Impact. The proposed Project is located on Mormon Island which was constructed in the early twentieth century largely by placement of imported fill material. The proposed Project would result in minor amounts of ground-disturbing activities (i.e., installation of pipes and topside equipment). However, because the site was previously disturbed, tribal cultural resources are not likely present. Furthermore, the record search and literature information for the Port did not show the presence of any eligible or listed historic resources within the Project area (USACE, POLA, and POLB, 1984).

The proposed Project would also occur in and over harbor waters and could include minor dredging. The Project area has been routinely dredged over the history of the Port to create shipping channels and increase or maintain the design depth at the berths. Given the absence of known tribal resources in the Project area and the limited ground-disturbing activities that would be done, the proposed Project would have no impact and no mitigation is required.

ii) a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

No Impact. As described in Section 4.18(a), the Project site has undergone approximately 100 years of development, including dredging and filling, and tribal cultural resources are not likely present. Given the absence of known tribal resources in the Project area and the limited ground-disturbing activities that would be performed, the proposed Project would have no impact on a California Native American tribe resource, and no mitigation is required.

4.19 UTILITIES AND SERVICE SYSTEMS

a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

No Impact. The Project site is located in a developed area that is served by existing utilities. The proposed Project would not relocate or construct new or expanded water, wastewater

treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities. Furthermore, because the proposed Project would not result in an increased number of employees on-site during operations there would be no need for new or expanded utilities. Therefore, construction and operation of the proposed Project would not require any new or expanded wastewater treatment, stormwater drainage, electrical power, natural gas, or telecommunications facilities. Accordingly, there would be no impacts and no mitigation is required.

b) Would the Project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

No Impact. The proposed Project would have sufficient water supplies for the foreseeable future. The proposed Project would not construct any major facilities that would require or result in additional water consumption. There would likely be a slight increase in water demand during construction as a result of worker consumption and other uses such as dust control, but that would be temporary. Once operations begin, water demand would remain similar to current levels as the number of employees would not increase. Accordingly, there would be no impacts related to water supplies and no mitigation is required.

c) Would the Project 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?

No Impact. The City of Los Angeles Department of Public Works, Bureau of Sanitation, provides sewer service to all areas within its jurisdiction, including the Project site. Wastewater from the NuStar and Valero terminals flows through existing sewer and wastewater infrastructure to the Bureau of Sanitation's Terminal Island Water Reclamation Plant (TIWRP). The TIWIRP currently operates at approximately 50 percent of its capacity of 30 million gallons per day (LASAN, 2020). A small increase in on-site personnel associated with construction (estimated at up to 30 per day) would generate temporary, minor increases in wastewater flows. Accordingly, the existing system has excess capacity and any increases in wastewater and stormwater inputs to the City's sewer and treatment systems as a result of construction and operation of the proposed Project would be insubstantial. Therefore, no impacts would occur with the implementation of the proposed Project and no mitigation is required.

d) Would the Project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less-than-Significant Impact. The demolition and removal of the existing wharf structures and their shoreline connecting structures would generate debris, primarily treated timber but also including concrete and steel, that would be recycled and disposed of, as described below. A small amount of additional debris would be generated by construction of the new loading/unloading platform and associated facilities. If dredging is necessary, up to 2,000 cubic yards of dredged material could be generated.

The generation of landfill waste would be reduced by recycling of demolition debris to the extent feasible. The LAHD maintains an asphalt/concrete recycling facility at the intersection of East Grant Street and Foote Avenue in Wilmington. The asphalt/concrete debris would be crushed at the facility or elsewhere in the Port for construction reuse within the Port. Metal debris would be salvaged for scrap by the construction contractor. Dredged material, if any, would be disposed of at the Berths 243–245 CDF.

Solid waste requiring disposal at a landfill is not expected to be substantial relative to the permitted landfill capacity at Chiquita Canyon Landfill, Sunshine Canyon Landfill, or other local or regional disposal facilities that could accept construction waste from the proposed Project. There is currently sufficient solid waste disposal capacity available in Los Angeles County (LADPW 2017). Further, there are a number of operations within Los Angeles County that recycle construction and demolition material, and the Port, as standard conditions of permit approval, requires recycling of construction materials and use of materials with recycled content where feasible to minimize impacts to solid waste. Demolition debris would not exceed landfill capacity. By being disposed of in the CDF, dredged material would not affect landfill capacity and would therefore not affect solid waste disposal facilities.

In summary, construction is anticipated to generate relatively small amounts of waste requiring disposal in a landfill, and construction would comply with applicable waste reduction requirements. Operation of the proposed Project would not result in a substantial increase in solid waste generation relative to baseline conditions because the number of personnel would remain small and activity levels would be similar to baseline conditions. Therefore, this impact would be less than significant, and no mitigation is required.

e) Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No Impact. The proposed Project would be required to conform to the policies and programs of the City of Los Angeles' Solid Waste Integrated Resources Plan (SWIRP). Compliance with the SWIRP would ensure sufficient capacity to service the proposed Project (City of Los Angeles, 2013). Construction activities are anticipated to generate a nominal amount of solid waste. The proposed Project would comply with all applicable codes and requirements pertaining to solid waste disposal. These include, but are not limited to: Chapter VI Article 6 Garbage, Refuse Collection of the City of Los Angeles Municipal Code, Part 13 Title 42 – Public Health and Welfare of the California Health and Safety Code, and Chapter 39 Solid Waste Disposal – of the United States Code. The proposed Project would also be compliant with AB 939, the California Solid Waste Management Act, and AB 341, which establish waste stream diversion and recycling goals. Because the proposed Project would implement and be consistent with the procedures and policies detailed in the codes and requirements identified above, Port-wide standard conditions of approval requiring recycling of construction materials, the City's recycling and solid waste diversion efforts, and related laws pertaining to solid waste disposal, there would be no impacts related to compliance with solid waste statutes and regulations and no mitigation is required.

4.20 WILDFIRE

If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire?

c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact. Public Resources Code sections 4201-4204 direct the California Department of Forestry and Fire Protection to map fire hazard based on relevant factors such as fuels, terrain, and weather. The Port is not located in or near a state responsibility area or lands classified as a Very High Fire Severity Zone within its Local Responsibility Area (California Department of Forestry and Fire Protection, 2020; LAFD, 2019). Therefore, the Project site is not located in or near State responsibility areas or lands classified as very high fire hazard severity zones. As such, no impacts would occur and no mitigation is required.

4.21 MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the project have the potential to substantially 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, substantially 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?

Less-than-Significant Impact with Mitigation Incorporated. As discussed in Section 4.4, Biological Resources, implementation of MM BIO-1 would reduce potentially significant impacts of underwater noise on biological resources (i.e., marine mammals and managed fish species) to less than significant, and implementation of MM BIO-2 would minimize adverse effects of construction on eelgrass to less than significant. As discussed in sections 4.4 and 4.5, all other potential impacts related to biological and cultural resources would be less than significant, and no mitigation is required.

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 any cumulatively considerable impacts. Several other development projects are currently under construction, are planned, or have recently been completed within the Port. These projects include container terminal developments, industrial developments, and other waterfront plans. Future projects would be evaluated in a separate future environmental document. These types of 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.

As discussed in Sections 4.1 through 4.20 of this IS/MND, the proposed Project would not result in significant impacts to aesthetics, agricultural and forestry resources, air quality, biological resources, cultural resources, energy, geology and soils, GHG emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation, tribal cultural resources, utilities and services systems, or wildfires that could not be mitigated to below significance. The proposed Project would require two mitigation measures (MM BIO-1 and MM BIO-2, related to biological resources). Because of the small scale and localized effects of the proposed Project, the potential incremental contribution from the proposed Project would not be cumulatively considerable. Operational activity (vessels and trucks) would be consistent with baseline conditions. Accordingly, operational impacts of the proposed Project would not contribute to a cumulative impact. This analysis has further determined that the proposed Project would not have any individually limited but cumulatively considerable impacts.

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

Less-than-Significant Impact. Based on the analysis in Section 4, substantial adverse impacts on human beings would not occur as a result of the proposed Project. The proposed Project's impacts related to aesthetics, air quality, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, public services, and utilities and service systems would be less than significant, and the proposed Project would have no impacts related to land use and planning, population and housing, recreation, transportation, tribal cultural resources, or wildfires. Furthermore, the proposed Project would continue an existing use with similar activity levels but improved safety compared to baseline conditions. Accordingly, impacts on human beings related to the proposed Project would be less than significant.

5.0 PROPOSED FINDING

LAHD has prepared this IS/MND to address the environmental effects of the proposed Project. Based on the analysis provided in this IS/MND, LAHD finds that the proposed Project would not have a significant effect on the environment with the incorporation of the mitigation measures described in this document.

6.0 PREPARERS AND CONTRIBUTORS

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7.0 ACRONYMS AND ABBREVIATIONS

AAQS	ambient air quality standards
AB	Assembly Bill
APN	Assessor's parcel number
Air Basin	South Coast Air Basin
AQMP	Air Quality Management Plan
BMP	best management practice
CAA	Clean Air Act
CAAP	Clean Air Action Plan
CAPCOA	California Air Pollution Control Officers Association
CalEEMod	California Emissions Estimator Model
CalGreen	California Green Build Standards
CALTRANS	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCR	California Code of Regulations
CDF	Confined disposal facility
CDFW	California Department of Fish and Wildlife
CGP	Construction General Permit
CEQA	California Environmental Quality Act
City	City of Los Angeles
CNEL	community noise equivalent level
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
CRHR	California Register of Historical Resources
CSLC	California State Lands Commission
dBA	A-weighted decibel
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
DWT	deadweight tons
EFH	Essential Fish Habitat
EI	emissions inventory

EO	Executive Order
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FMMP	Farmland Mapping and Monitoring Plan
GAL	Gallons
GHG	greenhouse gas
GWP	global warming potential
HCP	Habitat Conservation Plan
I	Interstate
IS	Initial Study
LACSD	Los Angeles County Sanitation District
LADBS	Los Angeles Department of Building and Safety
LADWP	Los Angeles Department of Water and Power
LAFD	Los Angeles Fire Department
LAGBC	Los Angeles Green Building Code
LAHD	Los Angeles Harbor Department
LAMC	Los Angeles Municipal Code
LAPD	Los Angeles Police Department
LARWQCB	Los Angeles Regional Water Quality Control Board
LBS	Pounds
LST	Localized Significance Threshold
M	Magnitude
MD	mooring dolphin
MSL	mean sea level
MM	mitigation measure
MMPA	Marine Mammal Protection Act
MND	Mitigated Negative Declaration
MOTEMS	Marine Oil Terminal Engineering and Maintenance Standards
MOU	Memorandum of understanding
MT/yr	metric tons per year
MWD	Metropolitan Water District of Southern California
NAAQS	National Ambient Air Quality Standards
NCCP	Natural Community Conservation Plan

NOAA	National Oceanic and Atmospheric Administration
NO_X	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OEHHA	Office of Environmental Health Hazard Assessment
OGV	ocean-going vessel
OPA	Oil Pollution Act
PM_{10}	particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PMP	Port Master Plan
Port or POLA	Port of Los Angeles
POTW	Publically owned treatment works
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SEA	Significant Ecological Area
SIP	State Implementation Plan
SHPO	State Historic Preservation Officer
SO_X	sulfur oxide
SPCC	Spill Prevention Control and Countermeasure Plan
SRA	source receptor area
SWPPP	Storm Water Pollution Prevention Plan
SR	State Route
SRA	source receptor area
SWRCB	State Water Resources Control Board
SWT-I	Southwestern Terminal Area I
SWT-II	Southwestern Terminal Area II
TIA	Traffic Impact Analysis
TIWRP	Terminal Island Wastewater Reclamation Plant
USACE	U.S. Army Corps of Engineers
USCG	U.S. Coast Guard
USFWS	U.S. Fish and Wildlife Service
UWMP	Urban Water Management Plan

VCU	vapor control unit
VOC	volatile organic compound
WDR	Waste Discharge Requirements
ZIMAS	Zone Information and Map Access System

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Appendix A

Berth 163-164 [NuStar-Valero] Marine Oil Terminal Wharf Improvements Project

Air Emissions

Contents

1.0 Introduction

This appendix describes in detail the regulatory background, estimation methodology and resulting calculated criteria pollutant and greenhouse gas (GHG) emissions from construction and operation of the Berth 163-164 [NuStar-Valero] Marine Oil Terminal Wharf Improvements Project (the proposed Project).

2.0 Methodology for Determining Operational Emissions

Operational emissions are associated with the following sources: (1) ocean-going vessels (OGV), which consist of tanker vessels, articulated tug-barges (ATB), and ocean-going barges; (2) bunkering barges; (3) tugboats; (4) trucks; (5) onsite sources in the terminals and tank farms; and (6) worker vehicles. These sources generate emissions in the form of CO, VOC, NOx, SOx, PM_{10}, $PM_{2.5}$, and diesel PM (DPM) as well as GHGs (CO_2, CH_4, and N_2O). DPM represents particulate exhaust emissions from diesel-fueled internal combustion engines.

Information regarding the activity and characteristics of proposed operational emission sources was obtained primarily from POLA staff, NuStar and Valero representatives, Starcrest, and the 2018 Port Emissions Inventory (LAHD 2019a). Activity and utilization assumptions used to estimate peak daily operational emissions for comparison to SCAQMD emission thresholds represent upper-bound estimates of activity levels; these levels would occur infrequently, and, therefore, represent a conservative set of assumptions.

Table A-1 summarizes the regulations assumed in the future operational emissions calculations for all scenarios. Current in-place regulations are treated as default project elements rather than mitigation because they represent enforceable rules, with or without proposed project approval.

Table A-1: Regulations and Agreements Assumed as Part of the Operational Emissions[a]

Ocean Going Vessels	Tugboats	Trucks	Miscellaneous Sources[b]
MARPOL Annex VI: 0.1% sulfur limit for fuels, beginning in 2015 (200 nm of CA coast). NO_X engine emission limits for new engines.[a] **EPA Engine Standards for Marine Diesel Engines:** NO_X, HC, and CO engine emission standards for new engines.[b]	**EPA Engine Standards for Marine Diesel Engines:** NO_X, HC, and CO engine emission standards for new engines. **CARB Regulation to Reduce Emissions from Diesel Engines on Commercial Harbor Craft:** Requires that harbor craft engines meet EPA's most	**EPA Emission Standards for On-Road Trucks**: Increasingly stringent engine standards phased in due to truck turnover. **CARB Heavy Duty Diesel Vehicle Idling Emission Reduction**: Diesel trucks are subject to idling limits when not being used.	**SCAQMD Rules and Regulations:** Rule 463 – Organic Liquid Storage. Rule 466.1 – Valves and Flanges. Rule 466.1 – Pressure Relief Devices. Rule 1173 – Control of VOC Leaks and Releases from Components at

Ocean Going Vessels	Tugboats	Trucks	Miscellaneous Sources[b]
CARB Airborne Toxic Control Measure for Fuel Sulfur and Other Operational Requirements for Ocean-Going Vessels Within California Waters and 24 Nautical Miles of the California Coast: Limits sulfur content for marine gas oil or marine diesel oil to 0.1% sulfur by January 2014. **CAAP Vessel Speed Reduction Program:** 95% compliance to 20 nm.	stringent emission standards per an accelerated, rule-specified compliance schedule. **California Diesel Fuel Regulation:** 15 ppm sulfur.	**CARB Statewide Truck and Bus Regulation**: Trucks less than 26,000 GVWR are required to replace engines with 2010+ engines by January 2023. Trucks with GVWR greater than 26,000 must meet PM BACT and upgrade to a 2010+ model year emissions equivalent engine pursuant to the rule compliance schedule. **California Diesel Fuel Regulation**: 15-ppm sulfur.	Petroleum Facilities and Chemical Plants. Rule 1178 – Further Reduction of VOC Emissions from Storage Tanks at Petroleum Facilities.

[a]This table is not a comprehensive list of all applicable regulations; rather, the table lists key regulations and agreements that substantially affect the emission calculations for the proposed Project.
[b]Emissions from miscellaneous stationary sources at the terminal were obtained from SCAQMD annual emission reports. It is assumed that these sources comply with all applicable SCAQMD stationary source regulations although not all of the listed regulations are necessarily applicable to sources located at the terminals.

2.1 Ocean Going Vessels

OGVs operating at the NuStar Berth 163 and Valero Berth 164 terminals consist of tanker vessels, ATBs, and ocean-going barges. ATBs are barges that consist of a tank vessel (barge) and a tug that is positioned in a notch in the stern of the barge, which enables the tug to propel and maneuver the barge. Ocean-going barges are pushed or pulled by separate tugboats. OGV emissions were calculated for each engine type in the vessel (boiler, main propulsion engine, and auxiliary engine) and by activity and location where emissions take place. ATB and ocean-going barge emissions were calculated for the barge and tug components. Emissions were calculated during transit, hoteling at berth, and anchorage. Vessel emissions were analyzed for the 2019 baseline and one future year in 2025, the first full year of operations after the expected construction period beginning the fourth quarter of 2021 through the first quarter of 2024.

Activity assumptions for the CEQA baseline were based on actual 2019 vessel call records for Berths 163 and 164. These records provide vessel characteristics, including type of vessel, main engine horsepower, model years, engine tier levels, anchorage information, vessel cruising speeds, etc. Any missing parameters in the call data were backfilled with data from the 2018 Port Emissions Inventory (LAHD 2018).

OGV activity in 2019 consisted of 120 OGV calls to berth and 88 calls to anchorage and was assumed not to change in 2025, per information provided by NuStar and Valero per the Project Description; annual vessel fleet mix was also assumed to remain the same.

Tables A-5 and A-6 provide a breakdown of the types of vessels that visited Berths 163 and 164 in 2019 and are assumed to visit in 2025.

Peak day OGV activity in 2019 consisted of one Panamax tanker at berth for 21 hours, one Chemical tanker at anchorage for 24 hours, one Panamax tanker in transit (with Tier I engines and slide valves, and one Chemical tanker in transit (with Tier II engines and slide valves). Peak day OGV activity in 2025, for analysis purposes, was assumed to consist of one Panamax tanker at berth for 24 hours, one Chemical tanker at anchorage for 24 hours, and one Chemical tanker in transit. This peak day OGV activity is conservative because it assumes the largest possible OGV tanker at berth, a tanker in transit, a tanker at anchorage, and assumes that all these tankers would have Tier I engines and no slide valves. Activity inputs for OGV calculations are summarized in detail in Tables A-6 and A-7.

2.1.1 Emission Factor Assumptions

- Emission factors for propulsion engines, auxiliary engines, and auxiliary boilers were obtained from the San Pedro Bay Ports Emission Inventory Methodology Report Version 1-2019 (LAHD 2019b), which includes criteria pollutant and greenhouse gas emission factors by tier level, fuel sulfur content, and engine type (medium vs slow speed) for auxiliary engines and propulsion engines, along with boiler emission factors.
- Based on information contained in the Port's inventory, it was assumed that propulsion engines on tankers are slow speed diesels and medium speed on ATBs; auxiliary engines on tankers and ocean-going barges are medium speed diesels and high speed on ATBs. Ocean-going barges do not have propulsion engines and are pulled by tugboats.
- Emission factors for propulsion and auxiliary engines are dependent upon engine tier, which in turn is dependent upon engine model year. Call records for 2019 include engine tier information for tankers and ATBs and were used to represent the age of vessels calling during the 2019 baseline. In cases where engine tier information was not provided, the age of vessels was determined from keel dates or model year information in the vessel call data records in 2019. It was assumed that the main engine tier is the same as the auxiliary engine tier for both tankers and ATBs.
- Based on information provided by NuStar and Valero, it was assumed that the annual vessel fleet mix in 2025 would be the same as in 2019, per the Project Description. The vessel fleet mix and vessel characteristics for the peak day would differ in the type of vessel, engine tier, and slide valves; the peak day is described at the end of Section 2.1, above.
- The analysis conservatively assumed that there would be no turnover of older to newer OGVs in 2025.
- For both baseline and future years, 0.1% fuel sulfur content was assumed for peak day and annual ship calls (CARB 2011a).
- Correction factors by percentile load of propulsion were applied to the Main Engine emission factors to account for low loads and different engine manufacturing brand, i.e. MAN B&W versus Non-MAN B&W engines. Emission factors for MAN B&W engines take into consideration the effects of

slide valves. These correction factors are summarized in Tables A-15 through A-18 and were obtained from the San Pedro Bay Ports Emission Inventory Methodology Report Version 1-2019 (LAHD 2019b).

- Low load adjustment factors were not applied to ATB propulsion engines because they are four-stroke engines and the San Pedro Bay Ports Emission Inventory Methodology Report Version 1-2019 indicates that the low load adjustment factors are applied only to 2-stroke engines (LAHD 2019b).
- Most tanker and ATB calls in the 2019 call records indicate if they have slide valves; for the few calls that are missing this information, conventional valves were assumed.

2.1.2 Engine and Boiler Load Assumptions

- 2019 and 2025 maximum main engine power ratings for tankers and ATBs were obtained from 2019 call records and the 2018 Port inventory, respectively.
- 2019 and 2025 average maximum rated speed for all tankers and ATBs was obtained from the 2018 Port inventory (LAHD 2018).
- Auxiliary engine and boiler loads for tankers and ATBs during transit, hoteling, and anchorage were obtained from the 2018 Port Inventory (LAHD 2018).
- During transit, main engine load factors were determined using the propeller law, which states that the engine load factor is proportional to the speed of the ship cubed, as shown in Equation 1. For the 2019 and 2025 analyses, speeds by transit zone were obtained from the POLA Mariners Guide 2019 (LAHD 2019c) and other similar Port projects.

$$Load\ [kw] = \left(\frac{Vessel\ speed\ in\ zone}{Max\ Rated\ Speed}\right)^3 x\ Max.Power\ Rating\ [kW] \quad \text{(eq. 1)}$$

  - Vessel transit speeds were used to calculate the duration of the transit and the energy consumed in kw-hrs. Energy consumed was combined with the appropriate emission factor to calculate emissions.

2.1.3 Hoteling Assumptions

- During hoteling at berth, ships were assumed to turn off main engines but leave the auxiliary engines and boilers running.
- Hoteling times used in the calculation of annual emissions were estimated from vessel departure and arrival time stamps in the 2019 call records. The arrival time stamp indicates the time when the vessel enters the AQMD Overwater Boundary. The departure or shift time stamps indicate when the vessel stops hoteling and starts to move towards the new location, whether that is an anchorage site or leaving the Port. The average hoteling durations at berth or anchorage per specific ship category were calculated by using the provided call data from calls that have complete calls. The averages were weighted by the number of calls. For ship

categories for which no valid data are available from call records, the average hoteling durations from the 2018 POLA Inventory were used (LAHD 2019a).

- The future year 2025 hoteling durations at berth or anchorage per specific ship category were obtained and assumed consistent with the 2018 POLA Inventory (LAHD 2019a).

2.1.4 Additional Assumptions

- Unlike tanker vessels, it was assumed that ATBs have no boilers, per 2018 Port Inventory, but instead have two pumps which are used for loading or unloading product while hoteling at berth. The operating load for each pump is approximately 195kW (LAHD 2019a).
- Ship transit criteria pollutant emissions were calculated from berth to the edge of the South Coast Air Basin (SCAB) over-water boundary (roughly a 52 nautical-mile one-way trip). Greenhouse gas transit emissions were calculated from berth out to the state over-water boundary, about 180 nautical miles from shore.
- Some arriving vessels are unable to proceed directly to the berth but instead must wait at a designated anchorage point either inside or outside the breakwater until given clearance to proceed to the berth. Average anchorage frequency and duration was based on 2019 call records. When data were missing from call records, anchorage durations were backfilled from average anchorage duration from available calls. Similar to hoteling, the main engine is assumed to be turned off during anchorage while the auxiliary engines and boilers are assumed to remain running.
- The distances of each of the 4 transit zones were taken from the POLA 2018 inventory (LAHD 2019a). These are specific for each route. ATBs and ocean-going barges are assumed to take the same routes as tankers. For arrivals or departures that do not have a specific route marked, it was assumed that the distance travelled is the same as the average of all four routes. These distances are unlikely to change with time and data from more recent POLA inventories are not available.
- 2019 peak day emissions were derived by analyzing emissions for the consecutive 24-hour period with a reasonable high activity level within the harbor based on 2019 call records. 2019 peak day emissions reflect one Panamax tanker at berth, one Panamax and one Chemical tanker in transit, and one Chemical tanker at anchorage.
- 2025 peak day emissions were based on berth availability and anticipated activity. 2025 peak day emissions reflect one Panamax tanker at berth, one Chemical tanker in transit, and one Chemical tanker at anchorage.

2.2 Bunkering Barges

Bunkering barges are small fuel barges, used at the NuStar Berth 163 terminal. These barges are loaded with fuel at the terminal, using terminal pumps, and are then pushed/pulled by a tugboat to a vessel in the Port that requires fueling. Project emissions

associated with bunkering barge activity result from tugboats used to pull/push the barges. Bunker pump emissions are not part of the Project.

2.3 Tugboats (Harbor Craft)

During operations, tugboats are used to assist tankers, ATBs, and ocean-going barges while maneuvering and docking inside the Port breakwater. The assumptions below were applied to estimate peak day and annual emissions. Activity and emission factors for assist tugboats are summarized in Table A-19.

- Table A-19 shows the number of tugboats assumed for each arrival/departure assist of tankers, ATBs, and ocean-going barges.
- Tugboat transit time was assumed to equal the average of vessel call transit times in the harbor (referred to as "zone 2"), multiplied by 1.3 to account for tug movement to and from base (LAHD 2019b).
- Assist tugboat main and auxiliary average engine sizes and load factors were obtained from the 2018 Port Emissions Inventory (LAHD 2019a).
- Tugboat emission factors were derived based on EPA standards for marine compression-ignition engines. The applicable engine Tiers were determined based on EPA requirements for new engines, average age, and size of tugboats operating in the Port, as well as the CARB harbor craft compliance schedule (CARB 2009). Table A-19 shows the tugboat engine tiers used in the analysis. It should be noted that the analysis conservatively assumes that tugboat engine tier would not change from 2019 to 2025.
- The fuel sulfur content was assumed to be 15 ppm for all analysis years, in accordance with California Diesel Fuel Regulation (CARB 2010).
- Peak day activity for tugs is based on vessel maneuvering transit durations during the selected peak day as described above.

2.4 Trucks and Worker Vehicles

Tanker trucks are used to transport lube oils from the terminal to local destinations (i.e., nearby refineries within 10 miles of the terminal)[1]. Emissions from tanker trucks were calculated using composite emission factors developed by Starcrest years 2017 and 2040 for average trucks calling at the Port, per CAAP compliance. Emission factors for the 2019 Baseline and the 2025 future year were interpolated from emission factors provided by Starcrest. Truck activity and emission factors are summarized in Tables A-24 and A-25, respectively. Other assumptions regarding on-road trucks include:

- The average on-way trip travel distance was assumed to be 10 miles off-site.

[1] For the analysis, trucks were assumed to transit 10 miles, to nearby refineries. Although the project description reflects 50 mile-transit, the 10 miles used in the analysis is conservative because trucks emissions per mile would be lower in 2025 than during the baseline. Therefore, a larger transit would result in larger decreases below baseline.

- PM_{10} and $PM_{2.5}$ emissions from brake wear, tire wear, and paved road dust were calculated and added to the exhaust emissions. Brake and tire wear emissions were calculated using EMFAC 2017. Road dust emission factors off-terminal local streets, and freeways followed CARB's methodology to estimate entrained road dust emission factors using equations in EPA's Compilation of Air Pollutant Emission Factors AP-42 (USEPA 2011) and CARB silt loading values for California roadways in its April 2014 guidance document for estimating entrained road dust emissions from paved roads (CARB 2014).

- Worker vehicle emissions consist of light duty on-road vehicles used by workers commuting to and from the terminal. 15 worker vehicles per day were assumed in the analysis based on information provided by NuStar and Valero terminals. 2025 activity is not anticipated to change from the 2019 Baseline. Emission factors were obtained from EMFAC2017. The South Coast default light duty vehicle fleet mix was used to represent worker vehicles.

2.5 On-Site Sources

Miscellaneous landside sources used at the Valero and NuStar terminals consist of evaporative and combustion sources, particularly in the tank farm, that generate criteria pollutant and greenhouse gas emissions. These sources include:

- External combustion emissions from a vapor recovery unit (VRU);
- Internal combustion engines;
- Tank degassing;
- Fugitive emissions from components in tank farm piping;
- Evaporative emissions from storage tanks; and
- Other minor sources.

2019 criteria pollutant annual mass emissions for these sources were taken directly from the Valero SCAQMD Annual Emission Report (AER) 2019 (Valero 2019) and the 2019 NuStar SCAQMD AER (NuStar 2019). Since the AER does not identify GHG emissions, GHG emissions were calculated based on equipment power rating and The Climate Registry emission factors (TCR 2020).

2025 future year activity was assumed not to change from 2019 activity, with the exception of the addition of two new fire pumps and one new emergency generator. Emissions associated with these new pieces of equipment were calculated based on equipment power rating, anticipated activity, and SCAQMD emission factors.

3.0 Methodology for Determining Construction Emissions

Construction of a new, joint-use, steel-reinforced concrete, MOTEMS-compliant wharf structure at Berth 163, per the Berths 163-164 NuStar-Valero Marine Oil Terminal Wharf Improvements Project, as described in the Project Description of this MND, would result in emissions from 1) Engine exhaust from off-road construction equipment 2) Engine exhaust and road fugitive dust from construction trucks for hauling materials 3) Engine exhaust and road fugitive dust from worker vehicles visiting the site during construction; and 4) Engine exhaust from harbor craft (assist tugs) used for delivering or hauling materials or machinery.

Table A-2 summarizes the regulations affecting construction emission factors for construction equipment. Current in-place regulations are treated as default project elements rather than mitigation because they represent enforceable rules, with or without proposed project approval.

Table A-2: Regulations and Agreements Assumed in the Construction Emissions Calculations

Off-road Construction Equipment	On-Road Trucks	Tugboats/Harbor Craft	Fugitive Dust
EPA Emission Standards for Nonroad Diesel Engines: Tier 1, 2, 3, and 4 standards gradually phased in over all years due to normal construction equipment fleet turnover. **CARB In-Use Off-road Diesel Vehicle Regulation:** Off-road mobile equipment powered by diesel engines 25 hp or larger are required to meet the fleet average or BACT requirements for NO_X and PM emissions. **California Diesel Fuel Regulation**: 15-ppm sulfur. **CARB Portable Diesel-Fueled Engines Air Toxic Control Measure (ATCM)**: Portable engines having a maximum rated horsepower of 50 bhp and greater and fueled with diesel must meet weighted fleet average PM emission standards.	**EPA Emission Standards for On-Road Trucks**: Increasingly stringent engine standards phased in due to truck turnover. **CARB Heavy Duty Diesel Vehicle Idling Emission Reduction**: Diesel trucks are subject to idling limits when not being used to power concrete mixing, water pumps, etc. **CARB Statewide Truck and Bus Regulation**: Trucks less than 26,000 GVWR are required to replace engines with 2010+ engines by January 2023. Trucks with GVWR greater than 26,000 must meet PM BACT and upgrade to a 2010+ model year emissions equivalent engine pursuant to the rule compliance schedule. **California Diesel Fuel Regulation**: 15-ppm sulfur.	**California Diesel Fuel Regulation:** 15-ppm sulfur. **CARB Regulation to Reduce Emissions from Diesel Engines on Commercial Harbor Craft**: Harbor craft are subject to engine replacement/retrofit schedule set forth by CARB.	**SCAQMD Rule 403 Compliance**: 61% reduction in fugitive dust via watering three times per day.

Note: This table is not a comprehensive list of all applicable regulations; rather, the table lists key regulations and agreements that substantially affect the emission calculations for the proposed Project.

The construction of the NuStar-Valero Marine Oil Terminal Wharf Improvements Project is projected to consist of the phases and tasks shown in the construction data section at the end of this Appendix based on construction design information provided by the Tenants and POLA. For each phase, a list of equipment and vehicles was estimated to be required to complete tasks comprising the phase. The list of equipment and vehicles for every task make up the sources of emissions analyzed here as described in sections 3.1 through 3.4. Parameters needed to calculate emissions for each source type are explained below.

3.1 Off-road equipment

Off-road equipment used during construction of the Project includes diesel-fueled cranes, forklifts, generators, and excavators, among many other equipment types. These equipment pieces are assumed to be diesel-fueled as is most common. The list of equipment, hours of operation, and equipment size (horsepower) assumed for each construction task was primarily derived from the project design information provided per the Project Description and POLA Engineering planning documents (LAHD 2020). Other activity parameters such load factors were obtained for equivalent equipment from CARB's OFFROAD2017 model. Tabular data and assumptions used are summarized at the end of this Appendix.

Emissions of VOC, NO_X, CO, SOx, PM_{10}, and $PM_{2.5}$ from diesel-powered construction equipment were calculated using emission factors derived from the CARB's OFFROAD2017 Emissions Inventory Model (version 1.0.1) for equipment representative of the South Coast average construction fleet (CARB 2018b). Emission factors were calculated for each type of equipment based on the horsepower rating of the equipment and corresponding equipment activity levels. These emission factors and energy usage estimated as grams (of a specific pollutant or fuel) per hp-hr were used to calculate peak daily equipment emissions by multiplying the emission factors with the estimated daily hours of activity and the horsepower and load factor of each piece of equipment.

3.2 Harbor Craft

Tugboats would be used during construction to assist in pile driving and construction of structures in or near the water. Tugboat main and auxiliary engine sizes and load factors were obtained from the 2018 Port Emissions Inventory (LAHD 2019a). Tugboat emission and deterioration factors were derived based on CARB's Harbor Craft Emissions Inventory Database (CARB 2011b). The applicable engine Tiers and deterioration of the fleet were determined based on the average age (model year), and size of tugboats operating at the Port based on the 2018 Port Emissions Inventory, as well as the CARB harbor craft compliance schedule (CARB 2009). Brake-specific fuel consumption rates were used to estimate fuel consumption for tugboats (CARB 2012).

Fuel sulfur content limits for California harbor craft are specified in the California Diesel Fuel Regulation (CARB 2010). The required fuel sulfur content for Port tug boats has been 15 ppm since September 1, 2006.

3.3 Construction Trucks

Construction trucks are used for hauling materials and equipment to/from the construction site. Emissions from on-road, heavy-duty diesel trucks during the Project

construction were calculated using emission factors generated by CARB's EMFAC2017 on-road mobile source emission factor model for "T7 tractor construction" single unit heavy duty diesel trucks representative of the SCAB fleet (CARB 2018a). The EMFAC2017 model output shows that, on a per-mile basis, emission factors will steadily decline in future years as older trucks are replaced with newer, cleaner trucks that meet the required state and federal on-road engine emission standards, more substantially so in 2023 due to the California's Truck and Bus Rule. Activity parameters and emission factors for construction truck emission calculations are summarized at the end of this Appendix. Other assumptions regarding on-road trucks during construction include:

- The average one-way trip travel distances for construction trucks were assumed to be 15-20 miles off-site.
- PM_{10} and $PM_{2.5}$ emissions from paved road dust were calculated and added to the EMFAC2017 emissions. Road dust emission factors for on-terminal driving, off-terminal local streets, and freeways followed CARB's methodology to estimate entrained road dust emission factors; this involves using the equations in EPA's Compilation of Air Pollutant Emission Factors AP-42 (USEPA 2011) and CARB silt loading values for California roadways in its April 2014 guidance document for estimating entrained road dust emissions from paved roads (CARB 2014).
- Rates of grams per mile of consumed fuel were obtained from the EMFAC2017 model and used to estimate fuel consumption related to construction vehicles.

3.4 Worker Vehicles

Worker vehicle emissions consist of light duty on-road vehicles used by workers commuting to and from the NuStar Valero terminals. Activities tracked consist of on-site driving to the employee parking lot. On-site idling from worker vehicles was assumed to be negligible.

- Emission factors from EMFAC2017 for gasoline passenger cars and light duty vehicles were used to represent worker and vendor vehicle emissions. The South Coast default light duty vehicle fleet mix was used for the emission factor derivation.
- PM_{10} and $PM_{2.5}$ emissions from paved road dust were calculated and added to the EMFAC2017 emissions. Road dust emission factors for on-terminal driving, off-terminal local streets, and freeways followed CARB's methodology to estimate entrained road dust emission factors; this involves using the equations in EPA's Compilation of Air Pollutant Emission Factors AP-42 (USEPA 2011) and CARB silt loading values for California roadways in its April 2014 guidance document for estimating entrained road dust emissions from paved roads (CARB 2014).

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Operational Emissions Assumptions and Calculation Tables

Appendix A Table of Contents

Table A-1.
Peak Daily Operational Emissions Without Mitigation (lb/day)

Source Category	PM10	PM2.5	NOX	SOX	CO	VOC
2019 Baseline						
Ships - at Berth	29	27	664	110	72	35
Ships - Transit	19	18	1,448	38	115	26
Ships - Anchorage	7	7	251	18	32	15
Tugboats	3	3	91	0	59	5
Trucks	1	0	16	0	1	0
Worker Vehicles	0	0	0	0	1	0
Onsite Equipment	0	0	3	1	0	78
2019 Baseline Total	*59*	*55*	*2,473*	*167*	*281*	*159*
Year 2025						
Ships - at Berth	33	31	759	126	82	40
Ships - Transit	11	11	674	18	63	29
Ships - Anchorage	7	7	286	18	32	15
Tugboats	1	1	46	0	29	3
Trucks	1	0	13	0	1	0
Worker Vehicles	0	0	0	0	1	0
Onsite Equipment	1	1	11	9	0	78
2025 Total	*55*	*51*	*1,789*	*170*	*209*	*165*
CEQA Impacts						
Project Minus CEQA Baseline	-5	-4	-684	3	-71	6
Significance Threshold	150	55	55	150	550	55
Significant?	No	No	No	No	No	No

Notes:
Emissions may not add exactly due to rounding.

Table A-2.
Annual Operational GHG Emissions Without Mitigation (mty)

Source Category	CO2	CH4	N2O	CO2e
2019 Baseline				
Ships - at Berth	6,179	0	0	6,296
Ships - Transit	10,129	0	0	10,262
Ships - Anchorage	1,887	0	0	1,919
Tugboats	961	0	0	974
Trucks	549	0	0	572
Worker Vehicles	51	0	0	52
Onsite Equipment	382	0	0	383
2019 Baseline Total	*20,139*	*0*	*1*	*20,458*
Year 2025				
Ships - at Berth	6,179	0	0	6,296
Ships - Transit	10,129	0	0	10,262
Ships - Anchorage	1,887	0	0	1,919
Tugboats	961	0	0	974
Trucks	488	0	0	508
Worker Vehicles	51	0	0	52
Onsite Equipment	389	0	0	389
2025 Total	*20,085*	*0*	*1*	*20,401*
CEQA Impacts				
Project Minus CEQA Baseline	-54	0	0	-57
Significance Threshold				10,000
Significant?				No

Notes:
Emissions may not add exactly due to rounding.

Table A-3.
Localized Peak Daily Operational Emissions - Onsite Emissions

	Peak Day Emissions (lb/day) - Residential Receptors				Peak Day Emissions (lb/day) - Offsite Worker Receptors	
Year	**PM10**	**PM2.5**	**NO2**	**CO**	**NO2**	**CO**
2019 Baseline						
Ships - at Berth	29	27	664	72	664	72
Onsite Equipment	0	0	3	0	3	0
Total Onsite 2019	29	27	667	72	667	72
Year 2025						
Ships - at Berth	33	31	759	82	759	82
Onsite Equipment	1	1	11	0	11	0
Total Onsite 2025	34	32	770	82	770	82
CEQA Increment	5	4	103	10	103	10
LST Threshold	46	29	179	10,198	123	1,530
Significant?	No	No	No	No	No	No

Notes:
SCAQMD LST thresholds are based on:
5 acres. This results in a conservative threshold because the terminal occupies approximately 20 acres.
500-meter separation distance to the closest residential/sensitive receptor. This results in a conservative threshold because the actual separation distance is over 1,000 meters at the California Yacht Marina to the northeast.
25-meter separation distance to the closest off-site worker receptor to the south.
Source Receptor Area: 4
PM10 and PM2.5 LST thresholds are relevant to sensitive receptors that are reasonably likely to be present for ≥24 hours. Since off-site worker receptors are not expected to be present for this duration, significance for particulates does not apply to off-site w
Emissions might not add precisely due to rounding.
"na" means No Applicable Threshold. Thresholds apply to PM10 total and PM2.5 total. PM exhaust and PM dust do not have thresholds and are included to show the contribution of exhaust and dust emissions to PM10 total.

Table A-4.
Energy Utilization

Emission Source	**Emissions** (MT CO2/yr)	**Fuel**	**CO2 Emission Factor** (kg CO2/MMBtu)	**High Heat Value**	**Units**	**Fuel Use**	**Units**
2019 Baseline							
Ships - at Berth	6,178.98	diesel	73.96	0.138	(MMBtu/gal)	605,398	(gal/yr)
Ships - Transit	10,128.97	diesel	73.96	0.138	(MMBtu/gal)	992,406	(gal/yr)
Ships - Anchorage	1,886.91	diesel	73.96	0.138	(MMBtu/gal)	184,874	(gal/yr)
Tugboats	961.50	diesel	73.96	0.138	(MMBtu/gal)	94,205	(gal/yr)
Trucks	549.10	diesel	73.96	0.138	(MMBtu/gal)	53,799	(gal/yr)
Worker Vehicles	51.44	gasoline	70.22	0.125	(MMBtu/gal)	5,860	(gal/yr)
Onsite Equipment	9.86	diesel	73.96	0.138	(MMBtu/gal)	966	(gal/yr)
Onsite Equipment	372.24	natural gas	53.06	0.00109	MMBtu/ft3)	6,436,202	(ft3/yr)
2019 Diesel Use (gal/yr)						*1,931,648*	
2019 Gasoline Use (gal/yr)						*5,860*	
2019 Natural Gas Use (ft3/yr)						*6,436,202*	
2025 Project							
Ships - at Berth	6,178.98	diesel	73.96	0.138	(MMBtu/gal)	605,398	(gal/yr)
Ships - Transit	10,128.97	diesel	73.96	0.138	(MMBtu/gal)	992,406	(gal/yr)
Ships - Anchorage	1,886.91	diesel	73.96	0.138	(MMBtu/gal)	184,874	(gal/yr)
Tugboats	961.50	diesel	73.96	0.138	(MMBtu/gal)	94,205	(gal/yr)
Trucks	487.78	diesel	73.96	0.138	(MMBtu/gal)	47,791	(gal/yr)
Worker Vehicles	51.44	gasoline	70.22	0.125	(MMBtu/gal)	5,860	(gal/yr)
Onsite Equipment	16.77	diesel	73.96	0.138	(MMBtu/gal)	1,643	(gal/yr)
Onsite Equipment	372.24	natural gas	53.06	0.00109	(MMBtu/ft3)	6,436,202	(ft3/yr)
2025 Diesel Use (gal/yr)						*1,926,317*	
2025 Natural Gas Use (ft3/yr)						*6,436,202*	
CEQA Increment - Diesel Use (gal/yr)						**(5,331)**	
CEQA Increment - Natural Gas Use (ft3/yr)						**0**	

Source:
Fuel consumption calculated from quantified CO2 emissions and from The Climate Registry 2020 Emission Factors, Table 1.1.

Table A-5.
2019 Baseline Terminal-Specific Vessel Activity

						EPA Tier Berth 163				EPA Tier Berth 164				Slide Valves Berth 163		Slide Valves Berth 164	
Vessel Type	Berth 163 NuStar 1	Berth 164 Valero 1	Berth 163 NuStar Anchorage 2	Berth 164 Valero Anchorage 2	Total	0	I	II	III	0	I	II	III	Yes	No	Yes	No
OGV Barge	16	6	4		22	0	0	0	0	5	0	0	0	0	0	0	0
Bunkering Barge	74																
ATB	0	34	0	34	34	0	0	0	0	0	0	21	13	0	0	0	34
Tanker - Handysize	0	2	0	2	2	0	0	0	0	0	2	0	0	0	0	1	1
Tanker - Chemical	19	19	8	19	38	0	8	8	0	0	10	9	0	13	3	17	2
Tanker - Panamax	4	20	1	20	24	0	3	0	0	0	16	4	0	1	2	17	3
Total Vessel Calls	**113**	**81**	**13**	**75**	**194**	**0**	**11**	**8**	**0**	**5**	**28**	**34**	**13**	**14**	**5**	**35**	**40**

Notes:
[1] Vessel calls were obtained from information provided by NuStar, Valero, and wharfinger data:
Item 6 & 7 - Berth 163 NuStar 2019 Vessel Call Log.xlsx
Item 6 & 7 - Berth 164 Valero Throughput_revised05112020.xlsx
DRAFT B163 Vessel Activity - with Engine Data.xlsx
DRAFT B164 Vessel Activity - with Engine Data.xlsx
Copy of B163 NuStar Vessel Activity 2019.xlsx
Copy of B164 Valero Vessel Activity 2019.xlsx
Vessel-Type-Codes_MAREX SF.pdf. Available: https://www.sfmx.org/wp-content/uploads/2017/10/Vessel-Type-Codes.pdf. Accessed June 2020.
[2] Anchorage information for Valero was provided by Valero. Nearly all 2019 Valero vessels calls used anchorage. Anchorage information for NuStar was provided by Starcrest. It was assumed that bunkering and small barges do not use anchorage.
OGV bunkering barge anchorage information was provided by Starcrest, DRAFT POLA NuStar MOTEMS b163 CEQA Data Support (11 Sep 20) jmbeaaa.pdf.

Table A-6.
2019 and 2025 Vessel Activity

		Total Vessel Activity		EPA Engine Tier Calls				Slide Valves		Peak Day Vessel Activity			EPA Engine Tier	Slide Valves
Year	Vessel Type	Calls to Berth	Calls to Anchorage	0	I	II	III	With	Without	Calls to Berth	Calls to Anchorage	Transits	(0,I,II,II)	(Yes)
2019	OGV Barge	22	4	5	0	0	0	0	0					
	Bunkering Barge	74	0	0	0	0	0	0	0					
	ATB	34	34	0	0	21	13	0	34					
	Tanker - Handysize	2	2	0	2	0	0	1	1					
	Tanker - Chemical	38	27	0	18	17	0	30	5		1	1	II	Yes
	Tanker - Panamax	24	21	0	19	4	0	18	5	1		1	I	Yes
	Total	*194*	*88*	*5*	*39*	*42*	*13*	*49*	*45*	*1*	*1*	*2*		
2025	OGV Barge	22	4	5	0	0	0	0	0					
	Bunkering Barge	74	0	0	0	0	0	0	0					
	ATB	34	34	0	0	21	13	0	34					
	Tanker - Handysize	2	2	0	2	0	0	1	1					
	Tanker - Chemical	38	27	0	18	17	0	30	5		1	1	I	No
	Tanker - Panamax	24	21	0	19	4	0	18	5	1			I	No
	Total	*194*	*88*	*5*	*39*	*42*	*13*	*49*	*45*	*1*	*1*	*1*		

Table A-7.
Vessel Time at Berth and Anchorage

		Peak Day [1,4]		Annual Average	
Year	Vessel Type	Hotelling Time at Berth (hr/call)	Time at Anchorage (hr/day)	Hotelling Time at Berth (hr/call) [2]	Time at Anchorage (hr/call) [3]
2019	OGV Barge	0	0	15	53
2019	ATB	0	0	31	25
2019	Tanker - Handysize	0	0	35	31
2019	Tanker - Chemical	0	24	36	37
2019	Tanker - Panamax	21	0	47	90
2019	Tanker - Aframax	0	0	112	40
2019	Bunkering Barge	0	0	1	
2025	OGV Barge	15	24	15	53
2025	ATB	24	24	31	25
2025	Tanker - Handysize	24	24	35	31
2025	Tanker - Chemical	24	24	36	37
2025	Tanker - Panamax	24	24	47	90
2025	Tanker - Aframax	24	24	112	40
2025	Bunkering Barge	1	0	1	-

Source:

[1] Peak hoteling and anchorage time was obtained from information provided by NuStar and Valero: Item 6 & 7 - Berth 163 NuStar 2019 Vessel Call Log.xlsx and Item 6 & 7 - Berth 164 Valero Throughput_revised05112020.xlsx; and Wharfinger information: DRAFT B163 Vessel Activity - with Engine Data.xlsx and DRAFT B164 Vessel Activity - with Engine Data.xlsx.
[2] Average hoteling time for tankers: 2018 POLA Emissions Inventory, Table 3.6. Hoteling time for OGV barges was provided by Starcrest: DRAFT POLA NuStar MOTEMS b163 CEQA Data Support (11 Sep 20) jmbeaaa.pdf.
[3] Average anchorage time for tankers: 2018 POLA Emissions Inventory, Table 3.7. Anchorage time for OGV barges: DRAFT POLA NuStar MOTEMS b163 CEQA Data Support.
[4] Time at berth for bunkering barges is asumed based Port description of bunkering activities. Bunkering

Table A-8.
Vessel Main Engine Rated Power

		Peak Day [1]	Annual Average [2]
Year	Vessel Type	Main Eng Avg (kW)	Main Eng Avg (kW)
2019	OGV Barge	0	0
2019	ATB		5,932
2019	Tanker - Handysize		9,066
2019	Tanker - Chemical	7,290	8,159
2019	Tanker - Panamax	11,290	11,435
2019	Tanker - Aframax		12,486
2019	Bunkering Barge	0	0
2025	OGV Barge	0	0
2025	ATB		5,932
2025	Tanker - Handysize		9,066
2025	Tanker - Chemical	8,159	8,159
2025	Tanker - Panamax	11,435	11,435
2025	Tanker - Aframax		12,486
2025	Bunkering Barge	0	0

Source:

[1] Peak main engine power was obtained from information provided by NuStar and Valero: Item 6 & 7 - Berth 163 NuStar 2019 Vessel Call Log.xlsx and Item 6 & 7 -
[2] 2018 POLA Emissions Inventory, Table 3.9.
OGV barges are not self-propelled; no propulsion engines.

Table A-9.
OGV Average Aux Engine & Aux Boiler Loads

		Average Loads (kW)			
Vessel Type	Engine Type	Transit	Maneuvering	Berth	Anchorage
ATB	Auxiliary Engine	79	208	102	79
ATB	Pump Generator			390	
Tanker - Chemical	Auxiliary Engine	658	890	816	402
Tanker - Chemical	Auxiliary Boiler	59	136	568	255
Tanker - Handysize	Auxiliary Engine	537	601	820	560
Tanker - Handysize	Auxiliary Boiler	144	144	2,586	144
Tanker - Panamax	Auxiliary Engine	561	763	623	379
Tanker - Panamax	Auxiliary Boiler	167	351	3,421	451
Tanker - Aframax	Auxiliary Engine	576	719	724	474
Tanker - Aframax	Auxiliary Boiler	179	438	5,030	375
OGV Barge	Auxiliary Engine	90	90	90	90
OGV Barge	Pump Generator			521	
Bunkering Barge	Auxiliary Engine	184	184	184	
Bunkering Barge	Pump Generator				

Source:

ATB pump load at berth: Berth 167-169 Shell Marine Oil Terminal Wharf Improvement Project DEIR, Appendix B, Table B1.27. FEIR certified August 2018. Doubled to account for 2 pumps per Port of Oakland inventory information provided by Ramboll (T. Stoeckenius) in email to iLanco (L. Granovsky) on 8/14/2020.
Tanker loads: 2018 Port Emissions Inventory, Auxiliary Engines Table 3.2 and Auxiliary Boiler Table 3.5.
OGV barge loads at berth and anchorage: DRAFT POLA NuStar MOTEMS b163 CEQA Data Support (11 Sep 20) jmbeaaa.pdf
4.2). Bunkering barges do not use their pumps during loading at the terminal; the terminal's shore-side pumps are used.

Table A-10.
OGV Maximum Rated Vessel Speed

Category	Speed (knots)
Tanker - Chemical	14.6
Tanker - Handysize	14.8
Tanker - Panamax	14.8
Tanker - Aframax	14.8
ATB	15
OGV Barge	
Bunkering Barge	

Source:
2018 Port Emissions Inventory, Table 3.9.

Table A-11.
OGV Transit Speed (knots)

Year	Vessel Type	Zone 1: Harbor	Zone 2: Breakwater to start of PZ	Zone 3: start of PZ to 20nm	Zone 4: 20nm to 40nm	Zone 5: 40 nm to 50nm SCAB Over-Water Boundary	Zone 6: 50nm to 170nm State Over Water Boundary
2019	Tanker	6	9	12	11	14	14
	OGV Barge	6	9	12	11	14	14
	Bunkering Barge	6	9				

Notes:
Zones 1, 2, and 3: Transit speed is set by Harbor Pilot (POLA Mariners Guide 2019).
Zone 4: Transit speed provided by Port wharfinger data for similar projects.
Zones 5 and 6: Transit speeds calculated using the Propeller Law and 80% as the average propulsion engine load.

Table A-12.
OGV Transit Distances (nm)

% Calls By Route	Arrival	Departure	Zone 1: Harbor	Zone 2: Breakwater to PZ Arrival	Zone 2: Breakwater to PZ Departure	Zone 3: PZ to 20nm Arrival	Zone 3: PZ to 20nm Departure	Zone 4: 20nm to 40nm Arrival	Zone 4: 20nm to 40nm Departure	Zone 5: 40 nm to 50nm SCAB Over-Water Boundary	Zone 6: 50nm to 170nm State Over Water Boundary
East	0%	0%	3.7	7.63	7.63	25.75	25.75	0	0	0	130
North	46%	38%	3.7	8.57	7.63	21.91	21.68	21.37	20.75	0	130
South	36%	34%	3.7	8.47	7.36	11.11	12.55	20.18	19.92	3	127
West	18%	28%	3.7	8.58	8.58	18.97	18.97	21.12	21.12	7	123
Average	*25%*	*25%*	*3.7*	*8.17*		*17.65*		*20.73*		*2.5*	*127.5*

Source:
2013 Port Emissions Inventory, Table 3.1.

Table A-13.
OGV Propulsion/Boiler Engine Emission Factors for 0.1% S MGO Fuel (g/kW-hr)

Engine	IMO Tier		Model Year	PM10	PM2.5	DPM	NOx	SOx	CO	HC	VOC	CO2	CH4	N2O
Slow Speed Diesel	0		≤1999	0.255	0.240	0.255	17.01	0.389	1.4	0.6	0.63	589	0.012	0.029
Medium Speed Diesel	0		≤1999	0.255	0.240	0.255	13.16	0.426	1.1	0.5	0.53	649	0.01	0.029
Slow Speed Diesel	I		2000-2010	0.255	0.240	0.255	15.98	0.389	1.4	0.6	0.63	589	0.012	0.029
Medium Speed Diesel	I		2000-2010	0.255	0.240	0.255	12.22	0.426	1.1	0.5	0.53	649	0.01	0.029
Slow Speed Diesel	II		2011-2015	0.255	0.240	0.255	14.38	0.389	1.4	0.6	0.63	589	0.012	0.029
Medium Speed Diesel	II		2011-2015	0.255	0.240	0.255	10.53	0.426	1.1	0.5	0.53	649	0.01	0.029
Slow Speed Diesel	III		≥2016	0.255	0.240	0.255	3.38	0.389	1.4	0.6	0.63	589	0.012	0.029
Medium Speed Diesel	III		≥2016	0.255	0.240	0.255	2.63	0.426	1.1	0.5	0.53	649	0.01	0.029
Gas Turbine	na		all	0.050	0.040	0.000	5.73	0.611	0.2	0.1	0.11	922	0.002	0.075
Steam Engine and Boiler	na		all	0.136	0.128	0.000	1.97	0.611	0.2	0.1	0.11	922	0.002	0.075

Notes:
Slow speed diesel: engine speed < 150 rpm; assumed as default for propulsion engines.
Source:
San Pedro Bay Ports Emission Inventory Methodology Report Version 1-2019, Tables 2.3 and 2.4. April 2019.

Table A-14.
OGV Auxiliary Engine Emission Factors for 0.1% MGO Fuel (g/kW-hr)

Engine	IMO Tier	Model Year	PM10	PM2.5	DPM	NOx	SOx	CO	HC	VOC	CO2	CH4	N2O
High Speed Diesel	0	≤1999	0.255	0.24	0.255	10.90	0.455	1.10	0.50	0.53	656	0.010	0.029
Medium Speed Diesel	0	≤1999	0.255	0.24	0.255	13.82	0.455	1.40	0.60	0.63	686	0.012	0.029
High Speed Diesel	I	2000-2010	0.255	0.24	0.255	9.78	0.455	1.10	0.50	0.53	656	0.010	0.029
Medium Speed Diesel	I	2000-2010	0.255	0.24	0.255	12.22	0.455	1.40	0.60	0.63	686	0.012	0.029
High Speed Diesel	II	2011-2015	0.255	0.24	0.255	7.71	0.455	1.10	0.50	0.53	656	0.010	0.029
Medium Speed Diesel	II	2011-2015	0.255	0.24	0.255	10.53	0.455	1.40	0.60	0.63	686	0.012	0.029
High Speed Diesel	III	≥2016	0.255	0.24	0.255	1.97	0.455	1.10	0.50	0.53	656	0.010	0.029
Medium Speed Diesel	III	≥2016	0.255	0.24	0.255	2.63	0.455	1.40	0.60	0.63	686	0.012	0.029

Notes:
Tanker auxiliary engines are medium speed.
Calculations assume that auxiliary and propulsion engines are the same model year.
Tanker auxiliary engines are conservatively assumed to be Tier 1 for peak day future years.
Source:
San Pedro Bay Ports Emission Inventory Methodology Report Version 1-2019, Tables 2.9 and 2.10. April 2019.

Table A-15.
OGV Low Load Adjustment Factors (LLAF) for non-MAN Engines

Load	PM10	PM2.5	DPM	NOx	SOx	CO	HC	VOC	CO2	CH4	N2O
1%	7.29	7.29	7.29	4.63	3.30	9.68	21.18	21.18	3.28	21.18	4.63
2%	7.29	7.29	7.29	4.63	3.30	9.68	21.18	21.18	3.28	21.18	4.63
3%	4.33	4.33	4.33	2.92	2.45	6.46	11.68	11.68	2.44	11.68	2.92
4%	3.09	3.09	3.09	2.21	2.02	4.86	7.71	7.71	2.01	7.71	2.21
5%	2.44	2.44	2.44	1.83	1.77	3.89	5.61	5.61	1.76	5.61	1.83
6%	2.04	2.04	2.04	1.60	1.60	3.25	4.35	4.35	1.59	4.35	1.60
7%	1.79	1.79	1.79	1.45	1.47	2.79	3.52	3.52	1.47	3.52	1.45
8%	1.61	1.61	1.61	1.35	1.38	2.45	2.95	2.95	1.38	2.95	1.35
9%	1.48	1.48	1.48	1.27	1.31	2.18	2.52	2.52	1.31	2.52	1.27
10%	1.38	1.38	1.38	1.22	1.26	1.96	2.18	2.18	1.25	2.18	1.22
11%	1.30	1.30	1.30	1.17	1.21	1.79	1.96	1.96	1.21	1.96	1.17
12%	1.24	1.24	1.24	1.14	1.17	1.64	1.76	1.76	1.17	1.76	1.14
13%	1.19	1.19	1.19	1.11	1.14	1.52	1.60	1.60	1.14	1.60	1.11
14%	1.15	1.15	1.15	1.08	1.11	1.41	1.47	1.47	1.11	1.47	1.08
15%	1.11	1.11	1.11	1.06	1.09	1.32	1.36	1.36	1.08	1.36	1.06
16%	1.08	1.08	1.08	1.05	1.06	1.24	1.26	1.26	1.06	1.26	1.05
17%	1.06	1.06	1.06	1.03	1.05	1.17	1.18	1.18	1.04	1.18	1.03
18%	1.04	1.04	1.04	1.02	1.03	1.11	1.11	1.11	1.03	1.11	1.02
19%	1.02	1.02	1.02	1.01	1.01	1.05	1.05	1.05	1.01	1.05	1.01
20%	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Note: Applies to vessels with non-MAN engines, at low speeds and engine loads less than 20%.
Source: San Pedro Bay Ports Emission Inventory Methodology Report Version 1-2019, Table 2.6. April 2019.

Table A-16.
OGV Emission Factor Adjustment (EFA) for Propulsion Engines

	PM	PM2.5	DPM	NOx	SOx	CO	HC	VOC	CO2	CH4	N2O
Vessels without Slide Valves	1.0	1.0	1.0	1.0	1.0	0.44	1.0	1.0	1.0	1.0	1.0
Vessels with Slide Valves	1.0	1.0	1.0	1.0	1.0	0.59	0.43	0.4	1.0	1.0	1.0

Notes: Applies to pollutants for which test results were significantly different in magnitude than the base emission factors used in the SP Bay Inventory.
Source: San Pedro Bay Ports Emission Inventory Methodology Report Version 1-2019, pg 17. April 2019.

Table A-17.
OGV Emission Factor Adjustments for LAF and EFA (LAF*EFA) for MAN 2-Stroke Propulsion Engines without Slide Valves

Load	PM	PM2.5	DPM	NOx	SOx	CO	HC	VOC	CO2	CH4	N2O
1%	0.83	0.83	0.83	1.90	1.00	0.61	2.53	2.53	1.00	2.53	1.90
2%	0.83	0.83	0.83	1.86	1.00	0.60	2.45	2.45	1.00	2.45	1.86
3%	0.83	0.83	0.83	1.82	1.00	0.59	2.37	2.37	1.00	2.37	1.82
4%	0.82	0.82	0.82	1.77	1.00	0.59	2.30	2.30	1.00	2.30	1.77
5%	0.82	0.82	0.82	1.72	1.00	0.58	2.23	2.23	1.00	2.23	1.72
6%	0.81	0.81	0.81	1.68	1.00	0.57	2.16	2.16	1.00	2.16	1.68
7%	0.81	0.81	0.81	1.64	1.00	0.56	2.10	2.10	1.00	2.10	1.64
8%	0.80	0.80	0.80	1.60	1.00	0.55	2.03	2.03	1.00	2.03	1.60
9%	0.80	0.80	0.80	1.56	1.00	0.55	1.97	1.97	1.00	1.97	1.56
10%	0.79	0.79	0.79	1.52	1.00	0.55	1.91	1.91	1.00	1.91	1.52
11%	0.79	0.79	0.79	1.49	1.00	0.54	1.86	1.86	1.00	1.86	1.49
12%	0.78	0.78	0.78	1.45	1.00	0.53	1.80	1.80	1.00	1.80	1.45
13%	0.78	0.78	0.78	1.42	1.00	0.53	1.75	1.75	1.00	1.75	1.42
14%	0.78	0.78	0.78	1.39	1.00	0.52	1.70	1.70	1.00	1.70	1.39
15%	0.77	0.77	0.77	1.36	1.00	0.52	1.65	1.65	1.00	1.65	1.36
16%	0.77	0.77	0.77	1.33	1.00	0.51	1.61	1.61	1.00	1.61	1.33
17%	0.77	0.77	0.77	1.30	1.00	0.51	1.56	1.56	1.00	1.56	1.30
18%	0.77	0.77	0.77	1.28	1.00	0.51	1.52	1.52	1.00	1.52	1.28
19%	0.76	0.76	0.76	1.25	1.00	0.50	1.48	1.48	1.00	1.48	1.25
20%	0.76	0.76	0.76	1.23	1.00	0.50	1.44	1.44	1.00	1.44	1.23
21%	0.76	0.76	0.76	1.20	1.00	0.50	1.41	1.41	1.00	1.41	1.20
22%	0.76	0.76	0.76	1.18	1.00	0.49	1.37	1.37	1.00	1.37	1.18
23%	0.76	0.76	0.76	1.16	1.00	0.49	1.34	1.34	1.00	1.34	1.16
24%	0.75	0.75	0.75	1.14	1.00	0.48	1.31	1.31	1.00	1.31	1.14
25%	0.75	0.75	0.75	1.12	1.00	0.48	1.28	1.28	1.00	1.28	1.12
26%	0.75	0.75	0.75	1.11	1.00	0.48	1.25	1.25	1.00	1.25	1.11
27%	0.75	0.75	0.75	1.09	1.00	0.48	1.22	1.22	1.00	1.22	1.09
28%	0.75	0.75	0.75	1.07	1.00	0.48	1.20	1.20	1.00	1.20	1.07
29%	0.75	0.75	0.75	1.06	1.00	0.47	1.17	1.17	1.00	1.17	1.06
30%	0.75	0.75	0.75	1.05	1.00	0.47	1.15	1.15	1.00	1.15	1.05
31%	0.75	0.75	0.75	1.03	1.00	0.47	1.13	1.13	1.00	1.13	1.03
32%	0.75	0.75	0.75	1.02	1.00	0.47	1.11	1.11	1.00	1.11	1.02
33%	0.75	0.75	0.75	1.01	1.00	0.46	1.09	1.09	1.00	1.09	1.01
34%	0.75	0.75	0.75	1.00	1.00	0.46	1.08	1.08	1.00	1.08	1.00
35%	0.76	0.76	0.76	0.99	1.00	0.46	1.06	1.06	1.00	1.06	0.99
36%	0.76	0.76	0.76	0.98	1.00	0.46	1.05	1.05	1.00	1.05	0.98
37%	0.76	0.76	0.76	0.98	1.00	0.45	1.04	1.04	1.00	1.04	0.98
38%	0.76	0.76	0.76	0.97	1.00	0.45	1.02	1.02	1.00	1.02	0.97
39%	0.76	0.76	0.76	0.96	1.00	0.45	1.01	1.01	1.00	1.01	0.96
40%	0.76	0.76	0.76	0.96	1.00	0.45	1.00	1.00	1.00	1.00	0.96
41%	0.77	0.77	0.77	0.95	1.00	0.44	0.99	0.99	1.00	0.99	0.95
42%	0.77	0.77	0.77	0.95	1.00	0.44	0.99	0.99	1.00	0.99	0.95
43%	0.77	0.77	0.77	0.94	1.00	0.44	0.98	0.98	1.00	0.98	0.94
44%	0.78	0.78	0.78	0.94	1.00	0.44	0.97	0.97	1.00	0.97	0.94
45%	0.78	0.78	0.78	0.94	1.00	0.44	0.97	0.97	1.00	0.97	0.94
46%	0.78	0.78	0.78	0.94	1.00	0.44	0.96	0.96	1.00	0.96	0.94
47%	0.79	0.79	0.79	0.94	1.00	0.44	0.96	0.96	1.00	0.96	0.94
48%	0.79	0.79	0.79	0.93	1.00	0.43	0.96	0.96	1.00	0.96	0.93
49%	0.79	0.79	0.79	0.93	1.00	0.43	0.96	0.96	1.00	0.96	0.93
50%	0.80	0.80	0.80	0.93	1.00	0.43	0.96	0.96	1.00	0.96	0.93
51%	0.80	0.80	0.80	0.94	1.00	0.43	0.95	0.95	1.00	0.95	0.94
52%	0.81	0.81	0.81	0.94	1.00	0.43	0.95	0.95	1.00	0.95	0.94
53%	0.81	0.81	0.81	0.94	1.00	0.42	0.95	0.95	1.00	0.95	0.94
54%	0.82	0.82	0.82	0.94	1.00	0.42	0.95	0.95	1.00	0.95	0.94
55%	0.82	0.82	0.82	0.94	1.00	0.42	0.96	0.96	1.00	0.96	0.94
56%	0.83	0.83	0.83	0.94	1.00	0.42	0.96	0.96	1.00	0.96	0.94
57%	0.84	0.84	0.84	0.95	1.00	0.42	0.96	0.96	1.00	0.96	0.95
58%	0.84	0.84	0.84	0.95	1.00	0.42	0.96	0.96	1.00	0.96	0.95
59%	0.85	0.85	0.85	0.95	1.00	0.41	0.96	0.96	1.00	0.96	0.95
60%	0.86	0.86	0.86	0.95	1.00	0.41	0.97	0.97	1.00	0.97	0.95
61%	0.86	0.86	0.86	0.96	1.00	0.41	0.97	0.97	1.00	0.97	0.96
62%	0.87	0.87	0.87	0.96	1.00	0.41	0.97	0.97	1.00	0.97	0.96
63%	0.88	0.88	0.88	0.96	1.00	0.41	0.98	0.98	1.00	0.98	0.96
64%	0.89	0.89	0.89	0.97	1.00	0.41	0.98	0.98	1.00	0.98	0.97
65%	0.89	0.89	0.89	0.97	1.00	0.40	0.98	0.98	1.00	0.98	0.97
66%	0.90	0.90	0.90	0.98	1.00	0.40	0.99	0.99	1.00	0.99	0.98
67%	0.91	0.91	0.91	0.98	1.00	0.40	0.99	0.99	1.00	0.99	0.98
68%	0.92	0.92	0.92	0.98	1.00	0.40	0.99	0.99	1.00	0.99	0.98
69%	0.93	0.93	0.93	0.99	1.00	0.40	1.00	1.00	1.00	1.00	0.99
70%	0.94	0.94	0.94	0.99	1.00	0.40	1.00	1.00	1.00	1.00	0.99
71%	0.94	0.94	0.94	0.99	1.00	0.40	1.00	1.00	1.00	1.00	0.99
72%	0.95	0.95	0.95	1.00	1.00	0.40	1.01	1.01	1.00	1.01	1.00
73%	0.96	0.96	0.96	1.00	1.00	0.40	1.01	1.01	1.00	1.01	1.00
74%	0.97	0.97	0.97	1.00	1.00	0.40	1.01	1.01	1.00	1.01	1.00
75%	0.98	0.98	0.98	1.01	1.00	0.40	1.01	1.01	1.00	1.01	1.01
76%	0.99	0.99	0.99	1.01	1.00	0.40	1.01	1.01	1.00	1.01	1.01
77%	1.00	1.00	1.00	1.01	1.00	0.40	1.01	1.01	1.00	1.01	1.01
78%	1.01	1.01	1.01	1.01	1.00	0.40	1.01	1.01	1.00	1.01	1.01
79%	1.03	1.03	1.03	1.02	1.00	0.40	1.01	1.01	1.00	1.01	1.02
80%	1.04	1.04	1.04	1.02	1.00	0.40	1.01	1.01	1.00	1.01	1.02
81%	1.05	1.05	1.05	1.02	1.00	0.40	1.01	1.01	1.00	1.01	1.02
82%	1.06	1.06	1.06	1.02	1.00	0.40	1.01	1.01	1.00	1.01	1.02
83%	1.07	1.07	1.07	1.02	1.00	0.40	1.01	1.01	1.00	1.01	1.02
84%	1.08	1.08	1.08	1.02	1.00	0.40	1.00	1.00	1.00	1.00	1.02
85%	1.10	1.10	1.10	1.02	1.00	0.40	1.00	1.00	1.00	1.00	1.02
86%	1.11	1.11	1.11	1.02	1.00	0.41	0.99	0.99	1.00	0.99	1.02
87%	1.12	1.12	1.12	1.02	1.00	0.41	0.99	0.99	1.00	0.99	1.02
88%	1.13	1.13	1.13	1.02	1.00	0.41	0.98	0.98	1.00	0.98	1.02
89%	1.15	1.15	1.15	1.01	1.00	0.42	0.97	0.97	1.00	0.97	1.01
90%	1.16	1.16	1.16	1.01	1.00	0.42	0.97	0.97	1.00	0.97	1.01
91%	1.17	1.17	1.17	1.01	1.00	0.42	0.96	0.96	1.00	0.96	1.01
92%	1.19	1.19	1.19	1.00	1.00	0.43	0.94	0.94	1.00	0.94	1.00
93%	1.20	1.20	1.20	1.00	1.00	0.43	0.93	0.93	1.00	0.93	1.00
94%	1.22	1.22	1.22	0.99	1.00	0.44	0.92	0.92	1.00	0.92	0.99
95%	1.23	1.23	1.23	0.99	1.00	0.44	0.91	0.91	1.00	0.91	0.99
96%	1.24	1.24	1.24	0.98	1.00	0.45	0.89	0.89	1.00	0.89	0.98
97%	1.26	1.26	1.26	0.97	1.00	0.45	0.87	0.87	1.00	0.87	0.97
98%	1.28	1.28	1.28	0.97	1.00	0.46	0.86	0.86	1.00	0.86	0.97
99%	1.29	1.29	1.29	0.96	1.00	0.47	0.84	0.84	1.00	0.84	0.96
100%	1.31	1.31	1.31	0.95	1.00	0.48	0.82	0.82	1.00	0.82	0.95

Notes:
These emission factor adjustments are used to adjust standard emission factors, for MAN engines without slide valves. EF = fuel corrected EF*LAF*EFA.
These emission factor adjustments are used in peak day calculations, where the type of engine has been identified or can be assumed.
Source: San Pedro Bay Ports Emission Inventory Methodology Report Version 1-2019, Table 2.8. April 2019.

Table A-18.
OGV Emission Factor Adjustments for LAF and EFA (LAF*EFA) for MAN 2-Stroke Propulsion Engines with Slide Valves

Load	PM	PM2.5	DPM	NOx	SOx	CO	HC	VOC	CO2	CH4	N2O
1%	0.36	0.36	0.36	1.90	1.00	0.07	0.58	0.58	1.00	1.36	1.90
2%	0.37	0.37	0.37	1.86	1.00	0.07	0.57	0.57	1.00	1.32	1.86
3%	0.38	0.38	0.38	1.82	1.00	0.07	0.55	0.55	1.00	1.28	1.82
4%	0.38	0.38	0.38	1.78	1.00	0.07	0.53	0.53	1.00	1.24	1.78
5%	0.39	0.39	0.39	1.74	1.00	0.07	0.52	0.52	1.00	1.20	1.74
6%	0.40	0.40	0.40	1.70	1.00	0.07	0.50	0.50	1.00	1.17	1.70
7%	0.41	0.41	0.41	1.67	1.00	0.07	0.49	0.49	1.00	1.14	1.67
8%	0.41	0.41	0.41	1.63	1.00	0.07	0.48	0.48	1.00	1.11	1.63
9%	0.42	0.42	0.42	1.60	1.00	0.07	0.46	0.46	1.00	1.08	1.60
10%	0.43	0.43	0.43	1.57	1.00	0.07	0.45	0.45	1.00	1.05	1.57
11%	0.44	0.44	0.44	1.53	1.00	0.15	0.44	0.44	1.00	1.02	1.53
12%	0.45	0.45	0.45	1.50	1.00	0.23	0.43	0.43	1.00	0.99	1.50
13%	0.45	0.45	0.45	1.47	1.00	0.31	0.42	0.42	1.00	0.97	1.47
14%	0.46	0.46	0.46	1.45	1.00	0.38	0.40	0.40	1.00	0.94	1.45
15%	0.47	0.47	0.47	1.42	1.00	0.44	0.40	0.40	1.00	0.92	1.42
16%	0.48	0.48	0.48	1.39	1.00	0.50	0.39	0.39	1.00	0.90	1.39
17%	0.49	0.49	0.49	1.37	1.00	0.56	0.38	0.38	1.00	0.88	1.37
18%	0.49	0.49	0.49	1.34	1.00	0.61	0.37	0.37	1.00	0.86	1.34
19%	0.50	0.50	0.50	1.32	1.00	0.66	0.36	0.36	1.00	0.84	1.32
20%	0.51	0.51	0.51	1.30	1.00	0.71	0.35	0.35	1.00	0.82	1.30
21%	0.52	0.52	0.52	1.28	1.00	0.75	0.35	0.35	1.00	0.81	1.28
22%	0.53	0.53	0.53	1.26	1.00	0.79	0.34	0.34	1.00	0.79	1.26
23%	0.54	0.54	0.54	1.24	1.00	0.83	0.34	0.34	1.00	0.78	1.24
24%	0.54	0.54	0.54	1.22	1.00	0.86	0.33	0.33	1.00	0.76	1.22
25%	0.55	0.55	0.55	1.20	1.00	0.89	0.32	0.32	1.00	0.75	1.20
26%	0.56	0.56	0.56	1.19	1.00	0.91	0.32	0.32	1.00	0.74	1.19
27%	0.57	0.57	0.57	1.17	1.00	0.94	0.31	0.31	1.00	0.73	1.17
28%	0.58	0.58	0.58	1.16	1.00	0.96	0.31	0.31	1.00	0.72	1.16
29%	0.59	0.59	0.59	1.14	1.00	0.98	0.31	0.31	1.00	0.71	1.14
30%	0.60	0.60	0.60	1.13	1.00	0.99	0.30	0.30	1.00	0.70	1.13
31%	0.60	0.60	0.60	1.12	1.00	1.00	0.30	0.30	1.00	0.70	1.12
32%	0.61	0.61	0.61	1.10	1.00	1.01	0.30	0.30	1.00	0.69	1.10
33%	0.62	0.62	0.62	1.09	1.00	1.03	0.30	0.30	1.00	0.69	1.09
34%	0.63	0.63	0.63	1.08	1.00	1.03	0.29	0.29	1.00	0.68	1.08
35%	0.64	0.64	0.64	1.07	1.00	1.03	0.29	0.29	1.00	0.68	1.07
36%	0.65	0.65	0.65	1.06	1.00	1.03	0.29	0.29	1.00	0.68	1.06
37%	0.66	0.66	0.66	1.05	1.00	1.03	0.29	0.29	1.00	0.67	1.05
38%	0.67	0.67	0.67	1.05	1.00	1.03	0.29	0.29	1.00	0.67	1.05
39%	0.68	0.68	0.68	1.04	1.00	1.03	0.29	0.29	1.00	0.67	1.04
40%	0.69	0.69	0.69	1.03	1.00	1.02	0.29	0.29	1.00	0.67	1.03
41%	0.70	0.70	0.70	1.03	1.00	1.01	0.29	0.29	1.00	0.67	1.03
42%	0.70	0.70	0.70	1.02	1.00	1.01	0.29	0.29	1.00	0.68	1.02
43%	0.71	0.71	0.71	1.02	1.00	1.00	0.29	0.29	1.00	0.68	1.02
44%	0.72	0.72	0.72	1.01	1.00	0.99	0.29	0.29	1.00	0.68	1.01
45%	0.73	0.73	0.73	1.01	1.00	0.97	0.30	0.30	1.00	0.69	1.01
46%	0.74	0.74	0.74	1.00	1.00	0.96	0.30	0.30	1.00	0.69	1.00
47%	0.75	0.75	0.75	1.00	1.00	0.94	0.30	0.30	1.00	0.70	1.00
48%	0.76	0.76	0.76	1.00	1.00	0.93	0.30	0.30	1.00	0.70	1.00
49%	0.77	0.77	0.77	0.99	1.00	0.91	0.31	0.31	1.00	0.71	0.99
50%	0.78	0.78	0.78	0.99	1.00	0.89	0.31	0.31	1.00	0.71	0.99
51%	0.79	0.79	0.79	0.99	1.00	0.87	0.31	0.31	1.00	0.72	0.99
52%	0.80	0.80	0.80	0.99	1.00	0.86	0.31	0.31	1.00	0.73	0.99
53%	0.81	0.81	0.81	0.99	1.00	0.83	0.32	0.32	1.00	0.74	0.99
54%	0.82	0.82	0.82	0.99	1.00	0.81	0.32	0.32	1.00	0.75	0.99
55%	0.83	0.83	0.83	0.98	1.00	0.80	0.32	0.32	1.00	0.75	0.98
56%	0.84	0.84	0.84	0.98	1.00	0.77	0.33	0.33	1.00	0.76	0.98
57%	0.85	0.85	0.85	0.98	1.00	0.75	0.33	0.33	1.00	0.77	0.98
58%	0.86	0.86	0.86	0.98	1.00	0.73	0.34	0.34	1.00	0.78	0.98
59%	0.87	0.87	0.87	0.98	1.00	0.71	0.34	0.34	1.00	0.80	0.98
60%	0.88	0.88	0.88	0.98	1.00	0.68	0.35	0.35	1.00	0.81	0.98
61%	0.89	0.89	0.89	0.98	1.00	0.67	0.35	0.35	1.00	0.82	0.98
62%	0.90	0.90	0.90	0.98	1.00	0.64	0.36	0.36	1.00	0.83	0.98
63%	0.91	0.91	0.91	0.99	1.00	0.63	0.36	0.36	1.00	0.84	0.99
64%	0.92	0.92	0.92	0.99	1.00	0.60	0.37	0.37	1.00	0.85	0.99
65%	0.93	0.93	0.93	0.99	1.00	0.58	0.37	0.37	1.00	0.87	0.99
66%	0.94	0.94	0.94	0.99	1.00	0.56	0.38	0.38	1.00	0.88	0.99
67%	0.95	0.95	0.95	0.99	1.00	0.54	0.38	0.38	1.00	0.89	0.99
68%	0.97	0.97	0.97	0.99	1.00	0.52	0.39	0.39	1.00	0.91	0.99
69%	0.98	0.98	0.98	0.99	1.00	0.50	0.40	0.40	1.00	0.92	0.99
70%	0.99	0.99	0.99	0.99	1.00	0.48	0.40	0.40	1.00	0.93	0.99
71%	1.00	1.00	1.00	0.99	1.00	0.47	0.41	0.41	1.00	0.95	0.99
72%	1.01	1.01	1.01	0.99	1.00	0.45	0.41	0.41	1.00	0.96	0.99
73%	1.02	1.02	1.02	0.99	1.00	0.44	0.42	0.42	1.00	0.98	0.99
74%	1.03	1.03	1.03	0.99	1.00	0.42	0.43	0.43	1.00	0.99	0.99
75%	1.04	1.04	1.04	0.99	1.00	0.41	0.43	0.43	1.00	1.00	0.99
76%	1.05	1.05	1.05	0.99	1.00	0.39	0.44	0.44	1.00	1.02	0.99
77%	1.06	1.06	1.06	0.99	1.00	0.38	0.44	0.44	1.00	1.03	0.99
78%	1.07	1.07	1.07	0.99	1.00	0.37	0.45	0.45	1.00	1.05	0.99
79%	1.09	1.09	1.09	0.99	1.00	0.36	0.46	0.46	1.00	1.06	0.99
80%	1.10	1.10	1.10	0.99	1.00	0.35	0.46	0.46	1.00	1.08	0.99
81%	1.11	1.11	1.11	0.99	1.00	0.34	0.47	0.47	1.00	1.09	0.99
82%	1.12	1.12	1.12	0.99	1.00	0.34	0.47	0.47	1.00	1.10	0.99
83%	1.13	1.13	1.13	0.98	1.00	0.34	0.48	0.48	1.00	1.12	0.98
84%	1.14	1.14	1.14	0.98	1.00	0.33	0.49	0.49	1.00	1.13	0.98
85%	1.15	1.15	1.15	0.98	1.00	0.33	0.49	0.49	1.00	1.15	0.98
86%	1.16	1.16	1.16	0.98	1.00	0.33	0.50	0.50	1.00	1.16	0.98
87%	1.18	1.18	1.18	0.97	1.00	0.33	0.51	0.51	1.00	1.18	0.97
88%	1.19	1.19	1.19	0.97	1.00	0.34	0.51	0.51	1.00	1.19	0.97
89%	1.20	1.20	1.20	0.96	1.00	0.34	0.52	0.52	1.00	1.20	0.96
90%	1.21	1.21	1.21	0.96	1.00	0.35	0.52	0.52	1.00	1.22	0.96
91%	1.22	1.22	1.22	0.95	1.00	0.36	0.53	0.53	1.00	1.23	0.95
92%	1.23	1.23	1.23	0.95	1.00	0.37	0.53	0.53	1.00	1.24	0.95
93%	1.25	1.25	1.25	0.94	1.00	0.38	0.54	0.54	1.00	1.25	0.94
94%	1.26	1.26	1.26	0.93	1.00	0.40	0.55	0.55	1.00	1.27	0.93
95%	1.27	1.27	1.27	0.93	1.00	0.41	0.55	0.55	1.00	1.28	0.93
96%	1.28	1.28	1.28	0.92	1.00	0.43	0.55	0.55	1.00	1.29	0.92
97%	1.29	1.29	1.29	0.91	1.00	0.45	0.56	0.56	1.00	1.30	0.91
98%	1.31	1.31	1.31	0.90	1.00	0.48	0.56	0.56	1.00	1.31	0.90
99%	1.32	1.32	1.32	0.89	1.00	0.50	0.57	0.57	1.00	1.32	0.89
100%	1.33	1.33	1.33	0.88	1.00	0.53	0.58	0.58	1.00	1.34	0.88

Notes:
These emission factor adjustments are used to adjust standard emission factors, for MAN engines with slide valves. EF = fuel corrected EF*LAF*EFA.
These emission factor adjustments are used in peak day calculations, where the type of engine has been identified or can be assumed.
Source: San Pedro Bay Ports Emission Inventory Methodology Report Version 1-2019, Table 2.7. April 2019.

Table A-19.
Harbor Craft Activity and Engine Characteristics

				HC Characteristics					HC Activity								Vessel Activity			
									HC Engine Activity per HC					HC Count per vessel						
Year		HC Classification	Engine Type	Engine Count per HC	HC Average MY	HC Average HP	HC Average kW	Load Factor	At Berth (hr)	Zone 1 (hr/one-way trip)	Zone 2 (hr/one-way trip)	Zones 3-5 (hr/one-way trip)	Zone 6 (hr/one-way trip)	At Berth	Zone 1	Zone 2	Zones 3-6	Peak Day Vessel Calls to Berth (calls/day)	Peak Day Vessel Transits (one-way trips/day)	Average Annual Vessel Calls to Berth (calls/yr)	Average Annual Vessel Transits (one-way trips/yr)
Baseline 2019																					
	OGV Assist	Assist Tugboa	Propulsion	2	2007	2,046	1,526	0.31	0.0	1.6	1.8	7.1	18.2		2	1		1	2	64	128
			Auxiliary	2	2011	184	137	0.43	0.0	1.6	1.8	7.1	18.2		2	1		1	2	64	128
	ITB/ATB Assist	Assist Tugboa	Propulsion	2	2007	2,046	1,526	0.31	0.0	1.6	1.8	7.1	18.2		1	1		0	0	34	68
			Auxiliary	2	2011	184	137	0.43	0.0	1.6	1.8	7.1	18.2		1	1		0	0	34	68
	OGV Barge Assist	Assist Tugboa	Propulsion	2	2007	2,046	1,526	0.31	0.0	1.6	1.8	7.1	18.2		2	1	1	0	0	22	44
			Auxiliary	2	2011	184	137	0.43	0.0	1.6	1.8	7.1	18.2		2	1	1	0	0	22	44
	Bunkering Barge As	Assist Tugboa	Propulsion	2	2007	2,046	1,526	0.31	0.0	1.6	1.8				1	1		0	0	74	148
			Auxiliary	2	2011	184	137	0.43	0.0	1.6	1.8				2	2		0	0	74	148
2019 Total																					
2025 Project																					
	OGV Assist	Assist Tugboa	Propulsion	2	2007	2,046	1,526	0.31	0.0	1.6	1.8	7.1	18.2		2	1		1	1	64	128
			Auxiliary	2	2011	184	137	0.43	0.0	1.6	1.8	7.1	18.2		2	1		1	1	64	128
	ITB/ATB Assist	Assist Tugboa	Propulsion	2	2007	2,046	1,526	0.31	0.0	1.6	1.8	7.1	18.2		1	1		0	0	34	68
			Auxiliary	2	2011	184	137	0.43	0.0	1.6	1.8	7.1	18.2		1	1		0	0	34	68
	OGV Barge Assist	Assist Tugboa	Propulsion	2	2007	2,046	1,526	0.31	0.0	1.6	1.8	7.1	18.2		2	1	1	0	0	22	44
			Auxiliary	2	2011	184	137	0.43	0.0	1.6	1.8	7.1	18.2		2	1	1	0	0	22	44
	Bunkering Barge As	Assist Tugboa	Propulsion	2	2007	2,046	1,526	0.31	0.0	1.6	1.8				1	1		0	0	74	148
			Auxiliary	2	2011	184	137	0.43	0.0	1.6	1.8				2	2		0	0	74	148
2025 Total																					

Notes and Source:
Tugboats are used to assist OGVs and OGV Barges during maneuvering and bunkering barges during maneuvering and transit. In general, two tugboats are needed in Zone 1 for tankers; ATBs only need one tugboat because another tug is already attached to the ATB; bunkering barges are pushed short distances in the Port and only require one tugboat. In general, one tugboat is needed in Zone 2 for all vessels; one tugboat is needed in Zones 3-6 for OGV Barge assist.
Tugboat engine characteristics are from the 2018 Port Emissions Inventory, Tables 4.1 and 4.2.
Applicable engine Tier is identified based on the EPA requirements for new engines and ARB harbor craft compliance schedule and average model year. Conservatively assumed to be Tier 3 for baseline and 2025.
Emission Factors:
EPA emission standards, which are reported as NOx+THC, were convered by Nox and HC assuming 95% and 5% are Nox and HC, respectively, per Carl Moyer Program guidelines.
SOx emission factor is based on 15 ppm fuel sulfur content.
PM2.5 is 89% of PM10, per SCAQMD 2006 Final Methodology to Calculate PM2.5 and PM 2.5 Significance Thresholds, Table 5.
CO2 and N20 emission factors are from IVL: Methodology for Calculating Emissions from Ships: Update on Emission Factors, 2004, also summarized in POLA 2009 Emissions Inventory, Appendix B. CH4 is 2% of HC, per IVL study.

HC Energy Demand								Emission Factors										
Berth		Transit/Maneuvering				Zones 1-5	Zones 1-6											
Peak Day (kW-hr/day)	Annual (kW-hr/yr)	Zone 1 - Peak Day (kW-hr/day)	Zone 2 - Peak Day (kW-hr/day)	Zone 3-5 - Peak Day (kW-hr/day)	Zone 6 - Peak Day (kW-hr/day)	Annual HC Energy Demand (kW-hr/yr)	Annual HC Energy Demand (kW-hr/yr)	Engine Tier	PM10 (g/kW-hr)	PM2.5 (g/kW-hr)	DPM (g/kW-hr)	NOX (g/kW-hr)	SOX (g/kW-hr)	CO (g/kW-hr)	VOC (g/kW-hr)	CO2 (g/kW-hr)	CH4 (g/kW-hr)	N2O (g/kW-hr)
0	0	3,034	1,719	0	0	304,193	304,193	Tier 3	0.26	0.23	0.26	8.08	0.01	5.00	0.45	652	0.01	0.03
0	0	379	214	0	0	37,946	37,946	Tier 3	0.12	0.11	0.12	5.19	0.01	5.00	0.29	652	0.01	0.03
0	0	0	0	0	0	110,016	110,016	Tier 3	0.26	0.23	0.26	8.08	0.01	5.00	0.45	652.00	0.01	0.03
0	0	0	0	0	0	13,724	13,724	Tier 3	0.12	0.11	0.12	5.19	0.01	5.00	0.29	652.00	0.01	0.03
0	0	0	0	0	0	251,723	630,921	Tier 3	0.26	0.23	0.26	8.08	0.01	5.00	0.45	652.00	0.01	0.03
0	0	0	0	0	0	31,401	78,703	Tier 3	0.12	0.11	0.12	5.19	0.01	5.00	0.29	652.00	0.01	0.03
0	0	0	0	0	0	239,447	239,447	Tier 3	0.26	0.23	0.26	8.08	0.01	5.00	0.45	652.00	0.01	0.03
0	0	0	0	0	0	59,739	59,739	Tier 3	0.12	0.11	0.12	5.19	0.01	5.00	0.29	652.00	0.01	0.03
0	0	1,517	859	0	0	304,193	304,193	Tier 3	0.26	0.23	0.26	8.08	0.01	5.00	0.45	652.00	0.01	0.03
0	0	189	107	0	0	37,946	37,946	Tier 3	0.12	0.11	0.12	5.19	0.01	5.00	0.29	652.00	0.01	0.03
0	0	0	0	0	0	110,016	110,016	Tier 3	0.26	0.23	0.26	8.08	0.01	5.00	0.45	652.00	0.01	0.03
0	0	0	0	0	0	13,724	13,724	Tier 3	0.12	0.11	0.12	5.19	0.01	5.00	0.29	652.00	0.01	0.03
0	0	0	0	0	0	251,723	630,921	Tier 3	0.26	0.23	0.26	8.08	0.01	5.00	0.45	652.00	0.01	0.03
0	0	0	0	0	0	31,401	78,703	Tier 3	0.12	0.11	0.12	5.19	0.01	5.00	0.29	652.00	0.01	0.03
0	0	0	0	0	0	239,447	239,447	Tier 3	0.26	0.23	0.26	8.08	0.01	5.00	0.45	652.00	0.01	0.03
0	0	0	0	0	0	59,739	59,739	Tier 3	0.12	0.11	0.12	5.19	0.01	5.00	0.29	652.00	0.01	0.03

Table A-20.

Harbor Craft Activity - Time Required For Vessel Assist

	Berth	Zone 1: Harbor	Zone 2: Breakwater to start of PZ	Zones 3-5: start of PZ to SCAB Boundary	Zone 6: to CA Boundary
Propulsion	0	0.80	0.91	3.53	9.11
Auxiliary	0	0.80	0.91	3.53	9.11

Notes:

Zone 1: Transit time is the transit distance in Zone 1 (harbor transit) divided by the speed in Zone 1, times 1.3 to account for tug movement and assist time (2011 APL EIR/EIS, Appendix E, Table 1.3-221 or Draft - Emission Factor Assumptions.docx 7/20/17).

Table A-21.

Harbor Craft Emission Factors - EPA Standards g/kW-hr

Engine Displacement	(kW)	EPA Tier	MY	CARB Compliance Year	NMHC+NOx	PM10	PM2.5	DPM	NOx	SOX	CO	HC	VOC	CO2	CH4	N2O
Category 1																
		Tier 1	2004			0.40	0.36	0.40	9.80	0.006	5.00	0.38	0.39	652	0.008	0.031
<0.9	37-75	Tier 2	2005		**7.50**	**0.40**	0.36	0.40	7.1	0.006	**5.00**	0.38	0.39	652	0.008	0.031
0.9 < displ < 1.2	75-130	Tier 2	2004		**7.20**	**0.30**	0.27	0.30	6.8	0.006	**5.00**	0.36	0.38	652	0.007	0.031
1.2 < displ < 2.5	130-560	Tier 2	2004		**7.20**	**0.20**	0.18	0.20	6.8	0.006	**5.00**	0.36	0.38	652	0.007	0.031
2.5 < displ < 5	>560	Tier 2	2007		**7.20**	**0.20**	0.18	0.20	6.8	0.006	**5.00**	0.36	0.38	652	0.007	0.031
<0.9	<19	Tier 3	2009		**7.5**	**0.40**	0.36	0.40	7.1	0.006	5.00	0.38	0.39	652	0.008	0.031
<0.9	19-75	Tier 3	2009		**7.5**	**0.30**	0.27	0.30	7.1	0.006	5.00	0.38	0.39	652	0.008	0.031
<0.9	75-3700	Tier 3	2012		**5.4**	**0.14**	0.12	0.14	5.1	0.006	5.00	0.27	0.28	652	0.005	0.031
0.9 < displ < 1.2	100-175	Tier 3	2013		**5.4**	**0.12**	0.11	0.12	5.1	0.006	5.00	0.27	0.28	652	0.005	0.031
1.2 < displ < 2.5	175-750	Tier 3	2014		**5.6**	**0.11**	0.10	0.11	5.3	0.006	5.00	0.28	0.29	652	0.006	0.031
2.5 < displ < 5	>750	Tier 3	2013		**5.6**	**0.11**	0.10	0.11	5.3	0.006	5.00	0.28	0.29	652	0.006	0.031
3.5 ≤ D < 7		Tier 3	2012		**5.8**	**0.11**	0.10	0.11	5.5	0.006	5.00	0.29	0.31	652	0.006	0.031
	>3700	Tier 4	2014			**0.12**	0.11	0.12	**1.8**	0.006	5.00	**0.19**	0.20	652	0.004	0.031
	2000-3700	Tier 4	2014			**0.04**	0.04	0.04	**1.8**	0.006	5.00	**0.19**	0.20	652	0.004	0.031
	1400-2000	Tier 4	2016			**0.04**	0.04	0.04	**1.8**	0.006	5.00	**0.19**	0.20	652	0.004	0.031
	600-1400	Tier 4	2017			**0.04**	0.04	0.04	**1.8**	0.006	5.00	**0.19**	0.20	652	0.004	0.031
Category 2			MY													
>2.5	>37	Tier 1	2004			0.40	0.36	0.40	**17.0**	0.006	8.50	0.95	1.00	652	0.019	0.031
5.0 ≤ D < 15	all	Tier 2	2007		**7.8**	**0.27**	0.24	0.27	7.4	0.006	**5.00**	0.39	0.41	652	0.008	0.031
15 ≤ D < 20	< 3300 kW	Tier 2	2007		**8.7**	**0.50**	0.45	0.50	8.3	0.006	**5.00**	0.44	0.46	652	0.009	0.031
15 ≤ D < 20	≥ 3300 kW	Tier 2	2007		**9.8**	**0.50**	0.45	0.50	9.3	0.006	**5.00**	0.49	0.52	652	0.010	0.031
20 ≤ D < 25	all	Tier 2	2007		**9.8**	**0.50**	0.45	0.50	9.3	0.006	**5.00**	0.49	0.52	652	0.010	0.031
25 ≤ D < 30	all	Tier 2	2007		**11.0**	**0.50**	0.45	0.50	10.5	0.006	**5.00**	0.55	0.58	652	0.011	0.031
7 ≤ D < 15	<2000	Tier 3	2013		**6.2**	**0.14**	0.12	0.14	5.9	0.006	**5.00**	0.31	0.33	652	0.006	0.031
7 ≤ D < 15	2000-3700	Tier 3	2013		**7.8**	**0.14**	0.12	0.14	7.4	0.006	**5.00**	0.39	0.41	652	0.008	0.031
15 ≤ D < 20	<2000	Tier 3	2014		**7.0**	**0.34**	0.30	0.34	6.7	0.006	**5.00**	0.35	0.37	652	0.007	0.031
20 ≤ D < 25	<2000	Tier 3	2014		**9.8**	**0.27**	0.24	0.27	9.3	0.006	**5.00**	0.49	0.52	652	0.010	0.031
25 ≤ D < 30	<2000	Tier 3	2014		**11.0**	**0.27**	0.24	0.27	10.5	0.006	**5.00**	0.55	0.58	652	0.011	0.031
all	2000-3700	Tier 4	2014			**0.04**	0.04	0.04	**1.8**	0.006	5.00	**0.19**	0.20	652	0.004	0.031
<15	>3700	Tier 4	2014			**0.12**	0.11	0.12	**1.8**	0.006	5.00	**0.19**	0.20	652	0.004	0.031
15 ≤ D < 30	>3700	Tier 4	2014			**0.25**	0.22	0.25	**1.8**	0.006	5.00	**0.19**	0.20	652	0.004	0.031
all	>3700	Tier 4	2016			**0.06**	0.05	0.06	**1.8**	0.006	5.00	**0.19**	0.20	652	0.004	0.031
all	1400-2000	Tier 4	2016			**0.04**	0.04	0.04	**1.8**	0.006	5.00	**0.19**	0.20	652	0.004	0.031
all	600-1400	Tier 4	2017			**0.04**	0.04	0.04	**1.8**	0.006	5.00	**0.19**	0.20	652	0.004	0.031

Source:

Federal Marine Compression-Ignition Engines - Exhaust Emission Standards Reference Guide, http://epa.gov/OMS/standards/nonroad/marineci.htm

Amendments to the Regulations to Reduce Emissions From Diesel Engines on Commercial Harbor Craft Operated Within California Waters and 24 Nautical Miles of the California Baseline. ARB 2011. Table 9, Compliance Dates for Engines on Crew and Supply Vessels Nationwide.

http://www.arb.ca.gov/regact/2010/chc10/frochc931185.pdf

EPA Tier 2 and Tier 3 emission standards are reported as NOx+THC. 5% is HC per Carl Moyer Program guidelines.

SOx emission factor is based on 15 ppm fuel sulfur content.

PM2.5 is 89% of PM10, per SCAQMD 2006 Final Methodology to Calculate PM2.5 and PM 2.5 Significance Thresholds, Table 5.

CO2 and N20 emission factors are from IVL: Methodology for Calculating Emissions from Ships: Update on Emission Factors, 2004, also summarized in POLA 2009 Emissions Inventory, Appendix B. CH4 is 2% of HC, per IVL study.

Bold numbers represent actual emission standards.

Table A-22.
Harbor Craft SOx Emission Factor

Harbor Craft	0.00552 g/hp-hr	0.00740 g/kw-hr	
Dredging Equipment	use OFFROAD BSCF and convert to g SOx /hp-hr		
SOx (gms/hp-hr) = (S content in X/1,000,000) x (MW SO2/ MW S) x BSF =			
Where:			
X = S content in parts per million (ppm)			15 ppm
S MW = Molecular Weight			32
SO2 MW = Molecular Weight			64
BSFC for harbor craft = Brake Specific Fuel Consumption (per CARB 2007 Harbor Craft Methodology)			184 (g/hp-hr)

Table A-23.
Habor Craft Engine Load Factor

Type		Main Engine	Auxiliary Engine
Assist tugboat		0.31	0.43
Commercial fishing		0.27	0.43
Crew boat		0.38	0.32
Excursion		0.42	0.43
Ferry		0.42	0.43
Government		0.51	0.43
Ocean tug		0.68	0.43
Tugboat		0.31	0.43
Dive boat	Work boat	0.38	0.32

Source:
2013 POLA Emissions Inventory, Table 4.7

Table A-24.
Truck Activity

	Activity			Engine Exhaust Emissions (lb/yr)							mton/yr			Non Exhaust Emissions (lb/yr)	
Analysis Year	Trucks per Year	1-Way Distance Traveled (miles)	2, 1-way trips per round-trip	PM10	PM2.5	DPM	NOx	SOx	CO	HC	CO2	N2O	CH4	PM10	PM2.5
2019 - NuStar	6,580	10	2	10.2	9.8	10.2	1,445.6	4.1	92.7	24.6	195.0	0.0	0.0	84.5	24.3
2019 - Valero	11,948	10	2	18.6	17.8	18.6	2,625.0	7.4	168.4	44.6	354.1	0.1	0.0	153.5	44.2
2025 - NuStar	6,580	10	2	8.9	8.6	8.9	1,140.2	3.6	76.1	18.4	173.2	0.0	0.0	84.5	24.3
2025 - Valero	11,948	10	2	16.3	15.5	16.3	2,070.4	6.6	138.2	33.4	314.6	0.0	0.0	153.5	44.2

Source:
2019 truck loads provided by NuStar: Item 10 - Berth 163 NuStar 2019 Truck Data.xlsx.
2019 truck loads provided by Valero: e-mail from Lisa Hodges (Valero) 3/4/2021 at 11:08 am.
Notes:
The 1-way transit distance to nearby refineries assumed to be 10 miles.
Emissions reflect round-trip transit.
Truck trips are assumed not to change in 2025.

Table A-25.
Truck Composite Emission Factors

	Engine Exhaust Emission Factors (grams per mile)										Non-Exhaust Emission Factors (grams per mile)					
Analysis Year	PM10	PM2.5	DPM	NOx	SOx	CO	HC	CO2	N2O	CH4	PM10 tire wear	PM10 brake wear	PM2.5 tire wear	PM2.5 brake wear	PM10 road dust	PM2.5 road dust
2017	0.03669	0.03510	0.03669	5.33373	0.01452	0.33876	0.09167	##########	0.24159	0.00539	0.036	0.06174	0.009	0.026460008	0.19	0.05
2019	0.0352	0.0337	0.0352	4.9828	0.0140	0.3196	0.0846	1481.8088	0.2329	0.0050	0.036	0.06174	0.009	0.026460008	0.19	0.05
2025	0.0308	0.0295	0.0308	3.9301	0.0124	0.2623	0.0635	1316.3328	0.2069	0.0037	0.036	0.06174	0.009	0.026460008	0.19	0.05
2040	0.01990	0.01904	0.01990	1.29843	0.00853	0.11888	0.01066	902.64269	0.14188	0.00063	0.036	0.06174	0.009	0.026460008	0.19	0.05

Source:
2017 and 2040 Engine exhaust emission factors are composite factors at 48 mph developed by Starcrest (Draft POLB HDV forecast EFs summary (30 Jan 19)scg.xlsx).
2019 and 2025 exhaust emission factors were interpolated from 2017 and 2040.
PM tire and brake wear emission factors are from EMFAC 2017.
PM entrained road dust emission factors are based on AP-42.

Table A-26.
Paved Road Dust Emission Factor Derivation

Emission Source	(sL) Silt Loading (g/m2)	(k) Particle Size Multiplier - PM10 (g/VMT)	(k) Particle Size Multiplier - PM2.5 (g/VMT)	(W) Average Vehicle Weight on Road (tons)	(E) Uncontrolled PM10 Emission Factor (g/VMT)	(E) Uncontrolled PM2.5 Emission Factor (g/VMT)
Offsite Autos	0.6	1.00	0.25	2.4	1.53	0.38
Offsite Roadway (all vehicles) <500 ADT	0.6	1.00	0.25	2.4	1.53	0.38
Offsite Roadway (all vehicles) 500-5000 ADT	0.2	1.00	0.25	2.4	0.56	0.14
Offsite Roadway (all vehicles) 5000-10000 ADT	0.06	1.00	0.25	2.4	0.19	0.05
Offsite Roadway (all vehicles) >10000 ADT	0.03	1.00	0.25	2.4	0.10	0.03
Offsite Roadway (all vehicles) >10000 ADT Limited Access	0.015	1.00	0.25	2.4	0.05	0.01

Notes:
1. Emission factors are calculated using Equation 1 of AP-42 Section 13.2.1 (Jan 2011). Conservatively, downward adjustment due to annual precipitation (in
2. Emission factors exclude engine exhaust, tire wear, and brake wear, which are accounted for in EMFAC calculations.
3. The equation is: E = k (sL)^0.91 x (W)^1.02

Summary of Daily VMT by Roadway Type
Los Angeles - Long Beach - Santa Ana Metro Area

Metropolitan Area	Interstate/ Other Fwy/ Exprwy	Other Principal Arterial	Minor Arterial	Collector	Local
Daily Vehicle-Miles Travelled (Thousands)	132,796	67,118	49,528	15,304	14,481
Travel Fraction	0.48	0.24	0.18	0.05	0.05

Source: Federal Highway Adminstration. Highway Statistics 2016 - Urbanized Areas - 2016 Miles and Daily Vehicle Miles Traveled. Table HM-71.
Last accessed February 2019. https://www.fhwa.dot.gov/policyinformation/statistics/2016/

Composite Paved Road Dust Emission Factors for Project Trips

	Fraction of Travel by Roadway Type					Composite EF	
Road Type	Interstate/ Other Fwy/ Exprwy	Other Principal Arterial	Minor Arterial	Collector	Local	PM10 (g/VMT)	PM2.5 (g/VMT)
Vehicle Trips in Los Angeles - Long Beach - Santa Ana Metro Area	0.48	0.24	0.18	0.05	0.05	**0.19**	**0.05**

Table A-27.
Worker Vehicle Activity

	Activity			Emissions (lb/day)						Emissions (mty)			
Analysis Year	Worker Vehicles per Day	1-Way Distance Traveled (miles)	2, 1-way trips per round-trip	PM10	PM2.5	NOx	SOx	CO	VOC	CO2	CH4	N2O	CO2e
2019	15	15	2	0.002	0.002	0.083	0.003	1.069	0.022	51.437	0.001	0.001	51.8
2025	15	15	2	0.002	0.002	0.083	0.003	1.069	0.022	51.437	0.001	0.001	51.8

Source:
Worker vehicle activity provided by NuStar and Valero.
Notes:
Emissions reflect round-trip transit.
Operating days/yr: 365

Table A-28.
Worker Vehicle Emission Factors

	Engine Exhaust Emission Factors (grams per mile)								
Analysis Year	PM10	PM2.5	NOx	SOx	CO	VOC	CO2	CH4	N2O
2019	0.0021	0.0019	0.0832	0.0031	1.0772	0.0225	313.1655	0.0053	0.0073

Source:
EMFAC 2017.

Table A-29.

On-Site Emissions

Year	PM10 (lb/yr)	PM2.5 (lb/yr)	DPM (lb/yr)	NOx (lb/yr)	CO (lb/yr)	SOx (lb/yr)	VOC (lb/yr)	CO2 (mty)	CH4 (mty)	N2O (mty)	CO2e (mty)	PM10 (lb/day)	PM2.5 (lb/day)	DPM (lb/day)	NOx (lb/day)	CO (lb/day)	SOx (lb/day)	VOC (lb/day)
2019 Baseline																		
B163 NuStar 1,3																		
Afterburner natural gas (100 mmBtu/hr, 0.21 mmscf)	1.58	1.58		32.34	7.35	0.13	1.47					0.00	0.00	0.00	0.09	0.02	0.00	0.00
Storage Tanks							997.6					0.00	0.00	0.00	0.00	0.00	0.00	2.73
Fugitive Components							1871.3					0.00	0.00	0.00	0.00	0.00	0.00	5.13
Other Processes - Marine Terminal Loading							708.81					0.00	0.00	0.00	0.00	0.00	0.00	1.94
2019 B163 NuStar Total	*1.58*	*1.58*	*0*	*32.34*	*7.35*	*0.13*	*3579.18*	*11.43*	*0.00*	*0.00*	*11.44*	*0.00*	*0.00*	*0.00*	*0.09*	*0.02*	*0.00*	*9.81*
B164 Valero 2,3																		
MT VCU	34.30	34.30		594.61	160.09	2.74	9.33					0.09	0.09	0.00	1.63	0.44	0.01	0.03
IC Engines	3.55	3.55	3.55	320.96	69.80	0.14	25.66					0.01	0.01	0.01	0.88	0.19	0.00	0.07
Paints and Solvents							1,095.70					0.00	0.00	0.00	0.00	0.00	0.00	3.00
Tank Degassing	3.40	3.40	3.40	63.05	36.38	7.27	10,914.50					0.01	0.01	0.01	0.17	0.10	0.02	29.90
Fixed and Floating Roof Tanks							2,697.94					0.00	0.00	0.00	0.00	0.00	0.00	7.39
Oil-Water Separator							0.00					0.00	0.00	0.00	0.00	0.00	0.00	0.00
Spills and Releases							17.21					0.00	0.00	0.00	0.00	0.00	0.00	0.05
Fugitives							10,246.10					0.00	0.00	0.00	0.00	0.00	0.00	28.07
Welding	24.72	24.72										0.07	0.07	0.00	0.00	0.00	0.00	0.00
Abrasive Blasting	0.00	0.00										0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019 B164 Valero Total	*65.97*	*65.97*	*6.95*	*978.62*	*266.27*	*10.15*	*25,006.44*	*370.67*	*0.01*	*0.00*	371.08	0.18	0.18	0.02	2.68	0.73	0.03	68.51
Total 2019 Baseline	**67.55**	**67.55**	**6.95**	**1,010.96**	**273.62**	**10.28**	**28,585.62**	**382.10**	**0.01**	**0.00**	**382.52**	**0.19**	**0.19**	**0.02**	**2.77**	**0.75**	**0.03**	**78.32**
2025 Project																		
Existing Equipment Emissions	67.55	67.55	6.95	1,010.96	273.62	10.28	28,585.62	382.10	0.01	0.00	382.52	0.19	0.19	0.02	2.77	0.75	0.03	78.32
New Equipment Emissions 4	4.38	4.38	4.38	83.22	79.72	0.14	0.07	6.91	0.00	0.00	6.94	0.44	0.44	0.44	8.32	7.97	0.01	0.01
Total 2025 Project	**71.93**	**71.93**	**11.33**	**1,094.18**	**353.34**	**10.42**	**28,585.69**	**389.01**	**0.01**	**0.00**	**389.46**	**0.62**	**0.62**	**0.46**	**11.09**	**8.72**	**0.04**	**78.32**
Increment	**4.38**	**4.38**	**4.38**	**83.22**	**79.72**	**0.14**	**0.07**	**6.91**	**0.00**	**0.00**	**6.94**	**0.44**	**0.44**	**0.44**	**8.32**	**7.97**	**0.01**	**0.01**

Source:

[1] 2019 baseline B163 NuStar pollutant emissions reflect 2019 SCAQMD Annual Emissions Report, provided by NuStar: 2019 AER Summary Amended 04152020_NuStar.pdf.

[2] 2019 baseline B164 Valero pollutant emissions reflect 2019 SCAQMD Annual Emission Report, provided by Velero: Item 9 - AER & AQMD Permit_Valero.pdf.

[3] 2019 baseline B163 and B164 GHG emissions were calculated based on equipment power rating and The Climate Registry emission factors.

[4] New equipment emissions were calculated based on equipment power rating and SCAQMD emission factors.

2019 B163 NuStar facility throughput (bbl): 3,253,418

2019 B164 Valero facility throughput (bbl): 10,075,510

Total 2019 throughput (bbl): 13,328,928

Table A-30.
2019 GHG On-Site Emissions by Fuel Type

		Power Rating or Fuel Use		Load Factor[1]	Activity (hr/yr)	Emission Factors[2]				Emissions (mty)			
	Fuel		Units			CO2	CH4	N2O	Units	CO2	CH4	N2O	CO2e
B163 NuStar [3]													
Afterburner	natural gas	0.21	mmscf/yr			53.06	0.001	0.0001	kg/MMBtu	11.43	0.00	0.00	11
2019 B163 NuStar Total										*11.43*	*0.00*	*0.00*	*11*
B164 Valero [3]													
Afterburner	natural gas	136	MMBtu/hr	1	50	53.06	0.001	0.0001	kg/MMBtu	360.81	0.007	0.001	361
Emergency Power Generato	diesel	285	hp	0.73	50	73.96	0.003	0.0006	kg/MMBtu	5.39	0.000	0.000	5
Emergency Power Generato	diesel	237	hp	0.73	50	73.96	0.003	0.0006	kg/MMBtu	4.48	0.000	0.000	4
B164 Valero Total										*370.67*	*0.007*	*0.001*	*371*
Total	**natural gas**									***372.24***	***0.01***	***0.00***	***373***
Total	**diesel**									***9.86***	***0.00***	***0.00***	***9.9***

Source:
[1] Load factors are from CalEEMod, Appendix D.
2 Emission factors are from the 2020 Climate Registry Default Emission Factors. Tables 1.1 and 1.9.
[3] 2019 baseline information is from SCAQMD Annual Emission Reports and permits.
BSFC diesel (Btu/hp-hr) 7,000 Source: CalEEMod, Appendix A.
Heating value of natural gas (Btu/scf) 1026 Source: 2020 Climate Registry Default Emission Factors, Table 1.1.

Table A-31.
New Equipment Activity and Emission Factors

				Activity [2]			Emission Factors (g/hp-hr) [3]									Daily Emissions (lb/day)							Annual Emissions (lb/yr)							(mty)	
Equipment	uipment Count [1]	Fuel	Engine Rating (hp) [1]	(hr/day)	(hr/yr)	Load Factor [3]	PM10	PM2.5	DPM	NOx	CO	SOx	VOC	CO2	CH4	PM10	PM2.5	DPM	NOx	CO	SOx	VOC	PM10	PM2.5	DPM	NOx	CO	SOx	VOC	CO2	CH4
Fire Pump	2	diesel	400	2	20	0.73	0.15	0.15	0.15	2.85	2.6	0.00494	0.00225	521.64	0.073	0.4	0.4	0.4	7.3	6.7	0.0	0.0	3.9	3.9	3.9	73.4	66.9	0.1	0.1	6.1	0.0
Emergency Generator	1	diesel	107	2	20	0.73	0.15	0.15	0.15	2.85	3.7	0.00494	0.00225	521.64	0.073	0.1	0.1	0.1	1.0	1.3	0.0	0.0	0.5	0.5	0.5	9.8	12.8	0.0	0.0	0.8	0.0
Total																**0.4**	**0.4**	**0.4**	**8.3**	**8.0**	**0.0**	**0.0**	**4.4**	**4.4**	**4.4**	**83.2**	**79.7**	**0.1**	**0.1**	**6.9**	**0.0**

Source:
[1] New equipment count and engine rating were provided by NuStar and Valero.
[2] Activity reflects permit conditions for existing, similar equipment at Valero (Title V Valero permit) and SCAQMD Rule 1470 operating requirements for emergency engine maintenance and testing)
[3] Emission factors and load factors were obtained from CAPCOA's CalEEMod, Appendix D.
CalEEMod provides CO2 emission factor in lb/hp-hr. Emission factor in table was converted for ease of calculations to g/hp-hr.

Construction Emissions Assumptions and Calculation Tables

Construction Emissions Inventory Tables Index

TABLE 1. ONROAD ACTIVITY

Project Information					Vehicle Activity												
Phase	Task	Task Name	Start Date	End Date	Vehicle Type	Fuel Type	No. Worker Trips (1-way trips/days)	No. Vendor Trips (1-way trips/days)	No. Hauling Trips (1-way trips/days)	Worker Trips Daily VMT (miles/day)	Vendor Trips Daily VMT (miles/day)	Haul Trips Daily VMT (miles/day)	Operational days per task (days/week)	Operational weeks per phase duration - 2021 (weeks/year)	Operational weeks per phase duration - 2022 (weeks/year)	Operational weeks per phase duration - 2023 (weeks/year)	Operational weeks per phase duration - 2024 (weeks/year)
1	1	Temporary Piping	9/1/2021	2/1/2022	LDA	Gas	12	0	10	176	0	150	5	17	4	0	0
2	2	Marine Demolition	4/17/2022	7/1/2022	LDA	Gas	20	0	0	294	0	0	5	0	11	0	0
2	3	Yard Support	2/1/2022	1/30/2023	LDA	Gas	12	2	0	176	14	0	5	0	48	4	0
3	4	Install Mooring Dolphins 1,2, & 4	2/1/2022	3/15/2022	LDA	Gas	16	2	0	235	14	0	5	0	6	0	0
3	5	Install Trestle	2/1/2022	4/17/2022	LDA	Gas	30	10	0	441	69	0	5	0	11	0	0
3	6	Install MD3	7/1/2022	7/15/2022	LDA	Gas	30	10	0	441	69	0	5	0	2	0	0
3	7	Install Breasting Dolphins 1 & 2	4/27/2022	6/20/2022	LDA	Gas	16	2	0	235	14	0	5	0	8	0	0
3	8	Marine Platforms & Trestle	7/1/2022	12/20/2022	LDA	Gas	16	2	0	235	14	0	5	0	25	0	0
3	9	Install Breasting Dolphins 3 & 4	10/10/2022	12/3/2022	LDA	Gas	16	2	0	235	14	0	5	0	8	0	0
3	10	Remove Trestle	12/20/2022	1/30/2023	LDA	Gas	12	0	10	176	0	150	5	0	2	4	0
4	11	Onshore/Topside Construction	8/1/2022	4/1/2024	LDA	Gas	30	10	0	441	69	0	0	0	22	52	13
4	12	Clean-Up Dredging	4/1/2024	4/16/2024	LDA	Gas	10	0	10	147	0	200	7	0	0	0	2
2	13	Temporary MD - in front of berth 164 - construction	1/30/2023	2/7/2023	LDA	Gas	30	10	0	441	69	0	7	0	0	1	0
3	14	Remove temporary mooring point	1/30/2023	2/1/2023	LDA	Gas	12	0	10	176	0	150	2	0	0	0	0
1	1	Temporary Piping	9/1/2021	2/1/2022	**LDT1**	Gas	12	0	10	176	0	150	5	17	4	0	0
2	2	Marine Demolition	4/17/2022	7/1/2022	**LDT1**	Gas	20	0	0	294	0	0	5	0	11	0	0
2	3	Yard Support	2/1/2022	1/30/2023	**LDT1**	Gas	12	2	0	176	14	0	5	0	48	4	0
3	4	Install Mooring Dolphins 1,2, & 4	2/1/2022	3/15/2022	**LDT1**	Gas	16	2	0	235	14	0	5	0	6	0	0
3	5	Install Trestle	2/1/2022	4/17/2022	**LDT1**	Gas	30	10	0	441	69	0	5	0	11	0	0
3	6	Install MD3	7/1/2022	7/15/2022	**LDT1**	Gas	30	10	0	441	69	0	5	0	2	0	0
3	7	Install Breasting Dolphins 1 & 2	4/27/2022	6/20/2022	**LDT1**	Gas	16	2	0	235	14	0	5	0	8	0	0
3	8	Marine Platforms & Trestle	7/1/2022	12/20/2022	**LDT1**	Gas	16	2	0	235	14	0	5	0	25	0	0
3	9	Install Breasting Dolphins 3 & 4	10/10/2022	12/3/2022	**LDT1**	Gas	16	2	0	235	14	0	5	0	8	0	0
3	10	Remove Trestle	12/20/2022	1/30/2023	**LDT1**	Gas	12	0	10	176	0	150	5	0	2	4	0
4	11	Onshore/Topside Construction	8/1/2022	4/1/2024	**LDT1**	Gas	30	10	0	441	69	0	0	0	22	52	13
4	12	Clean-Up Dredging	4/1/2024	4/16/2024	**LDT1**	Gas	10	0	10	147	0	200	7	0	0	0	2
2	13	Temporary MD - in front of berth 164 - construction	1/30/2023	2/7/2023	**LDT1**	Gas	30	10	0	441	69	0	7	0	0	1	0
3	14	Remove temporary mooring point	1/30/2023	2/1/2023	**LDT1**	Gas	12	0	10	176	0	150	2	0	0	0	0
1	1	Temporary Piping	9/1/2021	2/1/2022	T7 tractor construction	DSL	12	0	10	176	0	150	5	17	4	0	0
2	2	Marine Demolition	4/17/2022	7/1/2022	T7 tractor construction	DSL	20	0	0	294	0	0	5	0	11	0	0
2	3	Yard Support	2/1/2022	1/30/2023	T7 tractor construction	DSL	12	2	0	176	14	0	5	0	48	4	0
3	4	Install Mooring Dolphins 1,2, & 4	2/1/2022	3/15/2022	T7 tractor construction	DSL	16	2	0	235	14	0	5	0	6	0	0
3	5	Install Trestle	2/1/2022	4/17/2022	T7 tractor construction	DSL	30	10	0	441	69	0	5	0	11	0	0
3	6	Install MD3	7/1/2022	7/15/2022	T7 tractor construction	DSL	30	10	0	441	69	0	5	0	2	0	0
3	7	Install Breasting Dolphins 1 & 2	4/27/2022	6/20/2022	T7 tractor construction	DSL	16	2	0	235	14	0	5	0	8	0	0
3	8	Marine Platforms & Trestle	7/1/2022	12/20/2022	T7 tractor construction	DSL	16	2	0	235	14	0	5	0	25	0	0
3	9	Install Breasting Dolphins 3 & 4	10/10/2022	12/3/2022	T7 tractor construction	DSL	16	2	0	235	14	0	5	0	8	0	0
3	10	Remove Trestle	12/20/2022	1/30/2023	T7 tractor construction	DSL	12	0	10	176	0	150	5	0	2	4	0
4	11	Onshore/Topside Construction	8/1/2022	4/1/2024	T7 tractor construction	DSL	30	10	0	441	69	0	0	0	22	52	13
4	12	Clean-Up Dredging	4/1/2024	4/16/2024	T7 tractor construction	DSL	10	0	10	147	0	200	7	0	0	0	2
2	13	Temporary MD - in front of berth 164 - construction	1/30/2023	2/7/2023	T7 tractor construction	DSL	30	10	0	441	69	0	7	0	0	1	0
3	14	Remove temporary mooring point	1/30/2023	2/1/2023	T7 tractor construction	DSL	12	0	10	176	0	150	2	0	0	0	0

TABLE 2. ONROAD EMISSION FACTORS FOR PEAK YEAR

EMFAC2017 (v1.0.2) Emission Rates

Region: SOUTH COAST

							Emission Factors - Running (g/mi)									
							2023									
Phase	Task	Task Name	Start Date	End Date	Vehicle Type	Fuel Type	NOX	ROG	CO	Sox	DPM	PM10	PM2.5	CO2	CH4	N2O
1	1	Temporary Piping	9/1/2021	2/1/2022	LDA	Gas	0.0344	0.0094	0.6545	0.0026	0.0000	0.0697	0.0117	264.5442	0.0025	0.0042
2	2	Marine Demolition	4/17/2022	7/1/2022	LDA	Gas	0.0344	0.0094	0.6545	0.0026	0.0000	0.0697	0.0117	264.5442	0.0025	0.0042
2	3	Yard Support	2/1/2022	1/30/2023	LDA	Gas	0.0344	0.0094	0.6545	0.0026	0.0000	0.0697	0.0117	264.5442	0.0025	0.0042
3	4	Install Mooring Dolphins 1,2, & 4	2/1/2022	3/15/2022	LDA	Gas	0.0344	0.0094	0.6545	0.0026	0.0000	0.0697	0.0117	264.5442	0.0025	0.0042
3	5	Install Trestle	2/1/2022	4/17/2022	LDA	Gas	0.0344	0.0094	0.6545	0.0026	0.0000	0.0697	0.0117	264.5442	0.0025	0.0042
3	6	Install MD3	7/1/2022	7/15/2022	LDA	Gas	0.0344	0.0094	0.6545	0.0026	0.0000	0.0697	0.0117	264.5442	0.0025	0.0042
3	7	Install Breasting Dolphins 1 & 2	4/27/2022	6/20/2022	LDA	Gas	0.0344	0.0094	0.6545	0.0026	0.0000	0.0697	0.0117	264.5442	0.0025	0.0042
3	8	Marine Platforms & Trestle	7/1/2022	12/20/2022	LDA	Gas	0.0344	0.0094	0.6545	0.0026	0.0000	0.0697	0.0117	264.5442	0.0025	0.0042
3	9	Install Breasting Dolphins 3 & 4	10/10/2022	12/3/2022	LDA	Gas	0.0344	0.0094	0.6545	0.0026	0.0000	0.0697	0.0117	264.5442	0.0025	0.0042
3	10	Remove Trestle	12/20/2022	1/30/2023	LDA	Gas	0.0344	0.0094	0.6545	0.0026	0.0000	0.0697	0.0117	264.5442	0.0025	0.0042
4	11	Onshore/Topside Construction	8/1/2022	4/1/2024	LDA	Gas	0.0344	0.0094	0.6545	0.0026	0.0000	0.0697	0.0117	264.5442	0.0025	0.0042
4	12	Clean-Up Dredging	4/1/2024	4/16/2024	LDA	Gas	0.0344	0.0094	0.6545	0.0026	0.0000	0.0697	0.0117	264.5442	0.0025	0.0042
2	13	Temporary MD - in front of berth 164 - construction	1/30/2023	2/7/2023	LDA	Gas	0.0344	0.0094	0.6545	0.0026	0.0000	0.0697	0.0117	264.5442	0.0025	0.0042
3	14	Remove temporary mooring point	1/30/2023	2/1/2023	LDA	Gas	0.0344	0.0094	0.6545	0.0026	0.0000	0.0697	0.0117	264.5442	0.0025	0.0042
1	1	Temporary Piping	9/1/2021	2/1/2022	**LDT1**	Gas	0.1003	0.0275	1.2531	0.0031	0.0000	0.0704	0.0123	308.4176	0.0063	0.0078
2	2	Marine Demolition	4/17/2022	7/1/2022	**LDT1**	Gas	0.1003	0.0275	1.2531	0.0031	0.0000	0.0704	0.0123	308.4176	0.0063	0.0078
2	3	Yard Support	2/1/2022	1/30/2023	**LDT1**	Gas	0.1003	0.0275	1.2531	0.0031	0.0000	0.0704	0.0123	308.4176	0.0063	0.0078
3	4	Install Mooring Dolphins 1,2, & 4	2/1/2022	3/15/2022	**LDT1**	Gas	0.1003	0.0275	1.2531	0.0031	0.0000	0.0704	0.0123	308.4176	0.0063	0.0078
3	5	Install Trestle	2/1/2022	4/17/2022	**LDT1**	Gas	0.1003	0.0275	1.2531	0.0031	0.0000	0.0704	0.0123	308.4176	0.0063	0.0078
3	6	Install MD3	7/1/2022	7/15/2022	**LDT1**	Gas	0.1003	0.0275	1.2531	0.0031	0.0000	0.0704	0.0123	308.4176	0.0063	0.0078
3	7	Install Breasting Dolphins 1 & 2	4/27/2022	6/20/2022	**LDT1**	Gas	0.1003	0.0275	1.2531	0.0031	0.0000	0.0704	0.0123	308.4176	0.0063	0.0078
3	8	Marine Platforms & Trestle	7/1/2022	12/20/2022	**LDT1**	Gas	0.1003	0.0275	1.2531	0.0031	0.0000	0.0704	0.0123	308.4176	0.0063	0.0078
3	9	Install Breasting Dolphins 3 & 4	10/10/2022	12/3/2022	**LDT1**	Gas	0.1003	0.0275	1.2531	0.0031	0.0000	0.0704	0.0123	308.4176	0.0063	0.0078
3	10	Remove Trestle	12/20/2022	1/30/2023	**LDT1**	Gas	0.1003	0.0275	1.2531	0.0031	0.0000	0.0704	0.0123	308.4176	0.0063	0.0078
4	11	Onshore/Topside Construction	8/1/2022	4/1/2024	**LDT1**	Gas	0.1003	0.0275	1.2531	0.0031	0.0000	0.0704	0.0123	308.4176	0.0063	0.0078
4	12	Clean-Up Dredging	4/1/2024	4/16/2024	**LDT1**	Gas	0.1003	0.0275	1.2531	0.0031	0.0000	0.0704	0.0123	308.4176	0.0063	0.0078
2	13	Temporary MD - in front of berth 164 - construction	1/30/2023	2/7/2023	**LDT1**	Gas	0.1003	0.0275	1.2531	0.0031	0.0000	0.0704	0.0123	308.4176	0.0063	0.0078
3	14	Remove temporary mooring point	1/30/2023	2/1/2023	**LDT1**	Gas	0.1003	0.0275	1.2531	0.0031	0.0000	0.0704	0.0123	308.4176	0.0063	0.0078
1	1	Temporary Piping	9/1/2021	2/1/2022	T7 tractor construction	DSL	2.5677	0.0204	0.1970	0.0129	0.7655	0.7655	0.1328	1361.2124	0.0009	0.2140
2	2	Marine Demolition	4/17/2022	7/1/2022	T7 tractor construction	DSL	2.5677	0.0204	0.1970	0.0129	0.7655	0.7655	0.1328	1361.2124	0.0009	0.2140
2	3	Yard Support	2/1/2022	1/30/2023	T7 tractor construction	DSL	2.5677	0.0204	0.1970	0.0129	0.7655	0.7655	0.1328	1361.2124	0.0009	0.2140
3	4	Install Mooring Dolphins 1,2, & 4	2/1/2022	3/15/2022	T7 tractor construction	DSL	2.5677	0.0204	0.1970	0.0129	0.7655	0.7655	0.1328	1361.2124	0.0009	0.2140
3	5	Install Trestle	2/1/2022	4/17/2022	T7 tractor construction	DSL	2.5677	0.0204	0.1970	0.0129	0.7655	0.7655	0.1328	1361.2124	0.0009	0.2140
3	6	Install MD3	7/1/2022	7/15/2022	T7 tractor construction	DSL	2.5677	0.0204	0.1970	0.0129	0.7655	0.7655	0.1328	1361.2124	0.0009	0.2140
3	7	Install Breasting Dolphins 1 & 2	4/27/2022	6/20/2022	T7 tractor construction	DSL	2.5677	0.0204	0.1970	0.0129	0.7655	0.7655	0.1328	1361.2124	0.0009	0.2140
3	8	Marine Platforms & Trestle	7/1/2022	12/20/2022	T7 tractor construction	DSL	2.5677	0.0204	0.1970	0.0129	0.7655	0.7655	0.1328	1361.2124	0.0009	0.2140
3	9	Install Breasting Dolphins 3 & 4	10/10/2022	12/3/2022	T7 tractor construction	DSL	2.5677	0.0204	0.1970	0.0129	0.7655	0.7655	0.1328	1361.2124	0.0009	0.2140
3	10	Remove Trestle	12/20/2022	1/30/2023	T7 tractor construction	DSL	2.5677	0.0204	0.1970	0.0129	0.7655	0.7655	0.1328	1361.2124	0.0009	0.2140
4	11	Onshore/Topside Construction	8/1/2022	4/1/2024	T7 tractor construction	DSL	2.5677	0.0204	0.1970	0.0129	0.7655	0.7655	0.1328	1361.2124	0.0009	0.2140
4	12	Clean-Up Dredging	4/1/2024	4/16/2024	T7 tractor construction	DSL	2.5677	0.0204	0.1970	0.0129	0.7655	0.7655	0.1328	1361.2124	0.0009	0.2140
2	13	Temporary MD - in front of berth 164 - construction	1/30/2023	2/7/2023	T7 tractor construction	DSL	2.5677	0.0204	0.1970	0.0129	0.7655	0.7655	0.1328	1361.2124	0.0009	0.2140
3	14	Remove temporary mooring point	1/30/2023	2/1/2023	T7 tractor construction	DSL	2.5677	0.0204	0.1970	0.0129	0.7655	0.7655	0.1328	1361.2124	0.0009	0.2140

TABLE 3. OFFROAD ACTIVITY

Project Information					Equipment Information						Activities					
Phase	Task	Task Name	Start Date	End Date	Equipment	Number of units	Size-hp	HP Bin	Fuel	Load Factor	Operational days per task (days/week)	Operational hours per day (hrs/day)	Operational weeks per phase duration - 2021 (weeks/year)	Operational weeks per phase duration - 2022 (weeks/year)	Operational weeks per phase duration - 2023 (weeks/year)	Operational weeks per phase duration - 2024 (weeks/year)
1	1	Temporary Piping	9/1/2021	2/1/2022	Skid Steer	1	100	175	Diesel	0.37	5	8	17	4	0	0
					Generator	1	100	175	Diesel	0.74	5	10	17	4	0	0
					Welder Generator	2	25	50	Diesel	0.74	5	8	17	4	0	0
					Air Compressor	1	60	75	Diesel	0.48	5	5	17	4	0	0
					60' Man Lifts	2	80	100	Diesel	0.20	5	8	17	4	0	0
					Telescoping Forklift	1	110	175	Diesel	0.20	5	5	17	4	0	0
2	2	Marine Demolition	4/17/2022	7/1/2022	200T Crane- Manitowoc 777	1	253	300	Diesel	0.29	5	8	0	11	0	0
					Vibratory Hammer- HPSI500	1	400	600	Diesel	0.42	5	4	0	11	0	0
					Impact Hammer- D46	1	90	100	Diesel	0.42	5	2	0	11	0	0
					185 CFM Air Compressor	1	49	50	Diesel	0.48	5	2	0	11	0	0
					400A Welding Machine	1	20	25	Diesel	0.45	5	4	0	11	0	0
2	3	Yard Support	2/1/2022	1/30/2023	50T Hydraulic Crane	1	253	300	Diesel	0.29	5	2	0	48	4	0
					8T Forklift	1	400	600	Diesel	0.20	5	2	0	48	4	0
					185 CFM Air Compressor	1	49	50	Diesel	0.48	5	2	0	48	4	0
					400A Welding Machine	1	20	25	Diesel	0.45	5	2	0	48	4	0
3	4	Install Mooring Dolphins 1,2, & 4	2/1/2022	3/15/2022	Derrick Barge - Main Gen	1	400	600	Diesel	0.50	5	8	0	6	0	0
					Derrick Barge - Main Hoist	1	400	600	Diesel	0.51	5	8	0	6	0	0
					Derrick Barge - Aux Gen	1	150	175	Diesel	0.50	5	1	0	6	0	0
					Derrick Barge - Deck Winch 1	1	175	300	Diesel	0.50	5	1	0	6	0	0
					Derrick Barge - Deck Winch 2	1	175	300	Diesel	0.50	5	1	0	6	0	0
					Tugboat - Propulsion 1	1	1000	9999	Diesel	0.31	5	1	0	6	0	0
					Tugboat - Propulsion 2	1	1000	9999	Diesel	0.31	5	1	0	6	0	0
					Tugboat - Main Gen 1	1	60	75	Diesel	0.43	5	8	0	6	0	0
					Tugboat - Main Gen 2	1	60	75	Diesel	0.43	5	1	0	6	0	0
					Tugboat - Deck Winch	1	160	175	Diesel	0.50	5	1	0	6	0	0
					Vibratory Hammer- HPSI500	1	400	600	Diesel	0.42	5	4	0	6	0	0
					Impact Hammer- D62	1	120	175	Diesel	0.42	5	2	0	6	0	0
					185 CFM Air Compressor	1	49	50	Diesel	0.48	5	2	0	6	0	0
					400A Welding Machine	1	20	25	Diesel	0.45	5	4	0	6	0	0
3	5	Install Trestle	2/1/2022	4/17/2022	200T Crane- Manitowoc 777	1	253	300	Diesel	0.29	5	8	0	11	0	0
					Vibratory Hammer- HPSI500	1	400	600	Diesel	0.42	5	4	0	11	0	0
					Impact Hammer- D46	1	90	100	Diesel	0.42	5	2	0	11	0	0
					185 CFM Air Compressor	1	49	50	Diesel	0.48	5	2	0	11	0	0
					400A Welding Machine	1	20	25	Diesel	0.45	5	4	0	11	0	0
3	6	Install MD3	7/1/2022	7/15/2022	200T Crane- Manitowoc 777	1	253	300	Diesel	0.29	5	8	0	2	0	0
					Vibratory Hammer- HPSI500	1	400	600	Diesel	0.42	5	4	0	2	0	0
					Impact Hammer- D62	1	120	175	Diesel	0.42	5	2	0	2	0	0
					185 CFM Air Compressor	1	49	50	Diesel	0.48	5	2	0	2	0	0
					400A Welding Machine	1	20	25	Diesel	0.45	5	4	0	2	0	0
3	7	Install Breasting Dolphins 1 & 2	4/27/2022	6/20/2022	300T Crane- Manitowoc 2250	1	500	600	Diesel	0.29	5	8	0	8	0	0
					Vibratory Hammer- HPSI500	1	400	600	Diesel	0.42	5	4	0	8	0	0
					Impact Hammer- D46	1	90	100	Diesel	0.42	5	2	0	8	0	0
					185 CFM Air Compressor	1	49	50	Diesel	0.48	5	2	0	8	0	0
					400A Welding Machine	1	20	25	Diesel	0.45	5	4	0	8	0	0
3	8	Marine Platforms & Trestle	7/1/2022	12/20/2022	300T Crane- Manitowoc 2250	1	500	600	Diesel	0.29	5	8	0	25	0	0
					200T Crane- Manitowoc 777	1	253	300	Diesel	0.29	5	8	0	25	0	0
					Vibratory Hammer- HPSI500	1	400	600	Diesel	0.42	5	4	0	25	0	0
					Impact Hammer- D46	1	90	100	Diesel	0.42	5	2	0	25	0	0
					185 CFM Air Compressor	2	49	50	Diesel	0.48	5	2	0	25	0	0
					400A Welding Machine	2	20	25	Diesel	0.45	5	4	0	25	0	0
3	9	Install Breasting Dolphins 3 & 4	10/10/2022	12/3/2022	300T Crane- Manitowoc 2250	1	500	600	Diesel	0.29	5	8	0	8	0	0
					Vibratory Hammer- HPSI500	1	400	600	Diesel	0.42	5	4	0	8	0	0
					Impact Hammer- D46	1	90	100	Diesel	0.42	5	2	0	8	0	0
					185 CFM Air Compressor	1	49	50	Diesel	0.48	5	2	0	8	0	0
					400A Welding Machine	1	20	25	Diesel	0.45	5	4	0	8	0	0
3	10	Remove Trestle	12/20/2022	1/30/2023	200T Crane- Manitowoc 777	1	253	300	Diesel	0.29	5	8	0	2	4	0
					Vibratory Hammer- HPSI500	1	400	600	Diesel	0.42	5	4	0	2	4	0
					Impact Hammer- D46	1	90	100	Diesel	0.42	5	2	0	2	4	0
					185 CFM Air Compressor	1	49	50	Diesel	0.48	5	2	0	2	4	0
					400A Welding Machine	1	20	25	Diesel	0.45	5	4	0	2	4	0
4	11.1	Onshore/Topside Construction	8/1/2022	11/1/2022	Pile Driver Rig	1	350	600	Diesel	0.50	5	8	0	13	0	0
	11.2		8/1/2022	8/15/2022	HydroExcavator	1	450	600	Diesel	0.38	5	8	0	2	0	0
	11.3		8/1/2022	10/1/2022	Excavator	1	125	175	Diesel	0.38	5	8	0	9	0	0
	11.3		8/1/2022	10/1/2022	mini excavator	1	50	75	Diesel	0.38	5	8	0	9	0	0
	11.4		8/1/2022	4/1/2024	skid steer	1	100	175	Diesel	0.37	5	8	0	22	52	13
	11.5		10/1/2022	3/1/2023	Hydraulic RT Crane	1	300	600	Diesel	0.29	5	8	0	13	8	0
	11.6		8/1/2022	4/1/2024	Generator	1	100	175	Diesel	0.74	5	10	0	22	52	13
	11.6		8/1/2022	4/1/2024	Welder Generator	3	25	50	Diesel	0.74	5	8	0	22	52	13
	11.6		8/1/2022	4/1/2024	Air Compressor	1	60	75	Diesel	0.48	5	5	0	22	52	13
	11.6		8/1/2022	4/1/2024	60' Man Lifts	2	80	100	Diesel	0.20	5	8	0	22	52	13
	11.6		8/1/2022	4/1/2024	Telescoping Forklift	2	110	175	Diesel	0.20	5	5	0	22	52	13
	11.7		2/1/2023	4/1/2024	Derrick Barge - Main Gen	1	400	600	Diesel	0.50	5	8	0	0	48	13
	11.7				Derrick Barge - Main Hoist	1	400	600	Diesel	0.51	5	8	0	0	48	13
	11.7				Derrick Barge - Aux Gen	1	150	175	Diesel	0.50	5	1	0	0	48	13
	11.7				Derrick Barge - Deck Winch 1	1	175	300	Diesel	0.50	5	1	0	0	48	13
	11.7				Derrick Barge - Deck Winch 2	1	175	300	Diesel	0.50	5	1	0	0	48	13
4	12	Clean-Up Dredging	4/1/2024	4/16/2024	Bore/Drill Rigs	1	1369	9999	Diesel	0.50	7	8	0	0	0	2
					Bore/Drill Rigs	0	274	300	Diesel	0.50	7	8	0	0	0	2
2	13	Temporary MD - in front of berth 164 - construction	1/30/2023	2/7/2023	140 ton crane	1	279	300	Diesel	0.29	7	8	0	0	1	0
					Forklift	1	200	300	Diesel	0.20	7	4	0	0	1	0
					Man lift	1	46	50	Diesel	0.20	7	4	0	0	1	0
3	14	Remove temporary mooring point	1/30/2023	2/1/2023	derrick barge crane	1	376	600	Diesel	0.29	2	7	0	0	0	0
					derrick barge hoist swing winch	1	379	600	Diesel	0.51	2	7	0	0	0	0
					Tugboat (propulsion)	2	680	750	Diesel	0.31	2	7	0	0	0	0
					Tugboat (auxiliary)	1	47	50	Diesel	0.43	2	7	0	0	0	0

TABLE 4. OFFROAD EMISSION FACTORS FOR PEAK YEAR
OFFROAD2017 (v1.0.1) Emissions Inventory
Region: South Coast

Project Information					Equipment Information					Emission factors (g/bhp-hr)										
										2023										
Phase	Task	Task Name	Start Date	End Date	Equipment	Number of units	Size-hp	HP Bin	Fuel	NOx	ROG	CO	SOx	DPM	PM10	PM2.5	CO2	CH4	N2O	CO2e
1	1	Temporary Piping	9/1/2021	2/1/2022	Skid Steer	1	100	175	Diesel	0.46	0.05	1.05	0.00	0.02	0.02	0.02	193.94	NA	NA	193.94
					Generator	1	100	175	Diesel	0.37	0.06	1.01	0.00	0.02	0.02	0.02	159.70	NA	NA	159.70
					Welder Generator	2	25	50	Diesel	2.74	0.32	2.84	0.01	0.09	0.09	0.09	420.53	NA	NA	420.53
					Air Compressor	1	60	75	Diesel	0.80	0.06	1.04	0.00	0.01	0.01	0.01	159.70	NA	NA	159.70
					60' Man Lifts	2	80	100	Diesel	0.60	0.06	0.73	0.00	0.04	0.04	0.03	105.95	NA	NA	105.95
					Telescoping Forklift	1	110	175	Diesel	0.43	0.05	0.64	0.00	0.02	0.02	0.02	106.04	NA	NA	106.04
2	2	Marine Demolition	4/17/2022	7/1/2022	200T Crane- Manitowoc 777	1	253	300	Diesel	1.00	0.09	0.52	0.00	0.04	0.04	0.04	151.96	NA	NA	151.96
					Vibratory Hammer- HPSI500	1	400	600	Diesel	0.72	0.07	0.55	0.00	0.03	0.03	0.02	219.24	NA	NA	219.24
					Impact Hammer- D46	1	90	100	Diesel	1.47	0.16	1.49	0.00	0.10	0.10	0.09	219.44	NA	NA	219.44
					185 CFM Air Compressor	1	49	50	Diesel	1.91	0.30	2.37	0.00	0.08	0.08	0.07	272.79	NA	NA	272.79
					400A Welding Machine	1	20	25	Diesel	1.99	0.27	1.28	0.00	0.09	0.09	0.08	255.73	NA	NA	255.73
2	3	Yard Support	2/1/2022	1/30/2023	50T Hydraulic Crane	1	253	300	Diesel	1.00	0.09	0.52	0.00	0.04	0.04	0.04	151.96	NA	NA	151.96
					8T Forklift	1	400	600	Diesel	0.40	0.05	0.25	0.00	0.02	0.02	0.01	106.75	NA	NA	106.75
					185 CFM Air Compressor	1	49	50	Diesel	1.91	0.30	2.37	0.00	0.08	0.08	0.07	272.79	NA	NA	272.79
					400A Welding Machine	1	20	25	Diesel	1.99	0.27	1.28	0.00	0.09	0.09	0.08	255.73	NA	NA	255.73
3	4	Install Mooring Dolphins 1,2, & 4	2/1/2022	3/15/2022	Derrick Barge - Main Gen	1	400	600	Diesel	0.26	0.05	0.33	0.00	0.01	0.01	0.01	159.70	NA	NA	159.70
					Derrick Barge - Main Hoist	1	400	600	Diesel	0.87	0.12	0.68	0.00	0.01	0.01	0.01	292.71	NA	NA	292.71
					Derrick Barge - Aux Gen	1	150	175	Diesel	0.37	0.06	1.01	0.00	0.02	0.02	0.02	159.70	NA	NA	159.70
					Derrick Barge - Deck Winch 1	1	175	300	Diesel	1.01	0.14	0.74	0.00	0.01	0.01	0.01	288.73	NA	NA	288.73
					Derrick Barge - Deck Winch 2	1	175	300	Diesel	1.01	0.14	0.74	0.00	0.01	0.01	0.01	288.73	NA	NA	288.73
					Tugboat - Propulsion 1	1	1000	9999	Diesel	6.02	0.64	4.39	NA	NA	0.24	0.22	NA	NA	NA	0.00
					Tugboat - Propulsion 2	1	1000	9999	Diesel	6.02	0.64	4.39	NA	NA	0.24	0.22	NA	NA	NA	0.00
					Tugboat - Main Gen 1	1	60	75	Diesel	5.58	0.86	4.18	NA	NA	0.32	0.29	NA	NA	NA	0.00
					Tugboat - Main Gen 2	1	60	75	Diesel	5.58	0.86	4.18	NA	NA	0.32	0.29	NA	NA	NA	0.00
					Tugboat - Deck Winch	1	160	175	Diesel	1.16	0.16	1.92	0.00	0.02	0.02	0.02	289.05	NA	NA	289.05
					Vibratory Hammer- HPSI500	1	400	600	Diesel	0.72	0.07	0.55	0.00	0.03	0.03	0.02	219.24	NA	NA	219.24
					Impact Hammer- D62	1	120	175	Diesel	1.13	0.11	1.31	0.00	0.06	0.06	0.05	218.42	NA	NA	218.42
					185 CFM Air Compressor	1	49	50	Diesel	1.91	0.30	2.37	0.00	0.08	0.08	0.07	272.79	NA	NA	272.79
					400A Welding Machine	1	20	25	Diesel	1.99	0.27	1.28	0.00	0.09	0.09	0.08	255.73	NA	NA	255.73
3	5	Install Trestle	2/1/2022	4/17/2022	200T Crane- Manitowoc 777	1	253	300	Diesel	1.00	0.09	0.52	0.00	0.04	0.04	0.04	151.96	NA	NA	151.96
					Vibratory Hammer- HPSI500	1	400	600	Diesel	0.72	0.07	0.55	0.00	0.03	0.03	0.02	219.24	NA	NA	219.24
					Impact Hammer- D46	1	90	100	Diesel	1.47	0.16	1.49	0.00	0.10	0.10	0.09	219.44	NA	NA	219.44
					185 CFM Air Compressor	1	49	50	Diesel	1.91	0.30	2.37	0.00	0.08	0.08	0.07	272.79	NA	NA	272.79
					400A Welding Machine	1	20	25	Diesel	1.99	0.27	1.28	0.00	0.09	0.09	0.08	255.73	NA	NA	255.73
3	6	Install MD3	7/1/2022	7/15/2022	200T Crane- Manitowoc 777	1	253	300	Diesel	1.00	0.09	0.52	0.00	0.04	0.04	0.04	151.96	NA	NA	151.96
					Vibratory Hammer- HPSI500	1	400	600	Diesel	0.72	0.07	0.55	0.00	0.03	0.03	0.02	219.24	NA	NA	219.24
					Impact Hammer- D62	1	120	175	Diesel	1.13	0.11	1.31	0.00	0.06	0.06	0.05	218.42	NA	NA	218.42
					185 CFM Air Compressor	1	49	50	Diesel	1.91	0.30	2.37	0.00	0.08	0.08	0.07	272.79	NA	NA	272.79
					400A Welding Machine	1	20	25	Diesel	1.99	0.27	1.28	0.00	0.09	0.09	0.08	255.73	NA	NA	255.73
3	7	Install Breasting Dolphins 1 & 2	4/27/2022	6/20/2022	300T Crane- Manitowoc 2250	1	500	600	Diesel	0.64	0.06	0.49	0.00	0.03	0.03	0.02	151.98	NA	NA	151.98
					Vibratory Hammer- HPSI500	1	400	600	Diesel	0.72	0.07	0.55	0.00	0.03	0.03	0.02	219.24	NA	NA	219.24
					Impact Hammer- D46	1	90	100	Diesel	1.47	0.16	1.49	0.00	0.10	0.10	0.09	219.44	NA	NA	219.44
					185 CFM Air Compressor	1	49	50	Diesel	1.91	0.30	2.37	0.00	0.08	0.08	0.07	272.79	NA	NA	272.79
					400A Welding Machine	1	20	25	Diesel	1.99	0.27	1.28	0.00	0.09	0.09	0.08	255.73	NA	NA	255.73
3	8	Marine Platforms & Trestle	7/1/2022	12/20/2022	300T Crane- Manitowoc 2250	1	500	600	Diesel	0.64	0.06	0.49	0.00	0.03	0.03	0.02	151.98	NA	NA	151.98
					200T Crane- Manitowoc 777	1	253	300	Diesel	1.00	0.09	0.52	0.00	0.04	0.04	0.04	151.96	NA	NA	151.96
					Vibratory Hammer- HPSI500	1	400	600	Diesel	0.72	0.07	0.55	0.00	0.03	0.03	0.02	219.24	NA	NA	219.24
					Impact Hammer- D46	1	90	100	Diesel	1.47	0.16	1.49	0.00	0.10	0.10	0.09	219.44	NA	NA	219.44
					185 CFM Air Compressor	2	49	50	Diesel	1.91	0.30	2.37	0.00	0.08	0.08	0.07	272.79	NA	NA	272.79
					400A Welding Machine	2	20	25	Diesel	1.99	0.27	1.28	0.00	0.09	0.09	0.08	255.73	NA	NA	255.73
3	9	Install Breasting Dolphins 3 & 4	10/10/2022	12/3/2022	300T Crane- Manitowoc 2250	1	500	600	Diesel	0.64	0.06	0.49	0.00	0.03	0.03	0.02	151.98	NA	NA	151.98
					Vibratory Hammer- HPSI500	1	400	600	Diesel	0.72	0.07	0.55	0.00	0.03	0.03	0.02	219.24	NA	NA	219.24
					Impact Hammer- D46	1	90	100	Diesel	1.47	0.16	1.49	0.00	0.10	0.10	0.09	219.44	NA	NA	219.44
					185 CFM Air Compressor	1	49	50	Diesel	1.91	0.30	2.37	0.00	0.08	0.08	0.07	272.79	NA	NA	272.79
					400A Welding Machine	1	20	25	Diesel	1.99	0.27	1.28	0.00	0.09	0.09	0.08	255.73	NA	NA	255.73
3	10	Remove Trestle	12/20/2022	1/30/2023	200T Crane- Manitowoc 777	1	253	300	Diesel	1.00	0.09	0.52	0.00	0.04	0.04	0.04	151.96	NA	NA	151.96
					Vibratory Hammer- HPSI500	1	400	600	Diesel	0.72	0.07	0.55	0.00	0.03	0.03	0.02	219.24	NA	NA	219.24
					Impact Hammer- D46	1	90	100	Diesel	1.47	0.16	1.49	0.00	0.10	0.10	0.09	219.44	NA	NA	219.44
					185 CFM Air Compressor	1	49	50	Diesel	1.91	0.30	2.37	0.00	0.08	0.08	0.07	272.79	NA	NA	272.79
					400A Welding Machine	1	20	25	Diesel	1.99	0.27	1.28	0.00	0.09	0.09	0.08	255.73	NA	NA	255.73
4	11.1	Onshore/Topside Construction	8/1/2022	11/1/2022	Pile Driver Rig	1	350	600	Diesel	0.40	0.05	0.49	0.00	0.01	0.01	0.01	261.76	NA	NA	261.76
	11.2		8/1/2022	8/15/2022	HydroExcavator	1	450	600	Diesel	0.34	0.05	0.40	0.00	0.01	0.01	0.01	201.18	NA	NA	201.18
	11.3		8/1/2022	10/1/2022	Excavator	1	125	175	Diesel	0.56	0.07	1.18	0.00	0.03	0.03	0.03	201.69	NA	NA	201.69
	11.3		8/1/2022	10/1/2022	mini Excavator	1	50	75	Diesel	2.05	0.15	1.46	0.00	0.12	0.12	0.11	199.97	NA	NA	199.97
	11.4		8/1/2022	4/1/2024	skid steer	1	100	175	Diesel	0.46	0.05	1.05	0.00	0.02	0.02	0.02	193.94	NA	NA	193.94
	11.5		10/1/2022	3/1/2023	Hydraulic RT Crane	1	300	600	Diesel	0.64	0.06	0.49	0.00	0.03	0.03	0.02	151.98	NA	NA	151.98
	11.6		8/1/2022	4/1/2024	Generator	1	100	175	Diesel	0.37	0.06	1.01	0.00	0.02	0.02	0.02	159.70	NA	NA	159.70
	11.6		8/1/2022	4/1/2024	Welder Generator	3	25	50	Diesel	2.74	0.32	2.84	0.01	0.09	0.09	0.09	420.53	NA	NA	420.53
	11.6		8/1/2022	4/1/2024	Air Compressor	1	60	75	Diesel	0.80	0.06	1.04	0.00	0.01	0.01	0.01	159.70	NA	NA	159.70
	11.6		8/1/2022	4/1/2024	60' Man Lifts	2	80	100	Diesel	0.60	0.06	0.73	0.00	0.04	0.04	0.03	105.95	NA	NA	105.95
	11.6		8/1/2022	4/1/2024	Telescoping Forklift	2	110	175	Diesel	0.43	0.05	0.64	0.00	0.02	0.02	0.02	106.04	NA	NA	106.04
	11.7		2/1/2023	4/1/2024	Derrick Barge - Main Gen	1	400	600	Diesel	0.26	0.05	0.33	0.00	0.01	0.01	0.01	159.70	NA	NA	159.70
	11.7				Derrick Barge - Main Hoist	1	400	600	Diesel	0.87	0.12	0.68	0.00	0.01	0.01	0.01	292.71	NA	NA	292.71
	11.7				Derrick Barge - Aux Gen	1	150	175	Diesel	0.37	0.06	1.01	0.00	0.02	0.02	0.02	159.70	NA	NA	159.70
	11.7				Derrick Barge - Deck Winch 1	1	175	300	Diesel	1.01	0.14	0.74	0.00	0.01	0.01	0.01	288.73	NA	NA	288.73
	11.7				Derrick Barge - Deck Winch 2	1	175	300	Diesel	1.01	0.14	0.74	0.00	0.01	0.01	0.01	288.73	NA	NA	288.73
4	12	Clean-Up Dredging	4/1/2024	4/16/2024	Bore/Drill Rigs	1	1369	9999	Diesel	1.93	0.08	0.50	0.00	0.04	0.04	0.04	264.79	NA	NA	264.79
					Bore/Drill Rigs	0	274	300	Diesel	0.60	0.06	0.53	0.00	0.02	0.02	0.02	263.10	NA	NA	263.10
2	13	Temporary MD - in front of berth 164 - construction	1/30/2023	2/7/2023	140 ton crane	1	279	300	Diesel	1.00	0.09	0.52	0.00	0.04	0.04	0.04	151.96	NA	NA	151.96
					Forklift	1	200	300	Diesel	0.35	0.04	0.25	0.00	0.01	0.01	0.01	106.18	NA	NA	106.18
					Man lift	1	46	50	Diesel	0.83	0.15	1.04	0.00	0.05	0.05	0.04	118.05	NA	NA	118.05
3	14	Remove temporary mooring point	1/30/2023	2/1/2023	derrick barge crane	1	376	600	Diesel	0.87	0.12	0.68	0.00	0.01	0.01	0.01	292.71	NA	NA	292.71
					derrick barge hoist swing winch	1	379	600	Diesel	0.87	0.12	0.68	0.00	0.01	0.01	0.01	292.71	NA	NA	292.71
					Tugboat (propulsion)	2	680	750	Diesel	5.56	0.64	4.39	NA	NA	0.18	0.16	NA	NA	NA	0.00
					Tugboat (auxiliary)	1	47	50	Diesel	5.26	1.77	4.82	NA	NA	0.29	0.27	NA	NA	NA	0.00

TABLE 5. ONROAD FUGITIVE DUST

Paved Road Dust Emission Factors Calculation

Vehicle Type	CARB Roadway Category	(sL) Silt Loading (g/m2)	PM10 Particle Size Multiplier (g/mi)	PM2.5 Particle Size Multiplier (g/mi)	Average Vehicle Weight (tons)	(E) Uncontrolled PM10 Emission Factor (g/VMT)	(E) Uncontrolled PM2.5 Emission Factor (g/VMT)	Road Type Distribution for Los Angeles - Long Beach - Anaheim, CA	Composite Uncontrolled PM10 Emission Factor (g/VMT)	Composite Uncontrolled PM2.5 Emission Factor (g/VMT)
	Local	0.135	1.00	0.15	25.0	4.31	0.65	5%		
	Collector	0.013	1.00	0.15	25.0	0.51	0.08	5%		
	Major	0.013	1.00	0.15	25.0	0.51	0.08	42%		
Trucks	Freeway	0.015	1.00	0.15	25.0	0.58	0.09	48%	0.74	0.11
	Local	0.135	1.00	0.15	2.4	0.39	0.06	5%		
	Collector	0.013	1.00	0.15	2.4	0.05	0.01	5%		
	Major	0.013	1.00	0.15	2.4	0.05	0.01	42%		
LDVs	Freeway	0.015	1.00	0.15	2.4	0.05	0.01	48%	0.07	0.01

Notes:

1. Source: CARB Miscellaneous Process Methodologies - Paved Road Dust
https://ww2.arb.ca.gov/carb-miscellaneous-process-methodologies-paved-road-dust
2. The equation is: Emission Factor = (Particle Size Multiplier) x (sL)^0.91 x (Vehicle Weight)^1.02
3. The silt loading value of 0.135 g/m2 for local roadways was assumed to be representative of onsite conditions because of the relatively low number of onsite truck and automobile trips.
4. The average vehicle weight for onsite trucks is based on a modern tanker truck that holds 9,000 gal diesel fuel (approx. 31.7 tons fuel) and has a GVWR of 80,000 lbs (40 tons) (GVWR includes the weight of cargo). Therefore, a loaded fuel truck would weigh 40 tons and an empty fuel truck would weigh 8.3 tons. The average weight is therefore assumed to be approximately 25 tons. Trucks and autos would generally take different routes onsite.

TABLE 6. MARINE ENGINE INFORMATION

Equipment Information												
General									Age			
Equipment Name	Engine Type	Vessel Type	Model Year*	No. of Engines	Engine HP	HP Bin	Fuel	Load Factor	Useful Life (Years)	2021	2022	2023	2024
Tugboat - Propulsion 1	Auxiliary	Tug Boats	2007	1.59	1000	750-1900	DSL	0.31	22.5	14	15	16	17
Tugboat - Propulsion 2	Auxiliary	Tug Boats	2007	1.59	1000	750-1900	DSL	0.31	22.5	14	15	16	17
Tugboat - Main Gen 1	Main	Tug Boats	2007	1.92	60	50-120	DSL	0.5	21	14	15	16	17
Tugboat - Main Gen 2	Main	Tug Boats	2007	1.92	60	50-120	DSL	0.5	21	14	15	16	17
Tugboat (propulsion)	Auxiliary	Tug Boats	2007	1.59	680	500-750	DSL	0.31	22.5	14	15	16	17
Tugboat (auxiliary)	Auxiliary	Tug Boats	2007	1.59	47	25-50	DSL	0.31	22.5	14	15	16	17

* From 2018 Port Emissions Inventory https://kentico.portoflosangeles.org/getmedia/0e10199c-173e-4c70-9d1d-c87b9f3738b1/2018_Air_Emissions_Inventory

Correction Factors

Type	Value	Description
HC	0.72	Fuel Correction Factor for ULSD
NOx	0.948	Fuel Correction Factor for ULSD
PM10	0.8	Fuel Correction Factor for ULSD - MY older than 2011
PM10	0.852	Fuel Correction Factor for ULSD - MY 2011 or newer
PM2.5/PM10	0.92	Offroad model

Source https://www.arb.ca.gov/regact/2007/chc07/appb.pdf

HP BIN LOOKUP

HP Min	HP Max	HP Bin
25	50	25-50
51	120	50-120
121	175	120-175
176	250	175-250
251	500	250-500
501	750	500-750
751	1900	750-1900
1901	3300	1900-3300
3301	5000	3300-5000

TABLE 7. MARINE ENGINE BASE EMISSION FACTORS

				Zero Hour EFs (g/hp-hr)				Deterioration Factor			
Equipment Name	Engine Type	Vessel Type	Model Year*	ROG	CO	NOX	PM	HC	CO	NOX	PM
Tugboat - Propulsion 1	Auxiliary	Tug Boats	2007	0.68	3.73	5.529	0.2	0.440	0.250	0.210	0.670
Tugboat - Propulsion 2	Auxiliary	Tug Boats	2007	0.68	3.73	5.529	0.2	0.440	0.250	0.210	0.670
Tugboat - Main Gen 1	Main	Tug Boats	2007	0.99	3.73	5.32	0.3	0.280	0.160	0.140	0.440
Tugboat - Main Gen 2	Main	Tug Boats	2007	0.99	3.73	5.32	0.3	0.280	0.160	0.140	0.440
Tugboat (propulsion)	Auxiliary	Tug Boats	2007	0.68	3.73	5.1015	0.15	0.440	0.250	0.210	0.670
Tugboat (auxiliary)	Auxiliary	Tug Boats	2007	1.8	3.73	5.32	0.3	0.510	0.410	0.060	0.310

* From 2018 Port Emissions Inventory https://kentico.portoflosangeles.

Fuel consumption

BSFC 184 g/hp-hr

Source https://www.arb.ca.gov/msei/chc-appendix-b-emission-estimates-ver02-27

fuel densit 3177.83 g/gal

Fuel consu 0.0579 gal/hp-hr

fuel densit 36.9

fuel sg 0.84026

wat den al 8.3378

https://www.arb.ca.gov/enf/fuels/dieselspecs.pdf

TABLE 8. MARINE ENGINE EMISSION FACTORS BY YEAR

				Emission Factors (g/hp-hr)					Emission Factors (g/hp-hr)					Emission Factors (g/hp-hr)					Emission Factors (g/hp-hr)				
				2021					2022					2023					2024				
Equipment Name	Engine Type	Vessel Type	Model Year*	ROG	CO	NOX	PM10	PM2.5	ROG	CO	NOX	PM10	PM2.5	ROG	CO	NOX	PM10	PM2.5	ROG	CO	NOX	PM10	PM2.5
Tugboat - Propulsion 1	Auxiliary	Tug Boats	2007	0.6236416	4.310222222	5.926380288	0.2267	0.20857	0.633216	4.35167	5.9753	0.23147	0.21295	0.64279	4.39311	6.02422	0.23623	0.21733	0.65236	4.43456	6.07314	0.241	0.22172
Tugboat - Propulsion 2	Auxiliary	Tug Boats	2007	0.6236416	4.310222222	5.926380288	0.2267	0.20857	0.633216	4.35167	5.9753	0.23147	0.21295	0.64279	4.39311	6.02422	0.23623	0.21733	0.65236	4.43456	6.07314	0.241	0.22172
Tugboat - Main Gen 1	Main	Tug Boats	2007	0.845856	4.127866667	5.5140736	0.3104	0.28557	0.85536	4.15629	5.5477	0.31543	0.29019	0.86486	4.1847	5.58132	0.32046	0.29482	0.87437	4.21312	5.61494	0.32549	0.29945
Tugboat - Main Gen 2	Main	Tug Boats	2007	0.845856	4.127866667	5.5140736	0.3104	0.28557	0.85536	4.15629	5.5477	0.31543	0.29019	0.86486	4.1847	5.58132	0.32046	0.29482	0.87437	4.21312	5.61494	0.32549	0.29945
Tugboat (propulsion)	Auxiliary	Tug Boats	2007	0.6236416	4.310222222	5.468155008	0.17003	0.15642	0.633216	4.35167	5.51329	0.1736	0.15971	0.64279	4.39311	5.55843	0.17717	0.163	0.65236	4.43456	5.60357	0.18075	0.16629
Tugboat (auxiliary)	Auxiliary	Tug Boats	2007	1.707264	4.681564444	5.23164544	0.28629	0.26339	1.73664	4.74953	5.24509	0.2896	0.26643	1.76602	4.8175	5.25854	0.29291	0.26947	1.79539	4.88547	5.27199	0.29621	0.27252

TABLE 12. OFFROAD FUEL CONSUMPTION

					2023		
Phase	Task	Task Name	Start Date	End Date	Fuel Consumption Factor (gal/hp-hr)	Annual Fuel Consumption (gal/year)	Peak Daily Emissions (gal/day)
1	1	Temporary Piping	9/1/2021	2/1/2022	0.0190	0	0
					0.0156	0	0
					0.0423	0	0
					0.0156	0	0
					0.0104	0	0
					0.0104	0	0
2	2	Marine Demolition	4/17/2022	7/1/2022	0.0149	0	0
					0.0215	0	0
					0.0215	0	0
					0.0276	0	0
					0.0257	0	0
2	3	Yard Support	2/1/2022	1/30/2023	0.0149	156	8
					0.0105	173	8
					0.0276	56	3
					0.0257	21	1
3	4	Install Mooring Dolphins 1,2, & 4	2/1/2022	3/15/2022	0.0156	0	0
					0.0287	0	0
					0.0156	0	0
					0.0283	0	0
					0.0283	0	0
					0.0579	0	0
					0.0579	0	0
					0.0579	0	0
					0.0579	0	0
					0.0283	0	0
					0.0215	0	0
					0.0214	0	0
					0.0276	0	0
					0.0257	0	0
3	5	Install Trestle	2/1/2022	4/17/2022	0.0149	0	0
					0.0215	0	0
					0.0215	0	0
					0.0276	0	0
					0.0257	0	0
3	6	Install MD3	7/1/2022	7/15/2022	0.0149	0	0
					0.0215	0	0
					0.0214	0	0
					0.0276	0	0
					0.0257	0	0
3	7	Install Breasting Dolphins 1 & 2	4/27/2022	6/20/2022	0.0149	0	0
					0.0215	0	0
					0.0215	0	0
					0.0276	0	0
					0.0257	0	0
3	8	Marine Platforms & Trestle	7/1/2022	12/20/2022	0.0149	0	0
					0.0149	0	0
					0.0215	0	0
					0.0215	0	0
					0.0276	0	0
					0.0257	0	0
3	9	Install Breasting Dolphins 3 & 4	10/10/2022	12/3/2022	0.0149	0	0
					0.0215	0	0
					0.0215	0	0
					0.0276	0	0
					0.0257	0	0
3	10	Remove Trestle	12/20/2022	1/30/2023	0.0149	624	30
					0.0215	712	34
					0.0215	80	4
					0.0276	56	3
					0.0257	43	2
4	11.1	Onshore/Topside Construction	8/1/2022	11/1/2022	0.0256	0	0
	11.2		8/1/2022	8/15/2022	0.0197	0	0
	11.3		8/1/2022	10/1/2022	0.0198	0	0
	11.3		8/1/2022	10/1/2022	0.0196	0	0
	11.4		8/1/2022	4/1/2024	0.0190	3952	15
	11.5		10/1/2022	3/1/2023	0.0149	1506	36
	11.6		8/1/2022	4/1/2024	0.0156	4068	16
	11.6		8/1/2022	4/1/2024	0.0423	2202	8
	11.6		8/1/2022	4/1/2024	0.0156	1220	5
	11.6		8/1/2022	4/1/2024	0.0104	1727	7
	11.6		8/1/2022	4/1/2024	0.0104	1486	6
	11.7		2/1/2023	4/1/2024	0.0156	11910	50
	11.7				0.0287	21830	92
	11.7				0.0156	558	2
	11.7				0.0283	1178	5
	11.7				0.0283	1178	5
4	12	Clean-Up Dredging	4/1/2024	4/16/2024	0.0259	0	0
					0.0258	0	0
2	13	Temporary MD - in front of berth 164 - construction	1/30/2023	2/7/2023	0.0149	266	33
					0.0104	67	8
					0.0116	17	2
3	14	Remove temporary mooring point	1/30/2023	2/1/2023	0.0287	43	75
					0.0287	43	76
					0.0579	157	276
					0.0579	11	19

TABLE 10. FUEL CONSUMPTION CALCULATIONS

Project Information					Annual Fuel Consumption (gal/year)				Daily Fuel Consumption (gal/day)			
Phase	Task	Task Name	Start Date	End Date	2021	2022	2023	2024	2021	2022	2023	2024
1	1	Temporary Piping	9/1/2021	2/1/2022	3377.172377	838.0079176	0	0	39.07472171	37.84551886	0	0
2	2	Marine Demolition	4/17/2022	7/1/2022	0	1530.209147	0	0	0	28.56390408	0	0
2	3	Yard Support	2/1/2022	1/30/2023	0	4200.438643	354.8679185	0	0	17.13834245	16.62372671	0
3	4	Install Mooring Dolphins 1,2, & 4	2/1/2022	3/15/2022	0	701.1684786	0	0	0	22.85112326	0	0
3	5	Install Trestle	2/1/2022	4/17/2022	0	2434.909977	0	0	0	42.84585612	0	0
3	6	Install MD3	7/1/2022	7/15/2022	0	454.516529	0	0	0	42.84585612	0	0
3	7	Install Breasting Dolphins 1 & 2	4/27/2022	6/20/2022	0	901.5023296	0	0	0	22.85112326	0	0
3	8	Marine Platforms & Trestle	7/1/2022	12/20/2022	0	2871.451865	0	0	0	22.85112326	0	0
3	9	Install Breasting Dolphins 3 & 4	10/10/2022	12/3/2022	0	901.5023296	0	0	0	22.85112326	0	0
3	10	Remove Trestle	12/20/2022	1/30/2023	0	297.3576482	747.9192001	0	0	37.84551886	36.10644414	0
4	11	Onshore/Topside Construction	8/1/2022	4/1/2024	0	0	0	0	0	42.84585612	41.55931677	41.1607541
4	12	Clean-Up Dredging	4/1/2024	4/16/2024	0	0	0	591.3340934	0	0	0	39.4222729
2	13	Temporary MD - in front of berth 164 - construction	1/30/2023	2/7/2023	0	0	352.7876533	0	0	0	41.55931677	0
3	14	Remove temporary mooring point	1/30/2023	2/1/2023	0	0	20.6322538	0	0	0	36.10644414	0
					3377.172	15131.065	1476.207	591.334				
					1	1	1	1				

TABLE 11. FUEL CONSUMPTION CALCULATIONS - BY VEHICLE

Worker Vehicles2 Worker Vehicles3 Worker Vehicles2 Worker Vehicles2 Vendor Trips2021 Vendor Trips2022 Vendor Trips2023 Vendor Trips2024 Hauling2021 Hauling2022 Hauling2023 Hauling2024

Project Information					Annual Fuel Consumption (gal/year) - Worker Trips				Annual Fuel Consumption (gal/year) - Vendor Trips				Annual Fuel Consumption (gal/year) - Haul Trips			
Phase	Task	Task Name	Start Date	End Date	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024
1	1	Temporary Piping	9/1/2021	2/1/2022	1524.531635	379.4918685	0	0	0	0	0	0	1852.640742	458.5160491	0	0
2	2	Marine Demolition	4/17/2022	7/1/2022	0	1530.209147	0	0	0	0	0	0	0	0	0	0
2	3	Yard Support	2/1/2022	1/30/2023	0	4076.477168	344.3486247	0	0	123.9614754	10.51929384	0	0	0	0	0
3	4	Install Mooring Dolphins 1,2, & 4	2/1/2022	3/15/2022	0	685.5336979	0	0	0	15.63478068	0	0	0	0	0	0
3	5	Install Trestle	2/1/2022	4/17/2022	0	2295.313721	0	0	0	139.5962561	0	0	0	0	0	0
3	6	Install MD3	7/1/2022	7/15/2022	0	428.4585612	0	0	0	26.05796781	0	0	0	0	0	0
3	7	Install Breasting Dolphins 1 & 2	4/27/2022	6/20/2022	0	881.4004687	0	0	0	20.10186088	0	0	0	0	0	0
3	8	Marine Platforms & Trestle	7/1/2022	12/20/2022	0	2807.423715	0	0	0	64.02814946	0	0	0	0	0	0
3	9	Install Breasting Dolphins 3 & 4	10/10/2022	12/3/2022	0	881.4004687	0	0	0	20.10186088	0	0	0	0	0	0
3	10	Remove Trestle	12/20/2022	1/30/2023	0	134.6584049	344.3486247	0	0	0	0	0	0	162.6992432	403.5705754	0
4	11	Onshore/Topside Construction	8/1/2022	4/1/2024	0	0	0	0	0	0	0	0	0	0	0	0
4	12	Clean-Up Dredging	4/1/2024	4/16/2024	0	0	0	205.8037705	0	0	0	0	0	0	0	385.5303229
2	13	Temporary MD - in front of berth 164 - construction	1/30/2023	2/7/2023	0	0	332.4745342	0	0	0	20.31311914	0	0	0	0	0
3	14	Remove temporary mooring point	1/30/2023	2/1/2023	0	0	9.499272406	0	0	0	0	0	0	0	11.13298139	0
Total					1524.531635	14100.36722	1030.671056	205.8037705	0	409.4823512	30.83241298	0	1852.640742	621.2152924	414.7035568	385.5303229

Berths 163 and 164

Mormon Island, Los Angeles, California

Historical Resource Evaluation Report

Prepared by:

CONSULTING GPA

March 2019

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EXECUTIVE SUMMARY

The purpose of this report was to evaluate the buildings and structures on Berths 163 and 164 as potential historical resources in anticipation of proposed projects on these Berths that would be subject to the California Environmental Quality Act (CEQA). The Study Area for the report comprises Berths 163 and 164 and a portion of Los Angeles County Tax Assessor's Parcel Number 7440-014-904. The Berths are located on Mormon Island in the Port of Los Angeles Community Plan Area of the City of Los Angeles. The Study Area is generally bounded by Slip Number one to the west, the Los Angeles Harbor Department (LAHD) maintenance yards to the north, the Pasha breakbulk terminal to the east, and the U.S. Borax-Rio Tinto export terminal to the south.

The Berths that comprise the Study Area, Berths 163 and 164, are not currently listed under any national, state, or local landmark or historic district programs, and were not identified during SurveyLA, as the Port of Los Angeles was not included in the scope of SurveyLA. A records search prepared by the South Central Coastal Information Center revealed a prior evaluation of the Berths prepared by Carrie Chasteen of Applied Earthworks in 2015 that concluded that the Berths appeared eligible for listing in the National, California, and local registers as two separate districts that corresponded with the boundaries of the present-day NuStar and Ultamar, Inc. (dba Valero Wilmington Refinery referred to in this report as Valero) leaseholds. In a letter dated May 14, 2018, State Historic Preservation Officer (SHPO) Julianne Polanco stated that she did not concur with the evaluations of eligibility based on the documentation provided in the 2015 report and outlined the opportunities for additional analysis. GPA was therefore retained to conduct this additional analysis.

As a result of that analysis, GPA concluded that the Study Area, evaluated as a single oil terminal district, does **not** appear to be eligible for listing in the National and California Registers, or for designation as a local Historic Preservation Overlay Zone due to a lack of significance and integrity. The recommended Status Code for the Study Area is 6Z, ineligible for designation at the national, state, and local levels through survey evaluation. Therefore, the Berths and the buildings and structures thereon are not historical resources subject to CEQA. As proposed projects would have no impact on historical resources, no further study is recommended or required.

1. INTRODUCTION

1.1 Purpose and Qualifications

The purpose of this report is to evaluate the buildings and structures on Berths 163 and 164 as potential historic resources in anticipation of proposed projects on these Berths that would be subject to the California Environmental Quality Act (CEQA). The Study Area (see **Figure 1**) for the report comprises Berths 163 and 164 and a portion of Los Angeles County Tax Assessor's Parcel Number 7440-014-904. The Berths are located on Mormon Island in the Port of Los Angeles Community Plan Area of the City of Los Angeles. The Study Area is generally bounded by Slip Number one to the west, the Los Angeles Harbor Department (LAHD) maintenance yards to the north, the Pasha breakbulk terminal to the east, and the U.S. Borax-Rio Tinto export terminal to the south.

Figure 1: Project Vicinity circled in red. Base image courtesy of Google Maps.

The Berths were previously evaluated by Carrie Casteen of Applied Earthworks in 2015 as historic districts eligible for listing under national, state, and local programs. In a letter dated May 14, 2018, State Historic Preservation Officer (SHPO) Julianne Polanco stated that she did not concur with the evaluations of eligibility based on the documentation provided in the 2015 report and outlined the opportunities for additional analysis. GPA Consulting (GPA) was therefore retained to conduct the additional analysis requested by the SHPO and re-evaluate the Berths for the

purposes of CEQA. Elysha Paluszek and Amanda Yoder Duane were responsible for the preparation of this report. Both historians fulfill the qualifications for a historic preservation professional outlined in Title 36 of the Code of Federal Regulations, Part 61. Their résumés are included as **Appendix A**.

1.2 Methodology

In preparing this report, GPA performed the following tasks:

1. Reviewed records results from a search the South Central Coastal Information Center (SCCIC) at California State University, Fullerton dating from February 23, 2017 (SCCIC File No. 17312.3326). The records search included a review of all recorded non-archaeological resources situated within a half-mile radius of the Study Area, as well as a review of known cultural resource surveys and reports. Sources consulted included the National Register of Historic Places, the California Register of Historical Resources, the California Inventory of Historic Resources, the California Historical Landmarks list, the California Points of Historical Interest list, the Directory of Properties in the Historic Property Data File (HPDF), and other pertinent data available at the SCCIC.

   The records search revealed two previously recorded properties within the Study Area (Berths 163 and 164). As discussed above, the Berths were evaluated by Carrie Casteen of Applied Earthworks in 2015 as historic districts eligible for listing under national, state, and local programs. In a letter dated May 14, 2018, SHPO Julianne Polanco stated that she did not concur with the evaluations of eligibility based on the documentation provided in the 2015 report and outlined the opportunities for additional analysis.

2. Conducted a field inspection of Berths 163 and 164 to ascertain the general condition and physical integrity of the buildings, structures, and infrastructure within the Study Area. Digital photographs were taken during this field inspection.

3. Consulted with LAHD staff and employees of the respective oil terminals during the field inspection on the history and characteristics of the buildings and structures located in the Study Area, particularly the timber wharf.

4. Conducted additional research into the history of the Study Area in order to prepare the historic context and evaluations. Sources referenced included the San Pedro Bay Historical Society, Los Angeles Public Library, prior survey data, newspaper archives, historic maps, and the Los Angeles Citywide Historic Context Statement.

5. Reviewed and analyzed ordinances, statutes, regulations, bulletins, and technical materials relating to federal, state, and local historic preservation designations, and assessment processes and programs to evaluate the significance and integrity of the buildings and structures within the Study Area.

6. Determined that a district evaluation was the most appropriate approach for the Study Area. Per National Register Bulletin #15, “Properties with large acreage or a number of resources are usually considered districts. A district possesses a significant concentration,

linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development."[1]

[1] "National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation," National Park Service, Cultural Resources, eds. Patrick Andrus and Rebecca Shrimpton, accessed June 2018, https://www.nps.gov/nr/publications/bulletins/nrb15/.

2. REGULATORY FRAMEWORK

Generally, a lead agency must consider a property a historical resource under CEQA if it is eligible for listing in the California Register of Historical Resources (California Register). The California Register is modeled after the National Register of Historic Places (National Register). Furthermore, a property is presumed to be historically significant if it is listed in a local register of historical resources or has been identified as historically significant in a historic resources survey (provided certain criteria and requirements are satisfied) unless a preponderance of evidence demonstrates that the property is not historically or culturally significant.[2] The National Register, California Register, and local designation programs are discussed below.

2.1 National Register of Historic Places

The National Register is "an authoritative guide to be used by federal, state, and local governments, private groups, and citizens to identify the nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment."[3]

Criteria

To be eligible for listing in the National Register, a property must be at least 50 years of age (unless the property is of "exceptional importance") and possess significance in American history and culture, architecture, or archaeology. A property of potential significance must meet one or more of the following four established criteria: [4]

A. Associated with events that have made a significant contribution to the broad patterns of our history; or

B. Associated with the lives of persons significant in our past; or

C. Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. Yield, or may be likely to yield, information important in prehistory or history.

Context

To be eligible for listing in the National Register, a property must be significant within a historic context. *National Register Bulletin #15* states that the significance of a historic property can be judged only when it is evaluated within its historic context. Historic contexts are "those patterns, themes, or trends in history by which a specific…property or site is understood and its meaning…is made clear."[5] A property must represent an important aspect of the area's history or prehistory and possess the requisite integrity to qualify for the National Register.

[2] Public Resources Code §5024.1 and 14 California Code of Regulations §4850 & §15064.5(a)(2).
[3] Title 36 Code of Federal Regulations Part 60.2.
[4] Title 36 Code of Federal Regulations Part 60.4.
[5] *National Register Bulletin #15: How to Apply the National Register Criteria for Evaluation* (Washington D.C.: National Park Service, Department of the Interior, 1997), 7-8.

Integrity

In addition to possessing significance within a historic context, to be eligible for listing in the National Register a property must have integrity. Integrity is defined in *National Register Bulletin #15* as "the ability of a property to convey its significance."[6] Within the concept of integrity, the National Register recognizes the following seven aspects or qualities that in various combinations define integrity: feeling, association, workmanship, location, design, setting, and materials. Integrity is based on significance: why, where, and when a property is important. Thus, the significance of the property must be fully established before the integrity is analyzed.

Historic Districts

The National Register includes significant properties, which are classified as buildings, sites, districts, structures, or objects. A historic district "derives its importance from being a unified entity, even though it is often composed of a variety of resources. The identity of a district results from the interrelationship of its resources, which can be an arrangement of historically or functionally related properties."[7]

A district is defined as a geographically definable area of land containing a significant concentration of buildings, sites, structures, or objects united by past events or aesthetically by plan or physical development.[8] A district's significance and historic integrity should help determine the boundaries. Other factors include:

- Visual barriers that mark a change in the historic character of the area or that break the continuity of the district, such as new construction, highways, or development of a different character;
- Visual changes in the character of the area due to different architectural styles, types, or periods, or to a decline in the concentration of contributing resources;
- Boundaries at a specific time in history, such as the original city limits or the legally recorded boundaries of a housing subdivision, estate, or ranch; and
- Clearly differentiated patterns of historical development, such as commercial versus residential or industrial.[9]

Within historic districts, properties are identified as contributing and noncontributing. A contributing building, site, structure, or object adds to the historic associations, historic architectural qualities, or archeological values for which a district is significant because:

- It was present during the period of significance, relates to the significance of the district, and retains its physical integrity; or
- It independently meets the criterion for listing in the National Register.[10]

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[6] *National Register Bulletin #15*, 44-45.
[7] Ibid, 5.
[8] Title 36 Code of Federal Regulations Part 60.3(d).
[9] *National Register Bulletin #21: Defining Boundaries for National Register Properties Form (*Washington D.C.: U.S. Department of the Interior, 1997), 12.
[10] *National Register Bulletin #16: How to Complete the National Register Application Form* (Washington D.C.: U.S. Department of the Interior, 1997), 16.

2.2 California Register of Historical Resources

In 1992, Governor Wilson signed Assembly Bill 2881 into law establishing the California Register. The California Register is an authoritative guide used by state and local agencies, private groups, and citizens to identify historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse impacts.[11]

The California Register consists of properties that are listed automatically as well as those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed in the National Register and those formally Determined Eligible for the National Register;
- State Historical Landmarks from No. 0770 onward; and
- Those California Points of Historical Interest that have been evaluated by the State Office of Historic Preservation (SOHP) and have been recommended to the State Historical Resources Commission for inclusion on the California Register.[12]

Criteria and Integrity

For those properties not automatically listed, the criteria for eligibility of listing in the California Register are based upon National Register criteria, but are identified as 1-4 instead of A-D. To be eligible for listing in the California Register, a property generally must be at least 50 years of age and must possess significance at the local, state, or national level, under one or more of the following four criteria:

1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States; or
2. It is associated with the lives of persons important to local, California, or national history; or
3. It embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values; or
4. It has yielded, or has the potential to yield, information important in the prehistory or history of the local area, California, or the nation.

Properties eligible for listing in the California Register may include buildings, sites, structures, objects, and historic districts. A property less than 50 years of age may be eligible if it can be demonstrated that sufficient time has passed to understand its historical importance. While the enabling legislation for the California Register is less rigorous with regard to the issue of integrity, there is the expectation that properties reflect their appearance during their period of significance.[13]

[11] Public Resources Code §5024.1 (a).
[12] Public Resources Code §5024.1 (d).
[13] Public Resources Code §4852.

The California Register may also include properties identified during historic resource surveys. However, the survey must meet all of the following criteria:[14]

1. The survey has been or will be included in the State Historic Resources Inventory;
2. The survey and the survey documentation were prepared in accordance with office [SOHP] procedures and requirements;
3. The resource is evaluated and determined by the office [SOHP] to have a significance rating of Category 1 to 5 on a DPR Form 523; and
4. If the survey is five or more years old at the time of its nomination for inclusion in the California Register, the survey is updated to identify historical resources that have become eligible or ineligible due to changed circumstances or further documentation and those that have been demolished or altered in a manner that substantially diminishes the significance of the resource.

SOHP Survey Methodology

The evaluation instructions and classification system prescribed by the SOHP in its *Instructions for Recording Historical Resources* provide a Status Code for use in classifying potential historical resources. In 2003, the Status Codes were revised to address the California Register. These Status Codes are used statewide in the preparation of historical resource surveys and evaluation reports. The first code is a number that indicates the general category of evaluation. The second code is a letter that indicates whether the property is separately eligible (S), eligible as part of a district (D), or both (B). There is sometimes a third code that describes some of the circumstances or conditions of the evaluation. The general evaluation categories are as follows:

1. Listed in the National Register or the California Register.
2. Determined eligible for listing in the National Register or the California Register.
3. Appears eligible for listing in the National Register or the California Register through survey evaluation.
4. Appears eligible for listing in the National Register or the California Register through other evaluation.
5. Recognized as historically significant by local government.
6. Not eligible for listing or designation as specified.
7. Not evaluated or needs re-evaluation.

The specific Status Code referred to in this report is as follows:

6Z Found ineligible for National Register, California Register, or local designation through survey evaluation.

[14] Public Resources Code §5024.1.

2.3 Los Angeles Cultural Heritage Ordinance

The Los Angeles City Council adopted the Cultural Heritage Ordinance[15] in 1962 and amended it in 2018 (Ordinance No. 185472). The Ordinance created a Cultural Heritage Commission and criteria for designating Historic-Cultural Monuments (HCM). The Commission comprises five citizens, appointed by the Mayor, who have exhibited knowledge of Los Angeles history, culture, and architecture. An HCM is defined as any site (including significant trees or other plant life located on the site), building or structure of particular historic or cultural significance to the City of Los Angeles. A proposed HCM may be designated by the City Council if it meets at least one of the following three criteria for designation:

1. The proposed HCM is identified with important events of national, state, or local history, or exemplifies significant contributions to the broad cultural, economic, or social history of the nation, state or community; or

2. The proposed HCM is associated with the lives of historic personages important to national, state or local history; or

3. The proposed HCM embodies the distinctive characteristics of a style, type, period, or method of construction; or represents a notable work of a master designer, builder, or architect whose individual genius influenced his or her age.

Unlike the National and California Registers, the Ordinance makes no mention of concepts such as physical integrity or period of significance. Moreover, properties do not have to reach a minimum age requirement, such as 50 years, to be designated as HCMs.

2.4 Los Angeles Historic Preservation Overlay Zones

In 1979, the Los Angeles City Council adopted an ordinance that enabled the creation of Historic Preservation Overlay Zones (HPOZ). These zones, also known as historic districts, are established and administered by the Los Angeles Planning Department and City Council. An HPOZ is defined in Ordinance 184903 as "any area of the City of Los Angeles containing buildings, structures, Landscaping, Natural Features or lots having Historic, architectural, Cultural or aesthetic significance" and therefore designated."

In order to establish an HPOZ, an area must be adopted as an HPOZ by the City Planning Commission and City Council by means of a zone change procedure. Once designated, these areas have a "preservation overlay" added to their zoning, and are subject to certain regulations under Section 12.20.3 of the Los Angeles Municipal Code (LAMC). Each HPOZ has an HPOZ board made up of five members who review projects, make recommendations, and promote historic preservation within the designated area.[16]

District features designated as contributing shall meet one or more of the following criteria:

1. Adds to the Historic architectural qualities or Historic associations for which a property is significant because it was present during the period of significance, and possesses Historic integrity reflecting its character at that time; or

[15] Los Angeles Administrative Code §22.171 of Article 1, Chapter 9, Division 22.
[16] "Historic Preservation Overlay Zones," Los Angeles Department of City Planning Office of Historic Resources, accessed August 2018, http://preservation.lacity.org/hpoz/homepage/about-hpoz-program.

2. Owing to its unique location or singular physical characteristics, represents an established feature of the neighborhood, community, or city; or

3. Retaining the building, structure, Landscaping, or Natural Feature, would contribute to the preservation and protection of an Historic place or area of Historic interest in the City.[17]

2.5 Los Angeles Harbor Department

The stated goal of the LAHD Built Environment Historic, Architectural and Cultural Resources Policy is to:[18]

> Encourage the preservation of the built historic, architectural, and cultural resources within the [Port] in a manner consistent with the City of Los Angeles Harbor Department's mission and obligations under the Tideland Trust Doctrine, Tideland Trust Grant, California Coastal Act, City of Los Angeles Charter, and the Port Master Plan.

The policy provides stipulations for inventorying, evaluating, preserving, and documenting historic, architectural, and cultural resources. Stipulations V(E)(1) through V(E)(4) outline the LAHD's environmental review process. They are as follows:[19]

E. The environmental review process for analysis of potential impacts to a building, structure or object shall include, but not be limited to, the following steps implemented by the Director of the Environmental Management Division in consultation with the Director of the Engineering Division:

   1. If a building, structure, object or district is included on the Inventory, but not listed on a federal, state or local Register, Environmental Management Division shall reevaluate its status if the previous evaluation is greater than five years old.

   2. If a building, structure, object or district is not included in the Inventory and is over 50-years of age the building or structure shall be evaluated to determine potential eligiblility for listing in a Register.

   3. If a building, structure object or district is less than 50-years of age, Harbor Department staff will determine whether its evaluation is warranted. Criteria to be considered regarding a decision to evaluate shall include, but not be limited to:

      a. The age of the buildings structures, object or district shall be one of the criteria in the determination, with older buildings, structures, objects and districts having a higher value in the consideration on whether to evaluate.

      b. Innovation in engineering or architecture recognized through time as trend setting in national or regional periodicals and widely emulated.

      c. If the resource is the only one remaining having an important association with a historic person or event.

[17] "City of Los Angeles Ordinance No. 184303." Los Angeles Department of City Planning Office of Historic Resources, accessed August 2018, http://preservation.lacity.org/sites/default/files/16-1157_ord_184903_5-5-17_1.pdf.
[18] "Los Angeles Harbor Department – Built Environment Historic, Architectural and Cultural Resource Policy," accessed August 2018, https://www.portoflosangeles.org/Board/2013/May%202013/05_02_13_Item_9_Transmittal_1.pdf.
[19] Ibid.

d. Whether or not the resource is an integral part of a district that is potentially eligible for listing on a Register.

4. Only after completion of environmental review (as applicable) will a General Engineering Permit, including those for demolition or substantial alternation, be issued.

The full text of the LAHD policy is located at:

https://www.portoflosangeles.org/Board/2013/May%202013/05_02_13_Item_9_Transmittal_1.pdf.

3. ENVIRONMENTAL SETTING

3.1 History of the Study Area

While the Study Area is being evaluated as a whole, the description below may refer to specific sections within the Study Area, which are shown in **Figure 2**.

Figure 2: Boundaries of Berth 163, Berth 164, and Backlands within Study Area. Base image courtesy of Google Maps.

The Study Area is located on Mormon Island in the Port of Los Angeles. Mormon Island, originally a "swampy mound of alluvial earth" that had been carried into the harbor by a flood, was built up into a usable peninsula by 1913 after two years of dredging.[20] Research indicates that Berths 163 and 164 were initially developed by the Los Angeles Harbor in 1923 as part of a $1,500,000 project that involved the construction of new transit sheds and at least 3,300 linear feet of timber wharves.[21] In all, more than 30,000 feet of timber wharf had been constructed at the harbor by 1925.[22]

Since the facilities were developed in 1923, the Berths 163 and 164 have been occupied almost exclusively by oil-related businesses. The one exception is that the northern half of Berth 163 was

[20] Ernest Marquez and Veronique de Turenne, *Port of Los Angeles: An Illustrated History from 1850 to 1945* (Los Angeles: Los Angeles Board of Harbor Commissioners, 2007), 83-84.
[21] "Harbor Starts Wharf Building," *Los Angeles Times,* June 28, 1923. I8.
[22] Marquez and de Turenne, 84.

occupied by the Coast Fishing Company between 1927 and 1947. The tables below show the tenants in each Berth between 1924 and 1981 based on Los Angeles Harbor Department Maps in file with the San Pedro Bay Historical Society, Sanborn Fire Insurance Maps, newspaper archives, and prior survey information.

Built facilities were limited to the north and south half of Berths 163 and 164 until about the 1950s when the structures began appearing on the backlands. This timing corresponds with the point at which many oil businesses were expanding their facilities in response to containerization (see **Section 4.7 The Oil Industry at the Port, 1906-1965**).

TABLE 1: Tenants of Berth 163 – North Half	
Year	**Tenant**
1924	Vacant, per historic aerial photograph
1927	Vacant, per historic aerial photograph
1927-1928	Coast Fishing Company
1933	Coast Fishing Company
1935	Coast Fishing Company
1941	Coast Fishing Company
1947	Coast Fishing Company
1957	No tenant indicated on Harbor Map[23]
1963	Golden Eagle Refining Company
1967	Golden Eagle Refining Company
1974	Golden Eagle Refining Company
1981	Golden Eagle Refining Company

TABLE 2: Tenants of Berth 163 – South Half	
Year	**Tenant**
1924	Crump-Steele Company
1927	Vacant, per historic aerial photograph
1927-1928	Vacant, per historic aerial photograph
1933	No tenant indicated on Harbor Map
1935	Petrol Corporation
1941	Petrol Corporation
1947	Petrol Corporation

[23] This indicates that no occupant is shown on the map created by the Harbor Department for this year. These maps also include lists of occupants. At times, these lists include occupants for areas that are otherwise indicated as vacant on the map. Therefore, it appears that vacancy on the map does not necessarily indicate that the site was unoccupied. For example, the 1935 map shows no occupant at Berth 163 while the list indicates that Petroleum Corporation occupied the property. However, the list of occupants was not included on maps dating after World War II.

TABLE 2: Tenants of Berth 163 – South Half	
Year	**Tenant**
1957	No tenant indicated on Harbor Map
1963	American Bitumuls
1967	California Chemical Company
1974	California Chemical Company
1981	California Chemical Company

TABLE 3: Tenants of Berth 164 – North Half	
Year	**Tenant**
1924	Julian Petroleum; Crump-Steele Company
1927	Julian Petroleum
1927-1928	Sunset Oil
1933	Sunset Oil
1935	Sunset Oil
1941	Sunset Oil
1947	Sunset Oil
1957	Sunset Oil
1963	Golden Eagle Refining Company
1967	Golden Eagle Refining Company
1974	Golden Eagle Refining Company
1981	Golden Eagle Refining Company

TABLE 4: Tenants of Berth 164 – South Half	
Year	**Tenant**
1924	Crump-Steele Company
1927	Vacant, per historic aerial photograph
1927-1928	Vacant, per historic aerial photograph
1933	Vacant, per historic aerial photograph
1935	Vacant, per historic aerial photograph
1941	Exeter Refining Company
1947	Exeter Refining Company
1957	Edgington Oil Refinery Inc.
1963	Edgington Oil Refinery Inc.
1967	Edgington Oil Refinery Inc.

TABLE 4: Tenants of Berth 164 – South Half	
Year	**Tenant**
1974	Edgington Oil Refinery Inc.
1981	Edgington Oil Refinery Inc.

3.2 Description of the Study Area

Currently, Berths 163 and 164 are occupied by two oil terminals for the NuStar and Valero companies. NuStar occupies both halves of Berth 163, as well as the north half of Berth 164. Valero occupies the south half of Berth 164 as well as the backlands (see **Figure 3**). For clarity, the structures and buildings on the Berths and backlands are described generally north to south, east to west in the following narrative, beginning at Berth 163, then 164, and ending on the backlands.

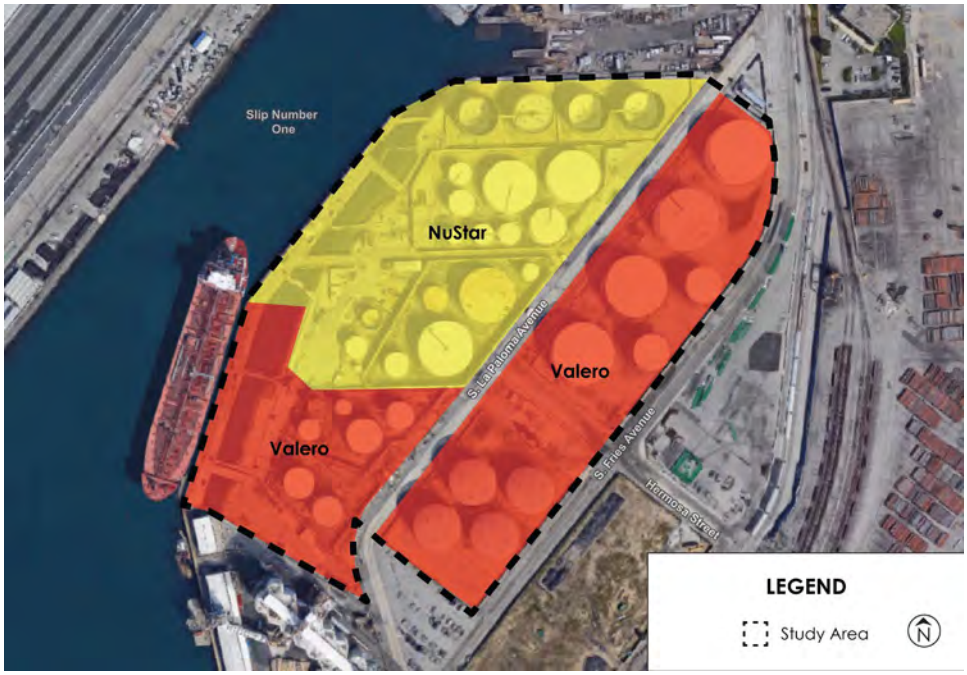

Figure 3: Present-day leaseholds at Berths 163 and 164. Base image courtesy of Google Maps.

The structures and buildings have been labeled alphabetically in the following list and on **Figure 4** on the following page.

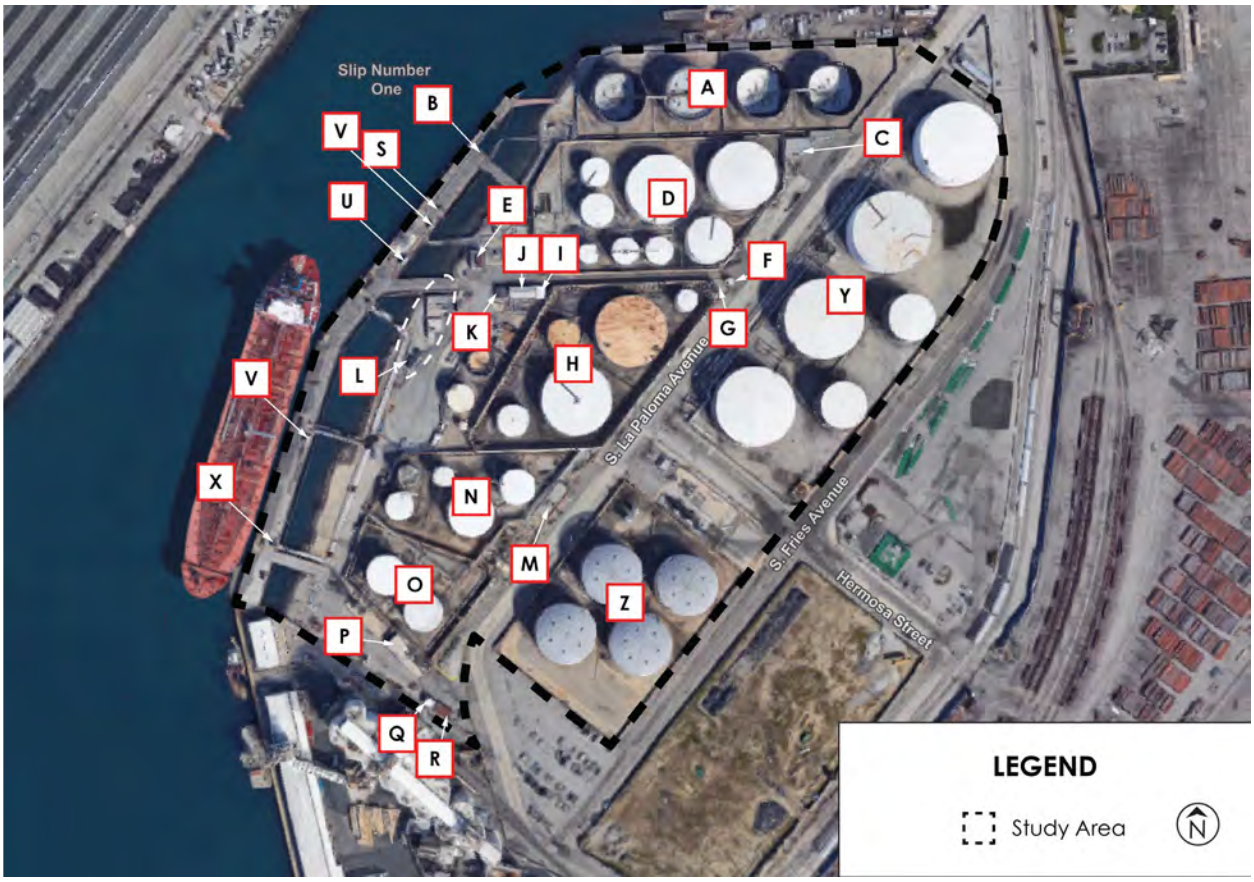

Figure 4: Buildings and Structures on Berths 163 and 164. Base image courtesy of Google Maps.

A. Tank Farm 1

On the north half of Berth 163, there is a tank farm (Tank Farm 1 for the purposes of this report) consisting of four metal storage tanks of equal size—approximately 90 feet in diameter—surrounded by a concrete dike wall (see **Figure 5**). Each set of two tanks are connected by metal catwalks; each of the four tanks has a set of stairs leading to the rim of the tank as well as pipelines connected to their bases that lead underground. Access to the interior of the dike wall appears to be via a metal ladder/stair at its west end. Two of the tanks were constructed between 1956 and 1960, and two were constructed by 1971.[24] Based on historic aerial photographs, the two tanks to the west (closer to Slip Number 1) were constructed first. Tenancy information from those dates indicates that Tank Farm 1 was constructed for the Golden Eagle Refining Company. Tank Farm 1 is currently located within the NuStar leasehold.

B. Timber Wharf

The timber wharf extends between Berth 163 and 164 (see **Figure 6**). It was constructed in 1923 as part of a building program of at least 3,300 other linear feet of wharf; research indicates that

[24] Carrie. Chasteen, Applied Earthworks, *Historic Resource Inventory and Evaluation for Berth 163 (NuStar Energy) and Berth 164 (Valero), Master Agreement No. 13-3199; Directive No. 1, ADP-130812-536C* (Los Angeles: Los Angeles Harbor Department, 2015. Revised 2016), 39.

the first tenant to utilize the wharf was the Crumpe-Steele Company.[25] Diagonally laid timbers above cross-braced wood support pilings form the surface of the wharf.. There is oil-related equipment such as manifolds and temporary buildings on the wharf. The wharf has been continually repaired over the years, with most of its timbers and support pilings having been replaced in kind over time, on an as-needed basis. Damaged areas may also be patched or covered with metal plates if they have not yet been replaced. The structure is currently within both the Valero and NuStar leaseholds.

Figure 5: View looking northeast towards Tank Farm 1, arrows indicating two westernmost tanks. (GPA, 2018)

Figure 6: View looking north at timber wharf along Berth 163; Tank Farm 1 at right. (GPA, 2018)

C. Office 1 and Office 2

On the east end of the south half of Berth 163, at the northeast corner of Tank Farm 2 and outside the dike wall, there are two prefabricated buildings that serve as offices for NuStar. They are both rectangular with flat roofs and their primary elevations face south. Their exteriors are clad in vertical T1-11 siding. The prefabricated building to the west, Office 1, is larger and has vinyl windows with false muntins (see **Figure 7**); the prefabricated building to the east, Office 2, has aluminum sliding windows (see **Figure 8**). The entrance to Office 1 is a pair of French doors. Office 2 has two hollow metal doors for entrances. Each entrance is accessed by a set of wooden stairs. Based on historic aerial photography, the offices were constructed c. 2011, likely for NuStar. They are currently located within the NuStar leasehold.

[25] "Harbor Starts Wharf Building."

Figure 7: View looking northeast towards Office 1, the larger of the two prefabricated office buildings outside the dike wall. (GPA, 2018)

Figure 8: View looking northeast towards Office 2, the smaller of the two prefabricated office buildings outside the dike wall. (GPA, 2018)

D. Tank Farm 2

On the east end of the south half of Berth 163, there is another, larger tank farm (Tank Farm 2 for the purposes of this report) consisting of two large metal storage tanks—approximately 120 feet in diameter—one medium metal storage tank—approximately 90 feet in diameter—and five smaller metal storage tanks that range from approximately 40 to 60 feet in diameter (see **Figure 9**). There are eight tanks in the tank farm, and they are all surrounded by a board-formed concrete dike wall. There are pipelines at their bases that lead to each tank as well as to the docking area at the wharf. Each of the tanks has a set of stairs leading to its rim. Access to the interior of the concrete dike wall appears to be through a metal door at its west elevation, as well as a metal ladder/stair (see **Figure 10**). Historic aerial photographs indicate that seven of the eight tanks in Tank Farm 2 were constructed prior to 1939. The eighth tank, the southwestern most tank, was constructed between 1963 and 1972. Tenancy information from those dates indicates that the majority of Tank Farm 2 was constructed for the Petrol Corporation, and later expanded for American Bitumuls or California Chemical Company. It is currently located within the NuStar leasehold.

Figure 9: View looking northeast towards Tank Farm 2, arrows indicating westernmost tanks. (GPA, 2018)

Figure 10: View looking northeast towards Tank Farm 2 dike wall entrance. (GPA, 2018)

E. Boiler Room

West of Tank Farm 2 near the edge of the water on the south half of Berth 163, there is a rectangular boiler room building (Boiler Room for the purposes of this report). It is rectangular in plan with a front-gabled roof with a gabled monitor (see **Figure 11**). The walls and roof are corrugated metal. On its north and south elevations there are sliding metal doors. At the south end of the roof there is a tall metal chimney with a conical cap. On its west elevation, there is an L-shaped pipe. It was constructed in 1935.[26] Tenancy information from those dates indicates that the Boiler Room building was constructed for the Petrol Corporation.

F. Guard Shack 1

On the east end of the north half of Berth 164, northeast of the Transformer Building, is a guard shack (Guard Shack 1 for the purposes of this report). The building is rectangular in plan with a side-gabled roof, and its primary elevation faces northeast (see **Figure 12**). The shack has metal siding, a corrugated metal roof, aluminum sliding windows, and a partially glazed door. The entrance is elevated, and is accessed by a set of metal stairs. What appears to be the guard shack is visible in historic aerial photographs as early as 1994. It is currently located within the Valero leasehold.

G. Transformer Building

On the east end of the north half of Berth 164, at the northeast corner of Tank Farm 3, there is a reinforced concrete building (see **Figure 13**). It is shown on a Sanborn Map as a transformer building, and is called Transformer Building for the purposes of this report. The Sanborn Map also indicates that the Transformer Building was constructed in 1924. The building is small and rectangular with a flat roof with a parapet and board-formed concrete walls. On its southeast and northwest elevations, there are metal doors. There are louvered vents on its southeast and northeast elevations. The building is embellished with two belt courses. Tenancy information from 1924 indicates that the Transformer Building was constructed for Julian Petroleum. It is currently located within the NuStar leasehold.

Figure 11: View looking northwest towards Boiler Room. (GPA, 2018)

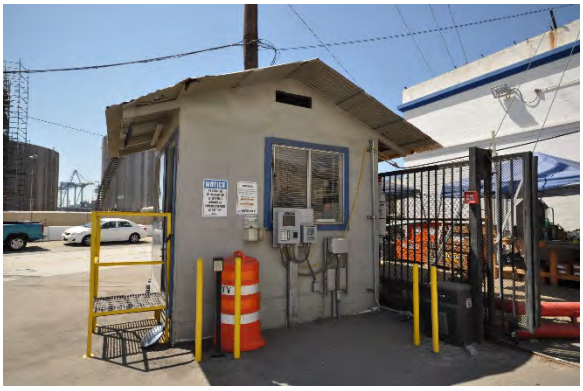

Figure 12: View looking southeast towards Guard Shack 1. (GPA, 2018)

[26] Chasteen, 39.

Figure 13: View looking west towards Transformer Building. (GPA, 2018)

Figure 14: View looking east towards Tank Farm 3, arrows indicating tanks in Tank Farm 3. Black arrows indicating tanks in secondary dike wall. (GPA, 2018)

H. Tank Farm 3

On the north half of Berth 164, there is a tank farm (Tank Farm 3 for the purposes of this report) consisting of five metal storage tanks within one concrete dike wall and two metal storage tanks within a secondary concrete dike wall (see **Figure 14**). The five tanks within the larger concrete dike wall consist of two large metal storage tanks—approximately 120 feet in diameter—and three smaller metal storage tanks that range from approximately 40 to 60 feet in diameter. The two tanks within the secondary dike wall are approximately 50 feet in diameter. There are pipelines at their bases that lead to each tank. The smaller tanks have sets of stairs leading to their rims; the larger tanks do not appear to have stairs. Access to the interior of the primary concrete dike wall appears to be via a metal ladder/stair at its southwest corner. Access to the interior of the secondary concrete dike wall appears to be via a metal ladder/stair at its north elevation. Four of the tanks within the primary dike wall are visible on a historic aerial photograph from 1928; they are all present on a historic aerial photograph from 1944. Tenancy information from those dates indicates that the majority of Tank Farm 3 was constructed for the Petrol Corporation, and later expanded for American Bitumuls or California Chemical Company. It is currently located within the NuStar leasehold.

I. Gabled Shed

On the north half of Berth 164, west of Tank Farm 3, there is a small gabled shed building. Its exterior walls and roof are made of corrugated metal (see **Figure 15**). Its south elevation abuts equipment. Its west elevation abuts the Storage Building. It was constructed after November 2014. It is currently located within the NuStar leasehold.

J. Storage Building 1

On the north half of Beth 164, west of Tank Farm 3, there is a rectangular corrugated metal building (Storage Building 1 for the purposes of this report). Its primary elevation faces north (see **Figure 15**). Its exterior walls and roof are made of corrugated metal. On its north elevation there is a sliding metal door; on its west elevation, there is an additional door. The building has multi-light fixed metal windows. The Storage Building was constructed in 1925.[27] Tenancy information

[27] Ibid., 45.

from this date indicates that the Storage Building was constructed for Julian Petroleum. It is currently located within the NuStar leasehold.

K. Office 3

West of the Storage Building, there is a small rectangular building (Office 3 for the purposes of this report). Its primary elevation faces north. Office 3 has a front-gabled roof clad in composition shingles, shallow open eaves, gable-end vents, and simple bargeboards (see **Figure 16**). The exterior is clad in horizontal wood clapboards, and windows consist of non-original aluminum sliders. The primary entrance, on the north elevation, is a single partially glazed wood door. On the west elevation, there is a sliding aluminum window, a fixed wood window, and a window that has been boarded up. There are no openings on other the elevations. Office 3 was constructed in 1925.[28] Tenancy information from this date indicates that Office 3 was constructed for Julian Petroleum. It is currently located within the NuStar leasehold.

Figure 15: View looking southeast towards Storage Building 1 and Gabled Shed (shown with arrow). (GPA, 2018)

Figure 16: View looking southeast towards Office 3. (GPA, 2018)

L. Pre-fabricated Sheds

At the west edge of the north half of Berth 164, near the edge of the water, there is a group of eight pre-fabricated sheds (see **Figure 17** through **Figure 20**). The sheds vary in size, but they are all rectangular. They are typically clad in T1-11 vertical plywood siding. One shed is corrugated metal. Roof shapes vary from gabled to flat. Where windows are present, they are sliding aluminum windows. Doors consist of hollow metal or wood slab doors. The entrances on some sheds are elevated and accessed by a set of wood stairs. What appears to be the corrugated metal shed is visible in historic aerial photographs from 1960. The other sheds appear throughout the 2000s. If the building present in the historic aerials was the shed, tenancy information from this date indicates that it was constructed for Sunset Oil or the Golden Eagle Refining Company. The newer sheds were likely built for NuStar. All the sheds are currently located within the NuStar leasehold.

[28] Ibid.

Figure 17: View looking northwest towards four of eight pre-fabricated sheds. (GPA, 2018)

Figure 18: View looking northwest towards the fifth of eight pre-fabricated sheds. Corrugated metal shed. (GPA, 2018)

Figure 19: View looking northwest towards the fifth and sixth of eight pre-fabricated sheds. (GPA, 2018)

Figure 20: View looking northwest towards the seventh and eighth of eight pre-fabricated sheds. (GPA, 2018)

M. Office 4

At the east edge of the south half of Berth 164, there is an office building (Office 4 for the purposes of this report) that is L-shaped in plan with a metal mansard roof (see **Figure 21**). The building is constructed of concrete block and has fixed rectangular windows and partially glazed wood doors. The building was constructed around 1974.[29] Tenancy information from this date indicates that the it was constructed for Edgington Oil Refining Company, Inc.

N. Tank Farm 4

On the south half of Berth 164, there is a tank farm (Tank Farm 4 for the purposes of this report) consisting of five metal storage tanks within a concrete dike wall (see **Figure 22**). The largest of the five tanks is approximately 80 feet in diameter. The four smaller tanks range in size from approximately 35 to 60 feet in diameter. There are pipelines at their bases that lead to each tank. Two of the tanks have ladders to access their rims, with catwalks to reach the other tanks without stairs or ladders. Access to the interior of the concrete dike wall appears to be via a metal ladder/stair at its west edge. Tank Farm 4 was constructed in 1940.[30] Tenancy information

[29] Ibid.
[30] Ibid.

indicates that the tank farm was likely constructed for the Exeter Refining Company. It is currently located within the Valero leasehold.

Figure 21: View looking northwest towards Office 4. (GPA, 2018)

Figure 22: View looking east towards Tank Farm 4 and access stair. (GPA, 2018)

O. Tank Farm 5

On the south half of Berth 164, there is a tank farm (Tank Farm 5 for the purposes of this report) consisting of two metal storage tanks within a concrete dike wall (see **Figure 23**). The two tanks are approximately 70 feet in diameter. There are pipelines at their bases that lead to each tank. There is a set of stairs leading to the rim of the more easterly tank, and a catwalk connecting it to the more westerly tank. Access to the interior of the concrete dike wall appears to be via a metal ladder/stair at its south edge. Based on historic aerial photographs, Tank Farm 5 was constructed between 1952 and 1956. Tenancy information indicates that the tank farm was constructed for the Exeter Refining Company or Edgington Oil Refinery, Inc. It is currently located within the Valero leasehold.

P. Storage Building 2

On the south half of Berth 164, south of Tank Farm 5, there is a storage building (Storage Building 2 for the purposes of this report) that is rectangular in plan with a flat roof (see **Figure 24**). The building is constructed of concrete and has large metal doors on its south, west, and east elevations. The doors are a combination of roll up and tilt up in operation. Windows on the building consist of multi-light steel casements and tilt sash windows. The north elevation of the building abuts the concrete dike wall of Tank Farm 5. Storage Building 2 was constructed in 1940.[31] Tenancy information indicates that the it was likely constructed for the Exeter Refining Company. Storage Building 2 is currently located within the Valero leasehold.

[31] Ibid.

Figure 23: View looking north towards Tank Farm 5, thermal oxidizer at left. (GPA, 2018)

Figure 24: View looking east towards Storage Building 2. (GPA, 2018)

Q. Guard Shack 2

On the south half of Berth 164, across from Storage Building 2, there is a guard shack (Guard Shack 2 for the purposes of this report) that is rectangular in plan with a flat roof (see **Figure 25**). The building is constructed of concrete block and its primary elevation faces northeast. On the northeast elevation, there is a recessed entryway and single-light fixed window. On the southeast elevation, there is a multi-light steel window. There are no openings on the other elevations. Based on historic aerial photographs, Guard Shack 2 was constructed between 1956 and 1960. Tenancy information indicates that it was likely constructed for Edgington Oil Refinery Inc. Guard Shack 2 is currently located within the Valero leasehold.

Figure 25: View looking southwest towards Guard Shack 2. (GPA, 2018)

Figure 26: View looking southwest towards Office 5. (GPA, 2018)

R. Office 5

On the south half of Berth 164, adjacent to Guard Shack 2, there is a side-gabled corrugated metal building. Its original use is unknown, but it is presumed to have been an office (Office 5 for the purposes of this report). The building is rectangular in plan, and its exterior and roof are made of corrugated metal (see **Figure 26**). Its primary elevation faces northeast. On the northeast elevation, there are two metal doors and multi-light steel windows. There are also multi-light steel windows on the southwest elevation. Based on historic aerial photography, Office 5 was constructed between 1952 and 1956. Tenancy information indicates that the tank farm was constructed for either the Exeter Refining Company or the Edgington Oil Refinery, Inc.

S. Wharf Building 1

Along the wharf, there are several small buildings, many of which are pre-fabricated. The northernmost (Wharf Building 1 for the purposes of this report) is a front-gabled shed (see **Figure 27**). It has vinyl siding and a vinyl roof, with a pair of partially glazed vinyl doors on its north elevation. Based on historic aerial photography, Wharf Building 1 was added to the wharf c. 2011 for Valero. It is currently located within the Valero leasehold.

T. Wharf Building 2

Along the wharf, there are several small buildings, many of which are pre-fabricated. South of Wharf Building 1, there is a rectangular building (Wharf Building 2 for the purposes of this report) with a side-gabled roof (see **Figure 28**). It has corrugated metal siding with a corrugated metal roof, aluminum sliding windows, and a wood step to access the door. Based on historic aerial photography, Wharf Building 2 was added to the wharf between 1980 and 1994. It is currently located within the Valero leasehold.

Figure 27: View looking northeast towards Wharf Building 1. (GPA, 2018)

Figure 28: View looking northeast towards Wharf Building 2. (GPA, 2018)

U. Wharf Building 3

Along the wharf, there are several small buildings, many of which are pre-fabricated. South of Wharf Building 2, there is a narrow rectangular building (Wharf Building 3 for the purposes of this report) with a pent roof (see **Figure 29**). It has vertical T1-11 plywood siding with a corrugated metal roof, aluminum sliding windows, and a wood door. Based on historic aerial photography, Wharf Building 3 was added to the wharf prior to 2003. It is currently located within the Valero leasehold.

V. Wharf Building 4

Along the wharf, there are several small buildings, many of which are pre-fabricated. South of Wharf Building 3, there is a rectangular building (Wharf Building 4 for the purposes of this report) with a flat roof (see **Figure 30**). It has metal siding, aluminum sliding windows, and a partially glazed door. Based on historic aerial photography, Wharf Building 4 was added to the wharf prior to 2004. It is currently located within the Valero leasehold.

Figure 29: View looking northeast towards Wharf Building 3. (GPA, 2018)

Figure 30: View looking southwest towards Wharf Building 4. (GPA, 2018)

W. Wharf Building 5

Along the wharf, there are several small buildings, many of which are pre-fabricated. North of Wharf Building 6, there is a rectangular building (Wharf Building 5 for the purposes of this report) with a flat roof (see **Figure 31**). It has vertical T1-11 plywood siding, aluminum sliding windows, and a partially glazed wood door. Based on historic aerial photography, Wharf Building 5 was added to the wharf after 2004. It is currently located within the Valero leasehold.

X. Wharf Building 6

Along the wharf, there are several small buildings, many of which are pre-fabricated. South of Wharf Building 5, there is a rectangular building (Wharf Building 6 for the purposes of this report) with a flat roof (see **Figure 32**). It has metal siding, aluminum sliding windows, and a partially glazed door. Based on historic aerial photography, Wharf Building 6 was added to the wharf prior to 2004. It is currently located within the Valero leasehold.

Figure 31: View looking northeast towards Wharf Building 5. (GPA, 2018)

Figure 32: View looking southeast towards Wharf Building 6. (GPA, 2018)

Y. Tank Farm 6

On the east side of La Paloma Avenue in the backlands, there is a tank farm (Tank Farm 6 for the purposes of this report) consisting of four large metal storage tanks and two smaller metal storage tanks within one concrete dike wall (see **Figure 33**). The four larger tanks are approximately 150 feet in diameter, while the two smaller tanks are approximately 80 feet in diameter. There are pipelines at their bases that lead to each tank. Each tank has a set of stairs

leading to its rim. Access to the interior of the concrete dike wall appears to be via a metal ladder/stair at its west edge. Based on historic aerial photography, Tank Farm 6 was constructed between 1971 and 1979. It is currently located within the Valero leasehold.

Z. Tank Farm 7

On the east side of La Paloma Avenue in the backlands, there is a tank farm (Tank Farm 7 for the purposes of this report) consisting of four large metal storage tanks (see **Figure 34**). The four tanks are approximately 150 feet in diameter, while the two smaller tanks are approximately 110 feet in diameter. There are pipelines at their bases that lead to each tank. Each tank has a set of stairs leading to its rim, and each tank has a geodesic domed covering. Access to the interior of the concrete dike wall appears to be via a metal ladder/stair at its west edge. Based on historic aerial photography, Tank Farm 7 was constructed between 1956 and 1960. It is currently located within the Valero leasehold.

Figure 33: View looking northeast towards Tank Farm 6. (GPA, 2018)

Figure 34: View looking northeast towards Tank Farm 7. (GPA, 2018)

4. HISTORICAL OVERVIEW: THE PORT OF LOS ANGELES, 1907-1980[32]

Sections 4.1 through 4.6 are excerpted from pages 102 to 110 of "Industrial Development, 1850-1980," in the *Los Angeles Citywide Historic Context Statement,* prepared by LSA, Associates, Inc., Chattel Preservation, and the Office of Historic Resources:

https://preservation.lacity.org/sites/default/files/IndustrialDevelopment_1850-1980.pdf

4.1 Early History of the Port of Los Angeles

One of the world's largest and busiest deep-water ports, the Port of Los Angeles, began as a quiet natural harbor ringed with Gabrieleno-Tongva villages. The first known European discovery of the area was in October 1542, when Portuguese explorer Juan Rodriguez Cabrillo named the harbor at the northwest end of San Pedro Bay "Bahia de Los Fumas" (Bay of Smokes); the name was inspired by smoke rising from hillside brushfires, which Cabrillo surmised may have been set by the Gabrieleno-Tongva. In 1602, Spanish explorer Sebastian Vizcaino named the bay for Saint Andrew during his mapping expedition of the California coastline, mistakenly thinking he had entered it on the saint's feast day. The error was corrected in 1734, and the bay was renamed San Pedro for Saint Peter, on whose feast day Vizcaino's discovery had actually been made.

No permanent European use or development of the bay took place until the early 1770s, when Spanish missionaries established Mission San Gabriel Archangel some 40 miles inland. The missionaries used the harbor in San Pedro as a trading post, receiving goods shipped from Spain in exchange for hides and tallow produced by Indian labor. The Spanish government prohibited its settlers from trading with ships from other countries, but the great distance meant enforcement was lax, and international trade flourished as a result. The first landings, docks, and wharves in San Pedro Bay were constructed during this time period. Spain gave a large land concession, Rancho San Pedro, to Portola Expedition member Juan Jose Dominguez in 1784; encompassing the current area of San Pedro and Wilmington as well as many surrounding areas, the rancho was the first private land concession in Southern California.

After gaining independence from Spain, Mexico lifted Spain's trade restrictions in 1822, leading to rapid growth of settlement and commercial operations in the San Pedro area. In 1834, the Mexican government amended the Rancho San Pedro land grant to give a portion to the Sepulveda family, and the Sepulveda's built a dock and landing at the harbor. By the time California joined the United States in 1848, San Pedro was well established as a port of trade and a transportation hub. Because of the bay's shallow water and tidal mudflats, ships had to anchor off shore and use small boats to ferry goods and passengers into the harbor. The region's new American status meant an even higher influx of settlers and entrepreneurs, and it soon became clear that the harbor required expansion and development to accommodate the influx of goods headed to Los Angeles.

Diego Sepulveda sold his waterfront property, including a small wharf, to German immigrant Augustus Timms in 1852; Sepulveda's Landing soon became known as Timms Landing and Timms Point. Timms improved the existing dock facilities and added a hotel, warehouse, store, and corral. The small settlement became the main shipping and transportation hub for the area, as well as a resort destination with a reputation for good clamming. Delaware native Phineas Banning arrived in San Pedro in 1851 and proceeded to spearhead much of the port's

development, starting by becoming a partner in a large passenger and freight transportation business and quickly establishing more harbor facilities to support his shipping endeavors. After an 1857 storm destroyed his San Pedro wharf, Banning founded the town of New San Pedro on former Rancho San Pedro land he and a group of fellow investors purchased from the Dominguez estate, and moved his base of operations there. The name of the town was later changed to Wilmington. Banning's new location required the creation of a shallow harbor, excavated from the mud flats, as well as the construction of a new wharf. Upon its completion in 1858, it was poised to eclipse Timms Point as the new focus of shipping and transportation in the region.

4.2 Connecting Freight Rail

Banning's plans began bearing fruit with the completion of the Los Angeles and San Pedro Railroad (LA&SP) line between Wilmington and Los Angeles in 1869, enabling quicker shipment of goods and passengers. In 1871, Banning's political efforts resulted in U.S. Congressional approval of funds for major harbor improvements, including dredging of the main channel to a depth of 10 feet and construction of a breakwater between Deadman's Island (no longer present) and Rattlesnake Island (now Terminal Island). Business at the improved port accelerated, and by 1885 it was handling 500,000 tons of cargo annually.

Southern Pacific Railroad began its expansion southward from San Francisco in the early 1870s, and in 1872 agreed to make a Los Angeles connection only after local voters accepted its demands: right-of-way, 60 acres Downtown for a depot, $600,000 in cash, and possession of the LA&SP. The Southern Pacific quickly took advantage of its monopoly by inflating shipping rates, and director Collis P. Huntington (one of the "Big Four", with Leland Stanford, Mark Hopkins and Charles Crocker) ruthlessly pursued control of all shipping and trade in the Los Angeles region.

In 1874, Nevada Senator John P. Jones announced the establishment of a new railroad from Los Angeles to his proposed township of Santa Monica, as well as his intent to make Santa Monica the region's port. On the same day Jones' Los Angeles and Independence Railroad was completed, the Southern Pacific cut its shipping rates in half. After several more years of being undermined by Huntington and his allies, Jones sold his railroad to them and Santa Monica's nascent port facilities fell into disrepair.

Southern Pacific acquired a right-of-way from Wilmington to San Pedro and extended its line all the way to Timms Point in 1882; this restored San Pedro to its original place as the port's leading city (San Pedro was then an incorporated city) and solidified the railroad's control of the harbor. Free from competition, the Southern Pacific set shipping rates at a level where it cost more to ship goods from Los Angeles to San Pedro than from San Pedro to Hong Kong. Rival rail lines began competing as early as 1885, when the Atchison, Topeka & Santa Fe (AT&SF) ran a line to what is now Marina Del Rey with the goal of establishing a port there. The narrow-gauge Redondo Railway Co. built a wharf at Redondo with the same goal, and the AT&SF eventually ran a line to Redondo after its port project failed. By 1892, Redondo's wharves were processing 62 percent of all port commerce, except for the coal and lumber still controlled by the Southern Pacific. The Los Angeles Terminal Railway bought Rattlesnake Island, renamed it Terminal Island, and ran a line to it from Los Angeles; this gave it control of all shipping traffic on the east side of the main channel, posing a direct challenge to Huntington and the Southern Pacific.

4.3 The Free Harbor Fight

Huntington responded to the competition by buying up as much waterfront property in Santa Monica as he could, readying a bid to make Santa Monica the official port for the City of Los Angeles, under total control of the Southern Pacific. Construction on the mile-long Long Wharf began in 1892, in the midst of the brewing legal battle between the railroad and the City of Los Angeles; the city supported San Pedro as the official port, encouraged by a U.S. Congressional engineering recommendation that its natural sheltering made it the best available location, and the railroad supported Santa Monica (boldly naming it Port Los Angeles).

After a long, convoluted, and highly public political battle featuring Huntington pulling every string he had, the free-harbor fight resulted in the amended River and Harbor Bill of 1896. As amended by Senator Stephen M. White, the bill stated that a $3 million appropriation would go to the development of either San Pedro or Santa Monica, with the decision made by a board of engineers. Crucially, White's amendment stated that if Santa Monica won out, the Southern Pacific would be legally obligated to let any other railroad to use the tracks and the port at a reasonable price. In 1897, the board of engineers decided on San Pedro, ending Santa Monica's bid. The City formally acquired the harbor and its facilities in 1906 by annexing a mile-wide strip of land running the 16 miles between the southern city boundary and Wilmington/San Pedro; it later consolidated the harbor cities as well. In 1907, the City Council created the Board of Harbor Commissioners and officially founded the Port of Los Angeles.

4.4 Industry Moves into the Port

Development of the port proceeded apace, in anticipation of the 1914 completion of the Panama Canal and the fundamental changes in shipping patterns it would bring. Most of the development was industrial in nature, with notable exceptions like the Brighton Beach resort community along the Terminal Island beach, and the South Coast Yacht Club, later known as the Los Angeles Yacht Club. The port has retained recreational tenants to this day, mostly in the form of marinas, but these are rare and small in scale compared to the industrial occupants. The major port development of the early 1900s involved extensive dredging, completion of the large breakwater, wharf construction, placement of the Los Angeles Harbor Light (Angels Gate Lighthouse), and establishment of a municipal pier and wholesale fish market. In 1915, Fish Harbor was constructed on Terminal Island, creating a specialized area for fish processing and canning; it would continue to be enlarged, deepened, and modified until 1928. Perhaps the most impressive building constructed during this time was Municipal Warehouse No. 1, built 1915–1917 as the largest building at the port; it is listed in the National Register of Historic Places.

Port development slowed with the United States entry into World War I, and shipbuilding became the dominant activity. Before the harbor's early 20th century improvements, its shallow depth meant only small fishing boats and tugboats could be constructed and repaired by local shops. Shipbuilding grew in importance after the passing of the Merchant Marine Act in 1916, which led to the creation of a merchant marine fleet. The Southwestern Shipbuilding Company and the Los Angeles Shipbuilding and Drydock Corporation established shipyards at the port; during the war, these companies built over 600,000 tons in steel cargo ships. By 1918, the port had at least four shipbuilding yards employing over 20,000 workers.

After the war, shipbuilding slowed significantly, but shipping traffic at the port skyrocketed as stockpiled goods began to be moved, and booms in construction required more materials. Lumber was a particularly ubiquitous import, coming from the Pacific Northwest to fuel the Los

Angeles building boom. Oil production and storage had been taking place in the area since the turn of the century, but became a major port industry after the discovery of nearby oil fields in 1921. Refineries, warehouses, pipelines, and derricks surrounded the port and considerably changed the physical landscape.

The fishing industry also grew rapidly. Small-scale fishing had taken place around San Pedro since the late nineteenth century, with a sizable population of Japanese fisherman harvesting abalone, sardines, and other fish for mostly local consumption. The first cannery, the California Fish Company, opened in 1893 to process the abundant sardine supply found off the coast; like other canneries, it later shifted to canning tuna after 1903 when sardine populations dropped. Other canneries followed suit, with most moving to Fish Harbor upon its construction, and by the 1920s, 11 canneries operated from the port, employing 1,800 cannery workers and 4,800 fishermen. Major canneries included Van Camp, French Sardine (later Star-Kist), the Franco-American Packing Co., and White Star Canning. The California Fish Co. burned down in 1914. The plentiful supply of fish, industrious canneries, and good railroad connections (not to mention cunning promotions that created a market for tuna) made the port the leading commercial fishing center in the nation.

Independent fishermen supplied the canneries with albacore, sardines, and mackerel, using purse seine technology to catch large numbers of fish at a time. They were a diverse mix, including Japanese, Yugoslavs, Portuguese, Italian, and Scandinavians; many lived in San Pedro and took the ferry to work, while others lived on Terminal Island. Most of the Terminal Island residents were Japanese Americans living in largely cannery-owned housing near Fish Harbor; this village housed a mix of first- and second-generation Japanese Americans who developed a distinctive hybrid dialect and culture unique to the port. The heart of this community was the small commercial core on Tuna and Cannery Streets. The block of Tuna Street between Cannery and Fish Harbor was lined with restaurants, barber shops, pool halls, markets, shops, hardware stores, and clothing stores. A few of these buildings survive, including the Nanka Shokai building at 700 Tuna Street, the Nakamura Co. store building at 712 Tuna Street, the building that once contained the Tokiwa Low restaurant and the Hidaka Shinyukai organization at 744 Tuna Street, and a pool hall and store (now the Harbor Light restaurant and mini-mart) at 748 Tuna Street.

By 1920, the Port of Los Angeles was a major Pacific commercial center with a highly industrialized landscape, punctuated by residential areas like parts of Terminal Island and by small commercial areas catering to local residents. Bars, restaurants, grocery stores, and other small businesses provided the port community with services and also acted as gathering places and breaktime retreats for shift workers. Another burst in port development came in 1923, when voters passed a $15 million bond issue for harbor improvement. New and improved wharves, roads, bridges, and other facilities were constructed, the port's Main Channel was widened and dredged to accommodate more and larger cargo ships, and Deadman's Island at the harbor entrance was demolished. The improvements enabled port commerce to expand beyond lumber, oil, and fish, gave rise to direct trade with Asian markets (which had previously gone only through San Francisco and Seattle), and signaled a major shift to truck transportation of goods in addition to rail transportation. They also led to an increase in passenger traffic, with ships carrying people everywhere from Catalina Island to the other side of the world.

Port commerce slowed in the Great Depression, and harbor improvements were scaled back. The decrease in trade meant that many of the seamen who had come to Los Angeles looking for work (or were stranded there when a job ended) were left unemployed and homeless. The

State Emergency Relief Association established camps around Timms Point as temporary shelter, but the situation remained dire until the end of the Depression.

4.5 World War II and After

World War II dramatically changed the face of the port, as every shipyard of every size shifted to the construction and maintenance of ships for the war effort. Smaller yards produced auxiliary vessels, while larger ones built cargo ships, troop carriers, and destroyers. Between 1941 and 1945, the shipyards employed over 90,000 workers. The largest, the California Shipbuilding Corporation (CalShip) yard at the north end of Terminal Island, produced an average of 12 military cargo ships a month. Facilities built or expanded to accommodate the increased workforce included the municipal ferry terminals between San Pedro and Terminal Island, enabling easy transport of people and vehicles between the shipyards. The terminal on the San Pedro side is today the Los Angeles Maritime Museum (Historic-Cultural Monument No 146). The port continued serving as a shipping hub during the war, with very limited international trade but with millions of tons of war materials and equipment coming through the area.

The face of the port changed in another way too, with the forced wartime relocation of thousands of Japanese families from Terminal Island and San Pedro. By 1940, the Japanese population of Terminal Island was about 3,000 people. The Federal Bureau of Investigation began detaining some of the local men in 1941, and in early 1942 the rest of the port's Japanese American population began to be forcibly removed from their homes. The residents of Terminal Island were the first Japanese Americans on the west coast to be taken to internment camps, and most were sent to Manzanar in California's Owens Valley. The Navy bulldozed their homes and most of the businesses, leaving nothing to return to at the war's end.

The port quickly returned to normal operations at the end of 1945, including extensive repairs and maintenance that had been deferred during the war, and expanded into the now-vacant land that had once contained hundreds of Japanese American residences. Historian Charles Queenan summarizes the state of industrial occupation in 1947:

> The port could offer simultaneous berthing for 80 ocean-going vessels, space and equipment alongside the port's 23 transit sheds for 35 vessels to work cargo at the same time, berths for more than a thousand fishing craft and space for twice that many pleasure boats. Using the harbor were 115 shipping lines, 200 commercial trucking companies, three transcontinental railroads, 38 bulk petroleum carriers, eight lumber carriers, five lumber companies, 18 ship and boatbuilding and repair firms, 19 canneries, nine stevedore companies, 54 ship chandlery and marine supply firms, two dredging companies, 134 marine surveyors, two navigation instrument firms, two water taxi services, 11 custom brokers and 40 licensed ship and yacht brokers. These, in addition to the many thousands of business firms whose materials and products regularly moved through the harbor. (Queenan, *The Port of Los Angeles,* 94).

Los Angeles experienced another building boom after the war, partly due to the many wartime workers who came to work in defense industries and decided to stay. Shipping of lumber and other materials increased to meet the demand, and the harbor continued to build up and develop through the late 1940s and 1950s. A notable addition to the port's commerce was the import of automobiles from Japan. In 1959, voters approved a measure authorizing the Harbor

Department to finance harbor improvements with revenue bonds, leading to a large-scale replacement of older terminals and the renovation of many of the terminals that survived.

4.6 Containerization and Other Later Developments

The Port of Los Angeles experienced a significant change in the way it operated with the advent of containerization, where cargo was moved from place to place in large standardized containers. The use of these large containers meant changes in cargo ships, from keeping cargo in holds to keeping it on open decks. It also required changes in port infrastructure; enormous cranes were built to move cargo, and wharves had to be modified to support the increased weight of tons of containers, to store large amounts of cargo in the open instead of in warehouses, and to accommodate the new larger ships. Most of the wharves in the port were eventually rebuilt with concrete to handle the increased loads. In 1960, the Board of Harbor Commissioners approved a development plan to modernize existing facilities and construct new ones.

Some of the port's most visible resources were constructed at this time; the Vincent Thomas Bridge was built in 1963, connecting Terminal Island to the mainland and replacing the municipal ferry service. Ports O' Call Village started with one restaurant in 1961 and quickly grew into a complex of shops and restaurants designed to reflect the seaside architecture of many nations. It became a popular tourist attraction and increased non-industrial business at the port as thousands of visitors descended to shop, eat, and watch ships move in and out of the harbor. Ports O' Call is the only known property at the port which was built as a tourist attraction; other popular properties like the Maritime Museum (originally the municipal ferry terminal) and the Ralph J. Scott fire boat originally had other uses. It is potentially significant due to its association with tourism and with the history of the port in general.

By the late 1960s, the Port of Los Angeles had converted its infrastructure to adapt to containerization and was solidly established as a modern industrial hub. This conversion resulted in significant and widespread changes to its built environment, as existing facilities were modified or demolished to make way for new construction on an unprecedented scale.

The 1960s saw the beginning decline of the Fish Harbor canneries, as the largest operations, Van Camp and Star-Kist, began establishing other canneries overseas; by 1975, most of the port's canneries had been bought out by multinational corporations and by the mid-1980s many of their operations had moved out of Los Angeles. The last plant, Chicken of the Sea, closed in 2001.

Port development continued over the years and included dredging and widening the Main Channel to accommodate ever-larger cargo ships, creating new landfill from the dredged sediments to increase storage space, construction of new terminals, and general maintenance and upgrading. The need for a harbor railhead closer to the port was met by the construction of the Intermodal Container Transfer Facility in the early 1980s. Rail shipping was again facilitated by the completion of the Alameda Corridor in 2002; this cargo "expressway" enabled a robust connection between the port and the mainline tracks closer to downtown, and reduced traffic congestion by eliminating grade crossings.

4.7 The Oil Industry at the Port, 1906-1965[33]

The oil industry in Los Angeles has its origins in the 1890s after Edward L. Doheny and Charles A. Canfield discovered oil at what would become the Los Angeles Oil Field near present-day Dodger Stadium.[34] Oil was discovered in other areas in and around Downtown Los Angeles. By 1910, oil production out of Los Angeles had reached 70 million barrels per year.[35] Major discoveries, the largest being at Signal Hill, spurred a second oil boom in the 1920s. The demand for oil was spurred in large part by its increasing use as a fuel for heating buildings and for transportation in the first decade of the twentieth century.[36] The onset of World War I further drove up demand.

The oil industry began to shape the landscape of the port at the beginning of the twentieth century. As early as 1909, Union Oil established a terminal to accommodate ocean-going vessels. It established a refinery in Wilmington soon after, and the company was the first to use a pipeline to move oil and petroleum products from its oil fields near Brea to its Wilmington refinery. Other companies began to build refineries and storage tanks and install pipelines near the port as well.[37] The port became a center for oil transport, dominated by Union Oil (located at Berths 150-151) and Standard Oil Company of California (located at Berth 100).[38] In 1911 alone, a million barrels of oil for Union Oil Company, Associated Petroleum, and Standard Oil Company passed through facilities at the port.[39] General Petroleum established facilities at the port in 1914.

The discovery of three major oil fields in 1920 and 1921, including Signal Hill, spurred a second oil boom. Soon, California was the source of one-quarter of the world's entire oil output, in large part due to the Signal Hill oilfield. Most oil fields in production at the time had little or no facilities for onsite storage or processing, and the only other option was to export the commodity as quickly as it was extracted. Charles F. Queenan writes that, "the sea lanes between Los Angeles and the Panama Canal soon became an endless procession of tankers carrying oil eastward to the refineries."[40] In 1923, 21.5 million tons of oil were exported through the port, and Los Angeles surpassed San Francisco as the busiest port on the West Coast.[41] By the mid-1920s, the port had facilities for Shell Oil of California, Pan American Petroleum Company, Gilmore Oil Company, Southern Pacific Company, Petroleum Export Corporation, Julian Petroleum, and Petroleum Midway Company, Limited.[42]

The influx of oil companies as well as the product itself stretched the port's facilities to their limit, and it soon became clear that Los Angeles' harbor was in desperate need of improvement. There were not enough terminals and berths to handle the incoming commercial traffic. In 1923, the city passed a $15 million bond for the purposes of improving the harbor, and the Harbor Department began a massive construction program to expand facilities. After this construction

[33] The period of significance was established within the SurveyLA Industrial Context (Property Type: Port Production, Manufacturing, and Processing Plants). It begins with the early construction of the port and ends with the onset of the containerization era.
[34] LSA Associates, Inc. and Chattel, "Industrial Development, 1850-1980." *Los Angeles Citywide Historic Context Statement* (City of Los Angeles Office of Historic Resources, September 2011, revised February 2018), 82.
[35] Ibid.
[36] Marquez and Turenne, 154, 156.
[37] Ibid., 156.
[38] Ibid.
[39] Charles F. Queenan, *The Port of Los Angeles: From Wilderness to World Port* (Los Angeles Harbor Department, 1983), 65.
[40] Ibid., 55.
[41] Ibid., 69.
[42] Ibid., 65-66.

program, the port had 30,847 lineal feet of municipal wharfage in 1925, compared with 13,900 lineal feet at the beginning of the decade.[43]

Oil production in the area remained steady into the 1930s, despite the onset of the Great Depression. Production of the Signal Hill oilfield had peaked in the 1920s and began to decline during the Great Depression, but the oil industry was sustained with the discovery of the Wilmington Oil Field, located beneath Wilmington and the port, in 1932. The field reached peak production quickly, due in part to the drilling of large numbers of small individual wells. The export of petroleum remained consistent despite the economic downturn. Union Oil constructed a new wharf at Berth 149 in 1931 as its operations grew.[44] The Harbor Department implemented a maintenance program to keep the port's wharves in working order.[45] By the late 1930s, the oil industry and the port in general were recovering from a slow decline faced earlier in the decade.

After World War II, the port in general, and the oil industry specifically, had fully recovered from the slump it had faced during the Depression. A total of 38 bulk petroleum carriers operated out of the bustling port.[46] Between 1949 and 1950 alone, the amount of oil passing through the harbor rose from 92.9 million barrels to 127.1 million barrels.[47] By the 1940s, land subsidence began to affect Wilmington Oil Field at the east end of Terminal Island.[48] The City of Long Beach halted further drilling in the field until the issue was resolved in the 1960s.

Despite the increase in exports, the state's rapid population growth in the postwar period resulted in demand outpacing supply, and the state began to import crude oil though improvements continued at the port for the shipment of oil out of the Los Angeles area. In 1959, the port constructed the world's first completely enclosed supertanker terminal. The use of the terminal was given to Union Oil, but the terminal was open to use by any company. Soon, other oil companies began constructing facilities of their own as a new period of oil transport dawned. In 1962, the port constructed the world's largest underwater pipeline beneath the Main Channel from the General Petroleum facility at Berth 237 on Terminal Island to an enormous new passenger and cargo terminal at Berths 90-93.[49] The beginning of the containerization era marked a turning point in the manner in which goods, including petroleum, were exported from the port. Larger facilities were necessary to accommodate this new method of shipping, and many oil companies expanded their facilities.

[43] Ibid., 69.
[44] Marquez and Turenne, 158.
[45] Queenan, 78.
[46] Ibid., 94.
[47] Ibid., 96.
[48] LSA Associates, Inc., and Chattel, 84.
[49] Queenan, 105.

4.8 Tenants at Berths 163 and 164

Crump-Steele Company

The wharf at Berths 164 and 164 were constructed for the Crump-Steele Company (also found spelled Crump Steel) in 1923 as part of a large wharf building program. A typographical error in the *Los Angeles Times* article about Crump-Steele's tenancy reads "Berths 163, 164, and 164."[50] It is presumed that the company occupied Berths 163, 164, and 165. The company was formed in 1923. It is known that it refined, exported, and marketed oil and had a plant in Long Beach.[51] Soon after, Julian Petroleum established facilities on Berth 164 and may have purchased Crump-Steele in whole or in part in 1924.[52]

Julian Petroleum and Sunset Oil

In 1922, oil promoter Courtney Chauncey "C.C." Julian purchased four acres of land in Santa Fe Springs and had begun promoting the Julian Petroleum Company in local newspapers.[53] C.C. Julian used eye-catching and "colorful" advertisements to attract investors. The advertisements were incredibly successful.[54] A year later in 1923, he incorporated Julian Petroleum.[55] Within 56 days, he sold $5 million dollars' worth of stock.[56] By 1924, the company had wells in the Torrance Oil Field, Artesia, and Half Moon Bay in Northern California.[57] Julian Petroleum is listed in Harbor Maps as occupying the north half of Berth 164 between 1924 and 1927.

The California corporations commissioner launched several investigations into the sales of Julian stock, suspecting fraudulent activity. By 1925, Julian was "under siege" by regulatory agencies, and turned his company over to a Texas oilman named S.C. Lewis. Lewis coordinated two additional stock schemes, including overissue of Julian Petroleum stock, and the use of investment pools to inflate the price of stock on the Los Angeles Stock Exchange. Members of the pools, who were leaders in banking, film, real estate, and political circles, were guaranteed large profits.[58] In 1927, Julian Petroleum merged with the California-Eastern Oil Company.[59] A few months later, the Los Angeles Stock Exchange halted trading in Julian Petroleum. The company, authorized to issue just 159,000 shares of stock, had issued nearly four million shares into circulation—over $150 million dollars' worth of fraud. While thousands of stockholders lost their investments, the members of the investment pools were able to walk away with a profit and brokers earned millions in commission. The outbreak of the scandal revealed an "ever-deepening web of corruption," including bribery, blackmail, and double murder. Several individuals involved with the scandal were indicted, but few faced trial, and soon after the scandal broke, the entire country fell into the Great Depression. The Julian Petroleum stock

[50] "Harbor Starts Wharf Building."
[51] "Crump-Steele Plant Bought," *Los Angeles Times*, July 12, 1924, 15; "Harbor Starts Wharf Building."
[52] A July 12, 1924 article in the *Los Angeles Times*, "Crump-Steele Plant Bought," suggests that another company, Olympic Refining Company, purchased the Crump-Steele holdings, and that the Julian deal fell through. However, Julian Petroleum is listed as the tenant at Berth 163 and 164 beginning in 1924.
[53] T.H. Watkins, *The Hungry Years: A Narrative History of the Great Depression in America* (New York: Henry Holt & Company, 1999), 17.
[54] Jules Tygiel, "What a Money-Gusher," *Los Angeles Times,* December 3, 2006, accessed August 2018, http://www.latimes.com/fashion/alltherage/la-et-125depression3dec03-story.html.
[55] Jules Tygiel, *The Great Los Angeles Swindle: Oil, Stocks, and Scandal During the Roaring Twenties* (New York: Oxford University Press, 1994), 58.
[56] Tygiel, "Money-Gusher."
[57] "Oil Field Widened Mile by New Strike," Los Angeles Times, January 23, 1924, 19.
[58] Tygiel, "Money-Gusher."
[59] "Julian Oil in Merger," *Los Angeles Times,* February 27, 1927, 1.

scandal proved to be just one of many such instances of stock manipulation and corporate corruption nationwide.[60]

One result of the court proceedings was the court-ordered sale of all the company's physical properties. The Sunset Pacific Oil Company was the pre-arranged bidder in the auction, and the Julian Petroleum and California-Eastern companies ceased to exist.[61]

In 1934, a now penniless C.C. Julian died by suicide in a Shanghai hotel.[62] Days after his death, Sunset Oil was incorporated from its predecessors, the Julian Petroleum, California-Eastern, and Sunset Pacific corporations. Sunset Oil flourished through World War II and by late 1953 was the largest independent petroleum marketer on the Pacific Coast.[63]

In 1956, Sunset Oil merged with International Mining Corporation to form the Sunset International Petroleum. Investors were offered three shares of Sunset International to each one they owned in Sunset Oil; those who had retained their shares through the Julian scandal were eventually able to recoup some of their losses.[64] Sunset Oil is listed on available Harbor Maps as occupying the north half of Berth 164 between 1927 and 1957.

Coast Fishing Company

Minimal information was found about the Coast Fishing Company. Research revealed that the company packed and exported fish and moved its principal plant from San Francisco to Los Angeles in 1925.[65] Per the listings in Annual Harbor Maps, the north half of Berth 163 was utilized by the Coast Fishing Company starting as early as 1927 until at least 1950. Based on historic aerial photographs, the site had been largely cleared of these earlier buildings by 1952 and was redeveloped with a tank farm (Tank Farm 1) by 1960. No buildings or structures from the Coast Fishing Company remain today. Berth 163 was not evaluated within the context of the fishing industry in Los Angeles since there are no remaining extant resources associated with the fishing industry.

Petrol Corporation

Based on Harbor Maps, the southern portion of Berth 163 was developed by Petrol Corporation sometime between 1933 and 1941. Research revealed very little information about the Petrol Corporation. It is known that it was an oil refining company. The company existed as early as 1931 and was formerly Eureka Refining Company.[66] Research did not reveal any additional definitive information about Eureka. The Petrol Corporation had a tank farm at Point Sal in 1938.[67] The Petrol Corporation was a "wholly-owned subsidiary" of Standard Oil Company of

[60] Tygiel, "Money-Gusher."
[61] Tygiel, *Great Los Angeles Swindle,* 271.
[62] Ibid., 321-322.
[63] Ibid., 326-327; A petroleum marketer is a company that "takes possession of refined petroleum products for the purpose of reselling those products… A petroleum marketer often owns gasoline stations, convenience stores, heating oil businesses, truck stops, lubricant warehouses, petroleum trucking companies, and bulk storage facilities." "What is a Petroleum Marketer?" Petroleum Marketers Association of America, accessed August 2018, https://www.pmaa.org/about/what-is-a-petroleum-marketer/.
[64] Tygiel, *Great Los Angeles Swindle,* 326-327.
[65] "Fish Trade Expands at Local Port," *Los Angeles Times*, May 31, 1925, E10.
[66] "Petrol Corporation Awarded Large Rail Road Order," *Los Angeles Times,* February 21, 1931, 10.
[67] Waldo Drake, "Shore-Side Oil Terminal Open," *Los Angeles Times,* March 26, 1938, 7.

California as of January 14, 1948.[68] Petrol Corporation is listed on available Harbor Maps as occupying the south half of Berth 163 between 1935 until as late as 1947.

Exeter Refining Company

Exeter Refining Company was a subsidiary of Exeter Oil Company, Ltd.[69] The Exeter Oil Company was incorporated on May 16, 1926, and was involved with crude production, dealing in oil land, as well as refinery operation and petroleum commodity speculation. The Exeter Oil Company had 86.6% ownership of Exeter Refining Company, and management of the two companies was identical. The primary refinery was located in Long Beach, but the company leased up to 200,000 barrels worth of storage capacity nearby; presumably, some of this leased storage capacity was located on Berth 164.[70] Exeter Refining Company is listed on available Harbor Maps as occupying the south half of Berth 164 as early as 1941 until at least 1947.

Edgington Refining Company

Research revealed very little information about the Edgington Refining Company. The company was founded in 1941, based out of Long Beach, and was acquired by Alon USA Energy Inc., in 2006.[71] Edgington Refining Company is listed on available Harbor Maps as occupying the south half of Berth 164 beginning as early as 1957 until at least 1981.

American Bitumuls

The American Bitumuls Company was a paving company that was a subsidiary to the Standard Oil Company.[72] American Bitumuls Company was formed in 1929 to take over control of the Bitumuls Corporation, which manufactured "emulsified road oils and asphalt."[73] American Bitumuls was listed as occupying the south half of Berth 163 on the 1963 Harbor Map.

Golden Eagle Refining Company

Sunset Oil (see above) sold its refinery, marketing, pipeline, and terminal facilities to Golden Eagle Refining Company, Inc., which was a wholly owned subsidiary of Panama Refining & Petrochemical Co., in 1958.[74] Research indicates that the company was founded around March of 1900 in Santa Fe Springs.[75] Golden Eagle Refining Company was listed as occupying the north half of Berth 163 and the north half of Berth 164 beginning in 1963 on the available Harbor Maps; however, based on the Sunset Oil sale date, the company may have occupied the space as early as 1958.

California Chemical Company

Research indicates that the California Chemical Company was formed in 1957 as a subsidiary to Standard Oil, to "consolidate the parent firm's expanding chemical activities." California

[68] Ralph Cassady Jr. and Wylie L. Jones, *The Nature of Competition in Gasoline Distribution at the Retail Level: A Study of the Los Angeles Market Area* (Los Angeles: University of Los Angeles Press, 1951), 45.
[69] "Exeter Oil Net Gain Forecast," *Los Angeles Times,* August 4, 1938, A14.
[70] Walkers Manual, Inc., *Walker's Manual of Pacific Coast Securities (With Which is Incorporated Walker's Manual of California Securities)* (San Francisco: Lewis B. Reynolds, 1944), 908.
[71] "Company Overview of Edgington Oil Company, LLC," Bloomberg, accessed August 2018, https://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=6465498.
[72] "Ruling on Warrenite Still in Air," *Los Angeles Times,* August 4, 1930, A1.
[73] "American Bitumuls Gets Stock Permit," *Los Angeles Times,* May 20, 1929, 17.
[74] Robert Sullivan, "Sunset Sells Refinery to Panama Firm," *Los Angeles Times,* April 4, 1958, 15.
[75] "Pioneer Oil and Refining Company Plans to Expand," *Los Angeles Times,* March 10, 1940, F4.

Chemical Company served to coordinate two previously existing chemical subsidiaries, California Spray-Chemical Corp., which was involved with agricultural chemicals, and Oronite Chemical Co., which was involved with industrial chemicals.[76] California Chemical Company was listed on available Harbor Maps as occupying the south half of Berth 163 beginning as early as 1967 until at least 1981.

[76] "Standard of Cal. Forms New Unit," *Los Angeles Times,* May 2, 1957, C10.

5. EVALUATION OF ELIGIBILITY

The two Berths were developed simultaneously in 1923 and have been used almost exclusively as oil terminals since. Several tenants over the years have utilized portions of both Berths for their facilities. During the field inspection of the Study Area, 26 utilitarian buildings and structures were identified on Berths 163 and 164 (see **Section 3. ENVIRONMENTAL SETTING**). The 26 buildings and structures are visually and functionally linked and were therefore evaluated together as a district based on the shared history and use.

As a concentration of utilitarian buildings and structures that lack individual distinction, it is unlikely that a single building or structure within the Study Area would be sufficient to convey any potential historical significance within the context the oil industry at the Port of Los Angeles. Therefore, no buildings or structures within the Study Area were identified for individual evaluation.

Berths 163 and 164, the Study Area, were evaluated as a district for listing in the National and California Registers and for designation as a Los Angeles HPOZ. The historic context considered in these evaluations was the history of the oil industry in the Port of Los Angeles.

5.1 National Register of Historic Places

As discussed above, large properties or areas with multiple buildings and structures from the same period of time and with a common history and use are typically evaluated as potential historic districts. As such, the Study Area was evaluated to determine if it constitutes a historic district. For National Register eligibility, historic districts usually meet the last portion of Criterion C, "a distinguishable entity whose components may lack individual distinction." However, they must also be significant within a historic context in order to be eligible. As such, historic districts must be historically significant under Criterion A, B, or D, or architecturally significant under other portions of Criterion C in addition to being a distinguishable entity.

Criterion A

To be eligible for listing in the National Register under Criterion A, a property must have a direct association with events that have made a significant contribution to the broad patterns of our history. The Study Area was evaluated within the context of the oil industry in the Port of Los Angeles.

The oil industry in the port dates to the turn of the twentieth century. As early as 1909, Union Oil had established a terminal at which it could load petroleum onto ships. It soon established a refinery in Wilmington, and was the first company to lay a pipeline from its oil fields near Brea to its new refinery there. As more oil fields were discovered, the port became a center for oil export. Union Oil and Standard Oil, located at Berths 150-151 and Berth 100, respectively, dominated oil export at the port. By 1914, Associated Petroleum and General Petroleum joined them.

Though the continued discovery of oil in the early 1920s in the Los Angeles area made California a leading source of the world's oil, few oil fields had the facilities to store or process petroleum onsite. This made export the only option. In 1923, 21.5 million tons of oil were exported through

the port, and Los Angeles surpassed San Francisco as the busiest port on the West Coast.[77] By the mid-1920s, Shell Oil of California, Pan American Petroleum Company, Gilmore Oil Company, Southern Pacific Company, Petroleum Export Corporation, Julian Petroleum, and Petroleum Midway Company, Limited all had storage and export facilities at the port.[78] The City passed a $15 million bond for the improvement of harbor facilities so the port could keep up with the demand for oil.

Though slightly affected by the onset of the Great Depression, the oil industry remained steady into the 1930s. This was due in large part to the discovery of the Wilmington Oil Field in 1932. New construction slowed, though Union Oil constructed a new wharf at Berth 149 as its operations continued to grow. Construction during this period was largely limited to maintenance to keep the wharfs in working order. By the end of the 1930s, the oil industry and the port in general were recovering from the decline earlier in the decade. By the late 1940s, the port and the oil industry had both fully recovered. In the post-World War II period, port improvements continued for the shipment of oil. In 1962, the port constructed the world's largest underwater pipeline beneath the Main Channel from the General Petroleum facility on Terminal Island to an enormous new passenger and cargo terminal at Berths 90-93.[79] By mid-1960s, the onset of the containerization made the construction of newer, larger facilities necessary throughout the port. The use of these larger standardized containers for shipping cargo meant that larger ships had to be constructed, leading to changes in port infrastructure. Much of the port's infrastructure had been modernized by the end of the decade.

Though the port itself has undoubtedly played a significant role within the context of the oil industry in Los Angeles in general, the Study Area comprising Berths 163 and 164 does not appear to represent that significance in a meaningful way. The earliest use of Berths 163 and 164 occurred in 1923. This was well after the establishment of oil-related facilities in the port, which began as early as 1909. The development of Berths 163 and 164 represents the continuation of a trend, not a significant part of that trend. They were simply a part of the larger oil industry operations in the port during the twentieth century Per National Register Bulletin #15, "Mere association with historic events or trends is not enough, in and of itself, to qualify under Criterion A: the property's specific association must be considered important as well." Research did not reveal any evidence to suggest that the oil-related activities that occurred at Berths 163 and 164 would rise to the level of significance outside of mere association with an ongoing trend.

There is no indication that any of the companies operating out of Berths 163 and 164 would be considered significant within the context of the oil industry in Los Angeles or the port. Minimal information was found about most. Many were oil refining and export companies, some of the many that operated in the port over the course of the twentieth century. Others were subsidiaries of larger companies, as was the case with American Bitumuls and California Chemical, which were both subsidiaries of Standard Oil. While larger companies like Standard Oil were undoubtedly significant within the context of the oil industry in Los Angeles, those that operated within the Study Area were simply subsidiary companies that manufactured products utilizing petroleum.

[77] Queenan, 69.
[78] Ibid., 65-66.
[79] Ibid., 105.

Julian Petroleum/Sunset Oil, about which the most information was found and occupied the site for a substantial period of time, developed the northern portion of Berth 164 by 1924. The company was incorporated by Courtney Chauncey "C.C." Julian, a Canadian oil promoter, in 1923.[80] C.C. Julian transferred the company to S.C. Lewis in 1925, and in 1927, Julian Petroleum merged with the California-Eastern Oil Company. Within a year, the nation was rocked with the news that Julian Petroleum had participated in stock fraud totaling $150 million. The scandal continued into the early 1930s, as bribery, blackmail, and other crimes were revealed. As a result, Julian Petroleum and California-Eastern Oil were disassembled and auctioned off to the Sunset Pacific Oil Company. In 1934, Sunset Oil was incorporated from its predecessors, Julian Petroleum, California-Eastern, and Sunset Pacific. Sunset Oil would go on to flourish after World War II and eventually became the largest independent petroleum marketer on the Pacific Coast before merging with the International Mining Corporation to become Sunset International Petroleum.[81]

By the 1920s industry giants with a presence at the port included Union Oil, Standard Oil, Texas Company, and Shell Oil. Numerous smaller oil companies with a presence at the port included California Petroleum, Hancock Oil, General Petroleum, Pan-American Oil (later Richfield Oil), and Associated Oil. Julian Petroleum was one of these smaller companies. It was the subject of scandal and substantial news coverage for its stock fraud, but there is no evidence that it was significant within the context of the oil industry in Los Angeles or the port. It was simply one of many oil-related companies at the port at the time.

Furthermore, the facilities within the Study Area were largely used by the companies described above for storage and export of oil-related products and were often just a small part of the company's larger real estate holdings, which may have also included oil-producing properties, refining facilities, and corporate buildings. It is unlikely that a significant event, such as a groundbreaking invention or important business deal, occurred at a utilitarian storage and export area like Berths 163 and 164.

For the reasons outlined above, the Study Area does not appear to be significant under Criterion A.

Criterion B

To be eligible for listing in the National Register under Criterion B, a property must be associated with the lives of persons significant in our past.

Courtney Chauncey "C.C." Julian founded Julian Petroleum in 1923. Julian was the subject of substantial media attention during the scandals surrounding his company. Julian was born in 1885 in Manitoba, Canada. Though he dreamed of becoming a lawyer, he lacked the funds or education necessary for law school. Instead, he worked a series of menial jobs before becoming a real estate speculator on the Canadian frontier. He worked in the oil fields in Bakersfield, California in 1907, returning to Canada soon after. He married Mary O'Donohue in 1910. In 1917, Julian moved to California with his family and began working as an oil driller outside Bakersfield.[82] He began selling oil stock the next year for an oilfield operation in Texas. Many of his early efforts resulted in dry wells. Finally, in 1922, he found success in Santa Fe Springs, where oil had recently

[80] Watkins, 17.
[81] Tygiel, *Great Los Angeles Swindle,* 327.
[82] Tygiel, *Great Los Angeles Swindle,*17-23.

been struck.[83] Julian had a talent for advertising, and he utilized it to promote his business ventures in local newspapers like the *Los Angeles Times* and *Examiner*.[84] He began selling stock in his new venture and soon saw success. By 1923, however, Julian Petroleum was under investigation for stock fraud.[85] Julian stepped down as president in 1925.[86] The Julian Petroleum stock scandal that would break in 1927 was nationwide news, and revealed an "ever-deepening web" of corruption and crime.[87] He would later come under fire again for overstating claims about a mining site called Leadfield in Death Valley.

National Register Bulletin #32: Guidelines for Evaluating and Documenting Properties Associated with Significant Persons states "specific individuals must have made contributions or played a role that can be justified as significant within a defining area of American history or prehistory."[88] Though C.C. Julian was a prominent figure in the public eye in the 1920s due to his involvement with Julian Petroleum and the company's stock fraud trial, there is no evidence to suggest that he would be considered a significant person. He does not appear to have made any significant contributions to history in general or the oil industry in Los Angeles in particular.

No other specific individuals associated with the Study Area were uncovered during the course of research. *National Register Bulletin #32* also states, "When specific individuals cannot be identified, or the significance of the activities, accomplishments, or influence of specific individuals cannot be identified or explained, significance rests more in a property's representation of a pattern of history, and the appropriate criterion is A rather than B."

While there were may have been significant individuals associated with companies like Standard Oil, their productive lives would be best represented by properties with a more direct association such as their offices or places of residences, not a storage facility of a subsidiary company like those found on Berths 163 and 164.

For the reasons outlined above, the Study Area does not appear to be significant under Criterion B.

Criterion C

To be eligible for listing under Criterion C, a property must embody the distinctive characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction.

The Study Area is a typical example of a wharf and oil storage complex. The complex was developed over the course of the twentieth century. Construction began in 1923 when the Port built the wharf. In the 1920s, Julian Petroleum built a tank farm, office building, and storage building on the northern portion of Berth 164. Development of the Study Area continued by

[83] Ibid., 30.
[84] Ibid., 34.
[85] "Julian Buyers Are Cautioned," *Los Angeles Times*, June 29, 1923, II2.
[86] Tygiel, *Great Los Angeles Swindle,*119.
[87] Tygiel, "Money-Gusher."
[88] "National Register Bulletin 32: Guidelines for Properties Associated with Significant Persons," National Park Service, Cultural Resources, Beth Grosvenor Boland, accessed August 2018, https://www.nps.gov/nr/publications/bulletins/nrb32/.

subsequent tenants from the 1930s through the 2000s. Therefore, it does not represent a particular period.

The buildings and structures within the Study Area are typical oil-related and industrial facilities, including storage tanks and storage buildings, from their periods. The Berths themselves are typical wood wharves from the 1920s. Wood wharves were a common type of port infrastructure during and after this period and were constructed at ports around the country. Berths 163 and 164 utilize common construction techniques and materials, and they do not embody the distinctive characteristics of a type, period, or method of construction. Furthermore, the materials that make up the wharf have been replaced over the years as part of continued maintenance and damage repair. It is likely that nearly all of the materials of the wharf, including pilings and deck, have been replaced since the 1920s. (See integrity discussion below for further details.)

Minimal definitive information was found about the builders of the various features within the Study Area, and there is no evidence that any of the buildings or structures represent the work of a master. The Study Area does not possess high artistic value. *National Register Bulletin #15* states "a property is eligible for its high artistic values if it so fully articulates a particular concept of design that it expresses an aesthetic ideal." [89] In order to be eligible under this aspect of Criterion C, a property must express a concept of design or an aesthetic ideal "more fully than other properties of its type." [90] This is not the case for the Study Area. The Study Area appears to be a typical example of an oil terminal, and it does not articulate a particular concept of design more fully than other examples of its type.

The last aspect of Criterion C - represents a significant and distinguishable entity whose components may lack individual distinction - refers to historic districts. First and foremost, the Study Area was evaluated as a potential historic district. *National Register Bulletin #15* provides guidance on the evaluation of historic districts; it notes that a district may be eligible even "if all of its components lack individual distinction, provided that the grouping achieves significance as a whole within its historic context." [91] As noted above under the Criterion A evaluation, the Study Area does not appear to be significant within its historic context. In order for a property to be eligible as a historic district, it must significant under the last aspect of Criterion C as well as Criterion A, B, or D or other aspects of Criterion C. This is not the case for the Study Area. Though it qualifies as a distinguishable entity whose components lack individual distinction, it is not significant under any of the other criteria or aspects of Criterion C. The Study Area is unified by a single use, but its development has taken place over multiple decades and does not represent a definable period of time. The wharf itself has existed since at least the 1920s, while the other buildings and structures within the Study Area were constructed as needed over the course of the twentieth century. Furthermore, *National Register Bulletin #15* emphasizes that "the majority of the components that add to the district's historic character, even if they are individually undistinguished, must possess integrity, as must the district as a whole." [92] As discussed further below, the Study Area as a whole does not retain integrity.

[89] "National Register Bulletin #15."
[90] Ibid.
[91] Ibid.
[92] Ibid.

For the reasons outlined above, the Study Area does not appear to be significant under Criterion C.

Criterion D

To be eligible for listing under Criterion D, a property's physical material must have yielded, or may be likely to yield, information important to history or prehistory.

This criterion generally applies to archaeological resources, but may apply to a built resource in instances where a resource may contain important information about such topics as construction techniques or human activity. In any case, the resource must be the principal source of information. This is unlikely to be true for the Study Area. Therefore, the Study Area does not appear to be eligible as a district under Criterion D.

Integrity

To be eligible for listing in the National Register, properties must retain their physical integrity from the period in which they gained significance. In the case of architecturally significant properties, the period of significance is normally the date of construction. For historically significant properties, the period of significance is usually measured by the length of the associations. As the Study Area is not significant under any of the National Register criteria, it has no period of significance. Nevertheless, the Study Area was analyzed as a whole against the seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association. While some factors of integrity are more important than others depending on the property, a majority of the seven recognized factors should be retained.

Location – The place where the historic property was constructed or the place where the historic event occurred.

The Study Area is still located on Mormon Island within the Port of Los Angeles. While the buildings and structures within the Study Area have been constructed over time and some have been altered and/or demolished, research did not reveal any definitive evidence to suggest that the buildings and structures were moved to or from another location. Therefore, the integrity of location is intact.

Setting – The physical environment of the historic property.

The Study Area, located on Mormon Island within the Port of Los Angeles, has witnessed decades of change at the port since its initial development in the 1920s. The facilities on the port have been modernized, modified, and expanded to accommodate larger cargo ships and increased storage space. In the late 1960s, much of the port was converted for containerization, which resulted in significant changes to the built environment of the surrounding setting. Continued development within the boundaries of the Study Area has impacted the integrity of immediate setting. The Study Area therefore no longer retains integrity of setting.

Design – The combination of elements that create the form, plan, space, structure, and style of a property.

The Study Area's integrity of design has also been diminished by ongoing development. The combination of elements on Berths 163 and 164 such as utilitarian materials and oil-related infrastructure and technology reflect its continued function and aesthetic as an oil terminal.

However, ongoing changes such as the construction and development of new buildings and structures, incorporation of new technology and safety equipment, abandonment and demolition of older facilities, reconfiguration of terminals, and the establishment of new leasehold areas as tenants changed, have all changed the spatial relationships between the physical elements that comprise the Study Area. The Study Area's current configuration is the result of as-needed construction over the course of the twentieth century. It no longer fully reflects any original or early site planning from within the period of significance, which ends with the containerization period. The Study Area therefore does not retain integrity of design.

Materials – The physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.

The materials used to construct the buildings and structures within the Study Area are predominantly wood, metal, and concrete. The materials used—concrete, metal, and wood—were commonly available throughout the twentieth century and reveal little about any specific period. The largest wood structure in the Study Area, the timber wharf, has been essentially rebuilt in small sections due to continued maintenance and damage repair, per consultation with employees at the present-day leaseholds. Smaller wood buildings, such as Office 3, have undergone alterations such as replacement windows. Research indicates that metal tanks within the Study Area—in particular, Tank Farm 5—have been re-sheathed in new metal siding, concealing their exteriors. In addition, over time, new materials such as vinyl and T1-11 have been introduced within the Study Area. These cumulative alterations have diminished the Study Area's integrity of materials.

Workmanship – The physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.

The nature of the buildings and structures within the Study Area is utilitarian. Most are prefabricated and assembled onsite, such as storage tanks and sheds. While they can generally be identified as dating from a specific era, this type of construction does not reveal important information about a particular culture or people during a period in history, nor does it contain evidence of a craftsman's labor.

Evidence of construction techniques can, however, be seen in the timber wharf, which has been largely reconstructed (as discussed above) and in the board-formed concrete walls surrounding the tank farms. While the timber wharf has been largely reconstructed (see above), the construction technique is still evident. As such, the workmanship that is evident does remain intact.

Feeling – A property's expression of the aesthetic or historic sense of a particular period of time.

The Study Area does not retain integrity of feeling. Due to continued development on and around the Study Area, including construction and development of new buildings and structures, incorporation of new technology and safety equipment, abandonment and demolition of older facilities, reconfiguration of terminals, and the establishment of new leasehold areas as tenants changed, it no longer conveys the feeling of an early twentieth century oil terminal.

Association – The direct link between an important event or person and a historic property.

The integrity of association does not apply, because the Study Area does not have any historic or architectural significance to convey.

The Study Area does not retain integrity of setting, design, materials, or feeling. Therefore, it does not retain a majority of its aspects of integrity.

Conclusion

The Study Area comprising Berths 163 and 164 does not appear to be significant as a historic district under any of the four National Register criteria. For the reasons outlined above, it does not appear to be eligible for the National Register due to a lack of historic and architectural significance as well as physical integrity.

5.2 California Register of Historical Resources

The California Register criteria mirror those of the National Register. The Study Area does not appear to be eligible for the California Register for the same reasons outlined above.

5.3 Los Angeles Historic Preservation Overlay Zones

Under the Los Angeles Cultural Heritage Ordinance, an HCM is defined as any site (including significant trees or other plant life located on the site), building or structure of particular historic or cultural significance to the City of Los Angeles. As such, the HCM criteria are not applied to groupings of buildings or structures like those within the Study Area.

While the HPOZ ordinance does not provide specific eligibility criteria for the designation of an HPOZ, it defines an HPOZ as "any area of the City of Los Angeles containing buildings, structures, Landscaping, Natural Features or lots having Historic, architectural, Cultural or aesthetic significance."

The Study Area does not have historic, architectural, cultural, or aesthetic significance for the reasons discussed above in the National Register evaluation and therefore does not appear to be eligible as a local HPOZ.

6. CONCLUSIONS

The two Berths that comprise the Study Area, Berths 163 and 164, are not currently listed under any national, state, or local landmark or historic district programs, and were not identified during SurveyLA, as the Port of Los Angeles was not included in the scope of SurveyLA. A records search prepared by the SCCIC revealed a prior evaluation of the Berths prepared by Carrie Chasteen of Applied Earthworks in 2015 that concluded that the Berths appeared eligible for listing in the National, California, and local registers as two separate districts that corresponded with the boundaries of the present-day NuStar and Valero leaseholds. In a letter dated May 14, 2018, State Historic Preservation Officer (SHPO) Julianne Polanco stated that she did not concur with the evaluations of eligibility based on the documentation provided in the 2015 report and outlined the opportunities for additional analysis. GPA was therefore retained to conduct this additional analysis.

As a result of that analysis, GPA concludes that the Study Area, evaluated as a single oil terminal district, does not appear to be eligible for listing in the National and California Registers, or for designation as a local HPOZ due to a lack of significance and integrity. The recommended Status Code for the Study Area is 6Z, ineligible for designation at the national, state, and local levels through survey evaluation. Therefore, the Berths and the buildings and structures thereon are not historical resources subject to CEQA. As proposed projects would have no impact on historical resources, no further study is recommended or required.

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Appendix A – Résumés

AMANDA DUANE is an Associate Architectural Historian at GPA. She has been involved in the field of historic preservation since 2011. Amanda graduated from Savannah College of Art and Design with a Bachelor of Fine Arts in Historic Preservation. She has since worked in private historic preservation consulting in California. Amanda joined GPA in 2012 and her experience has included the preparation of environmental compliance documents in accordance with the California Environmental Quality Act and Section 106 of the National Historic Preservation Act; Historic American Buildings Survey/Historic American Engineering Record recordation; large-scale historic resources surveys; Federal Rehabilitation Tax Credit and Mills Act applications; National Register of Historic Place nominations; local landmark applications; historic context statements; and evaluations of eligibility for a wide variety of projects and property types throughout California. She is experienced in working with local governments to develop design guidelines for administering local design review.

Educational Background:

- B.F.A, Historic Preservation, Savannah College of Art and Design, 2011

Professional Experience:

- GPA Consulting, Associate Architectural Historian, 2012-Present
- Architectural Resources Group, Intern, 2012
- City of Los Angles, Office of Historic Resources, Intern, 2011-2012

Qualifications:

- Meets the Secretary of the Interior's Professional Qualifications Standards for architectural history pursuant to the Code of Federal Regulations, 36 CFR Part 61, Appendix A.
- National Preservation Institute, Section 106: An Introduction

Professional Activities:

- California Preservation Foundation Conference Programs Committee, 2017

Selected Projects:

- High Speed Rail, Los Angeles to Burbank, CEQA/NEPA Historical Resource Technical Report, 2016-2018
- Rose Hill Courts, Los Angeles, CEQA/NEPA Historical Resource Technical Report, 2019
- 847-97 W. 10th Street, Los Angeles, CEQA Historical Resource Evaluation Report, 2018
- Oakwood School Master Plan, Los Angeles, Historical Resource Technical Report, 2016
- Villa Carlotta, Los Angeles, CEQA Historical Resource Technical Report, 2016
- Mira Loma Detention Center Women's Facility, Los Angeles County, CEQA Historical Resource Technical Report, 2016
- Commonwealth Nursery, Los Angeles, CEQA Historical Resource Technical Report, 2016
- City Market of Los Angeles, CEQA Historical Resource Technical Report, 2015
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- 1000 S. Santa Fe Avenue, Los Angeles, CEQA Historical Resource Technical Report, 2015
- LA Biomed, Torrance, CEQA Historical Resource Technical Report, 2014
- Willys Knight Building, Los Angeles, CEQA Historical Resource Technical Report, 2013
- High Desert Corridor, Los Angeles County, Historical Resource Evaluation Report, Section 106 Review, 2013
- Claremont Graduate University Master Plan, CEQA Historical Resource Technical Report, 2013

ELYSHA PALUSZEK is an Associate Architectural Historian at GPA. She has been involved in the field of historic preservation since 2009. Elysha graduated from the University of Southern California with a Master of Historic Preservation. She has since worked in non-profit and private historic preservation consulting in California. Elysha joined GPA in 2010 and her experience has included the preparation of environmental compliance documents in accordance with the California Environmental Quality Act and Section 106 of the National Historic Preservation Act; Historic Structure Reports; Historic American Buildings Survey/Historic American Engineering Record recordation; large-scale historic resources surveys; National Register of Historic Places nominations; local landmark nominations; and evaluations of eligibility for a wide variety of projects and property types throughout California. She has also completed numerous context statements on a wide array of property types and historic themes.

Educational Background:

- Master of Historic Preservation, University of Southern California, 2010
- B.A., History, College of William and Mary, 2008

Professional Experience:

- GPA Consulting, Associate Architectural Historian, 2018-Present
- SWCA, Architectural Historian, 2018
- GPA Consulting, Architectural Historian II, 2010-2015
- City of Los Angeles Office of Historic Resources, Intern, 2010-2011
- Los Angeles Conservancy, Graduate Intern, 2010
- Pasadena Heritage, Graduate Intern, 2009-2010
- National Trust for Historic Preservation, Intern, 2009

Qualifications:

- Meets the Secretary of the Interior's Professional Qualifications Standards for history and architectural history pursuant to the Code of Federal Regulations, 36 CFR Part 61, Appendix A.

Professional Activities:

- Los Angeles County Historical Landmarks and Records Commission, 2013-2017

Selected Projects:

- World Trade Center, Los Angeles, CEQA Historical Resource Evaluation Report, 2018
- Mira Loma Detention Center Women's Facility, Los Angeles County, CEQA Historical Resource Technical Report, 2016
- City Market of Los Angeles, CEQA Historical Resource Technical Report, 2015
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- Old Vallejo City Hall, National Register Nomination, 2013
- Old Vallejo Masonic Temple, National Register Nomination, 2013
- Hotel Rosslyn Annex, Los Angeles, National Register Nomination, 2013
- Willys Knight Building, Los Angeles, CEQA Historical Resource Technical Report, 2013
- 500 Broadway, Santa Monica, CEQA Historical Resource Evaluation Report, 2013
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- 1335 East Grand Avenue, Pomona, CEQA Historical Resource Technical Report, 2011
- 1717 Gramercy Place, Hollywood, CEQA Historical Resource Evaluation Report, 2011
- Jack's Restaurant, Whittier, CEQA Historical Resource Evaluation Report, 2011

Appendix B - DPR 523 Form Sets

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code | Reviewer | Date

Page 1 **of** 42 ***Resource Name or #:** (Assigned by recorder) Berths 163 and 164
P1. Other Identifier:
***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted**
***a. County** Los Angeles **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** Torrance **Date** 1964 **T** 5S ; **R** 13W ; ___ ☐ **of** ___ ☐ **of Sec** ___ ; _____ **B.M.**
c. Address 841-961 La Paloma Street City Los Angeles Zip 90744
d. UTM: (Give more than one for large and/or linear resources) Zone ___, _____ mE/ _____ mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Please see attached District Record.

***P3b. Resource Attributes:** (List attributes and codes) HP39. Other
***P4.Resources Present:** ☐ Building ☐ Structure ☐ Object ☐ Site ☒ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)

P5b. Description of Photo: (view, date, accession #) View looking E at Berths 163 and 164, 8/6/18.

***P6. Date Constructed/Age and Source:** ☒ Historic ☐ Prehistoric ☐ Both
Various, see District Record

***P7. Owner and Address:**
LA City Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

***P8. Recorded by:** (Name, affiliation, and address) Amanda Duane
GPA Consulting, 617 S. Olive Street Suite 910, Los Angeles CA 90014

***P9. Date Recorded:** 8/17/18

***P10. Survey Type:** (Describe)
Survey - Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Berths 163 and 164, Mormon Island, Los Angeles, California, Historical Resource Evaluation Report," August 2018.

***Attachments:** ☐NONE ☒Location Map ☒Continuation Sheet ☐Building, Structure, and Object Record
☐Archaeological Record ☒District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photograph Record ☐ Other (List):

D1. Historic Name: Berths 163 and 164 D2. Common Name: Same

***D3. Detailed Description** (Discuss overall coherence of the district, its setting, visual characteristics, and minor features. List all elements of district.):

Berths 163 and 164 have been in continuous, almost exclusive use as oil terminals since they were developed in 1923. The Berths have historically been divided into two halves, described as the north and south halves (see **Figure 1** on Page 5). The Berths are connected at the west end by a linear timber wharf. The Berths are occupied by a variety of buildings and structures related to oil storage, including oil tank farms and pre-fabricated buildings used as offices and sheds. There is no formal site plan or circulation system; the buildings and structures are organized in a utilitarian fashion and have been constructed on an as-needed basis since the oil terminal was established in 1923. *(See continuation sheet).*

***D4. Boundary Description** (Describe limits of district and attach map showing boundary and district elements.):

The Study Area comprises Berths 163 and 164 and a portion of Los Angeles County Tax Assessor's Parcel Number 7440-014-904. The berths are located on Mormon Island in the Port of Los Angeles Community Plan Area of the City of Los Angeles. The Study Area is generally bounded by Slip Number one to the west, the Los Angeles Harbor Department (LAHD) maintenance yards to the north, the Pasha breakbulk terminal to the east, and the U.S. Borax-Rio Tinto export terminal to the south.

***D5. Boundary Justification:**

The boundary comprises the historic extent of Berths 163 and 164 and associated backlands.

D6. Significance: Theme The History of the Oil Industry at the Port of Los Angeles
Area Port of Los Angeles **Period of Significance** 1906-1965 **Applicable Criteria** N/A

As discussed above, the two Berths were developed simultaneously in 1923 and have been used almost exclusively as oil terminals since. Several tenants over the years have utilized portions of both Berths for their facilities. During the field inspection of the Study Area, 26 utilitarian buildings and structures were identified on Berths 163 and 164. The 26 buildings and structures are visually and functionally linked and were therefore evaluated together as a district based on the shared history and use. As a concentration of utilitarian buildings and structures that lack individual distinction, it is unlikely that a single building or structure within the Study Area would be sufficient to convey any potential historical significance within the context the oil industry at the Port of Los Angeles. Therefore, no buildings or structures within the Study Area were identified for individual evaluation.

Berths 163 and 164, the Study Area, were evaluated as a district for listing in the National and California Registers and for designation as a Los Angeles HPOZ. The historic context considered in these evaluations was the history of the oil industry in the Port of Los Angeles.

As discussed above, large properties or areas with multiple buildings and structures from the same period of time and with a common history and use are typically evaluated as potential historic districts. As such, the Study Area was evaluated to determine if it constitutes a historic district. For National Register eligibility, historic districts usually meet the last portion of Criterion C, "a distinguishable entity whose components may lack individual distinction." However, they must also be significant within a historic context in order to be eligible. As such, historic districts must be historically significant under Criterion A, B, or D, or architecturally significant under other portions of Criterion C in addition to being a distinguishable entity. *(See continuation sheet).*

***D7. References** (Give full citations including the names and addresses of any informants, where possible.):

Please see Continuation Sheet.

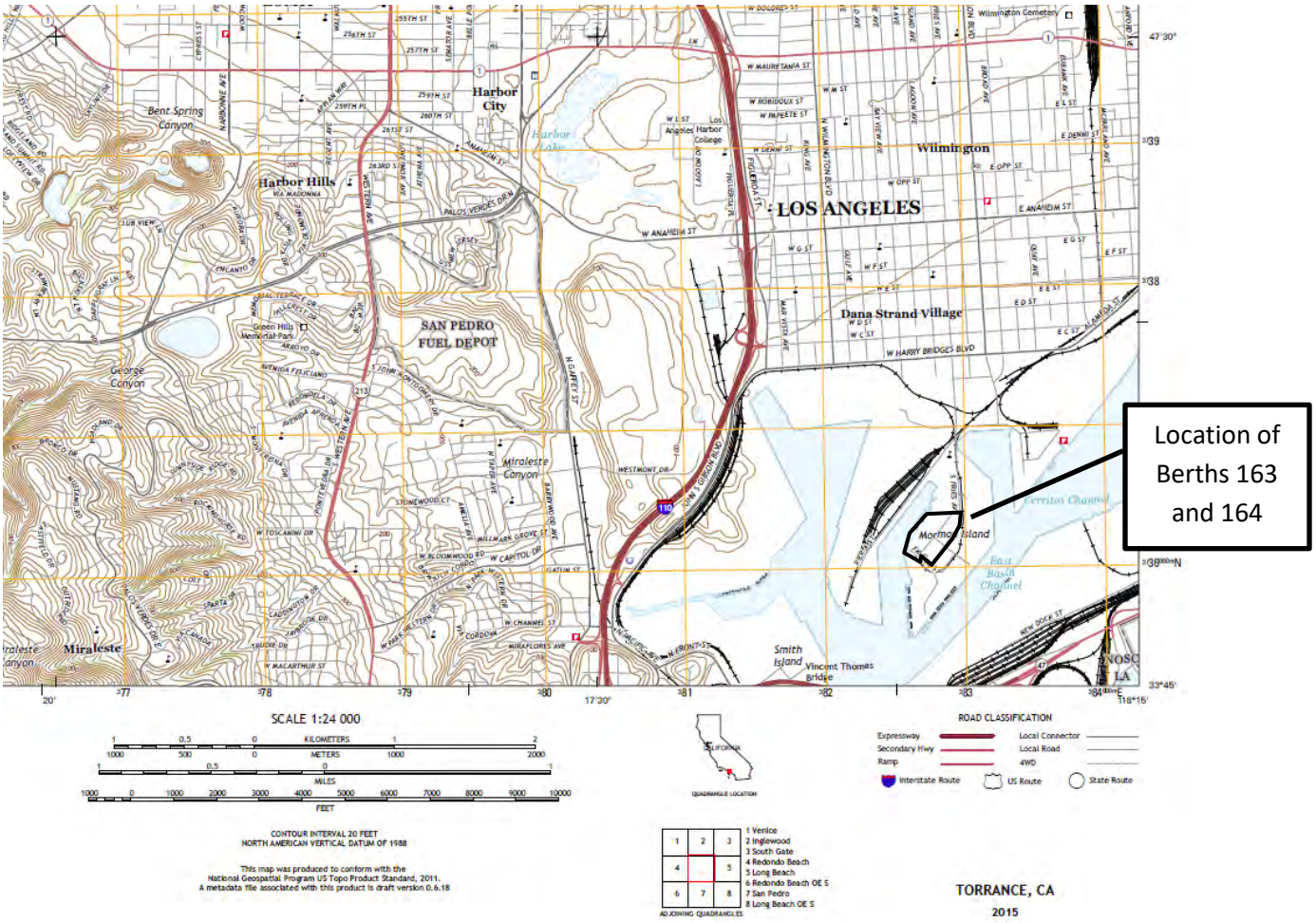
***D8. Evaluator:** Elysha Paluszek **Date:** August 17, 2018

Affiliation and Address:
GPA Consulting, 617 S. Olive Street, Suite 910, Los Angeles CA 90014

State of California ♦ Natural Resources Agency DEPARTMENT OF PARKS AND RECREATION **LOCATION MAP**	Primary # HRI# Trinomial

 ***Resource Name or #** (Assigned by recorder) Berths 163 and 164

***Map Name:** Torrance Quad ***Scale:** 1:24,000 ***Date of map:** 2015



***D3. Detailed Description, Continued from Page 2**

Twenty-six specific buildings and structures were identified on Berths 163 and 164. They are listed in the table below, indicated on the District Map on the next page, and described on attached A forms.

Name (for the purposes of this report)	Year Built	Location
A: Tank Farm 1	c. 1956, 1971	Berth 163, North Half
B: Timber Wharf	1923	Berths 163 and 164
C: Office 1 and Office 2	c. 2011	Berth 163, South Half
D: Tank Farm 2	c. 1935, 1965	Berth 163, South Half
E: Boiler Room	1935	Berth 163, South Half
F: Guard Shack 1	c. 1994	Berth 164, North Half
G Transformer Building	1924	Berth 164, North Half
H: Tank Farm 3	c. 1928, 1944	Berth 164, North Half
I: Gabled Shed	After 2014	Berth 164, North Half
J: Storage Building 1	1925	Berth 164, North Half
K: Office 3	1925	Berth 164, North Half
L: Pre-Fabricated Sheds	Various	Berth 164, North Half
M: Office 4	c. 1974	Berth 164, South Half
N: Tank Farm 4	1940	Berth 164, South Half
O: Tank Farm 5	c. 1955	Berth 164, South Half
P: Storage Building 2	1940	Berth 164, South Half
Q: Guard Shack 2	c. 1960	Berth 164, South Half
R: Office 5	c. 1952	Berth 164, South Half
S: Wharf Building 1	c. 2011	Berth 163, South Half, Along Wharf
T: Wharf Building 2	Pre-1994	Berth 163, South Half, Along Wharf
U: Wharf Building 3	Pre-2003	Berth 163, South Half, Along Wharf
V: Wharf Building 4	Pre-2004	Berth 164, South Half, Along Wharf
W: Wharf Building 5	After 2004	Berth 164, South Half, Along Wharf
X: Wharf Building 6	Pre-2004	Berth 164, South Half, Along Wharf
Y: Tank Farm 6	c. 1971	Backlands
Z: Tank Farm 7	c. 1956	Backlands

Figure 1: *Boundaries of Berths 163 and 164. Base image courtesy of Google Maps.*

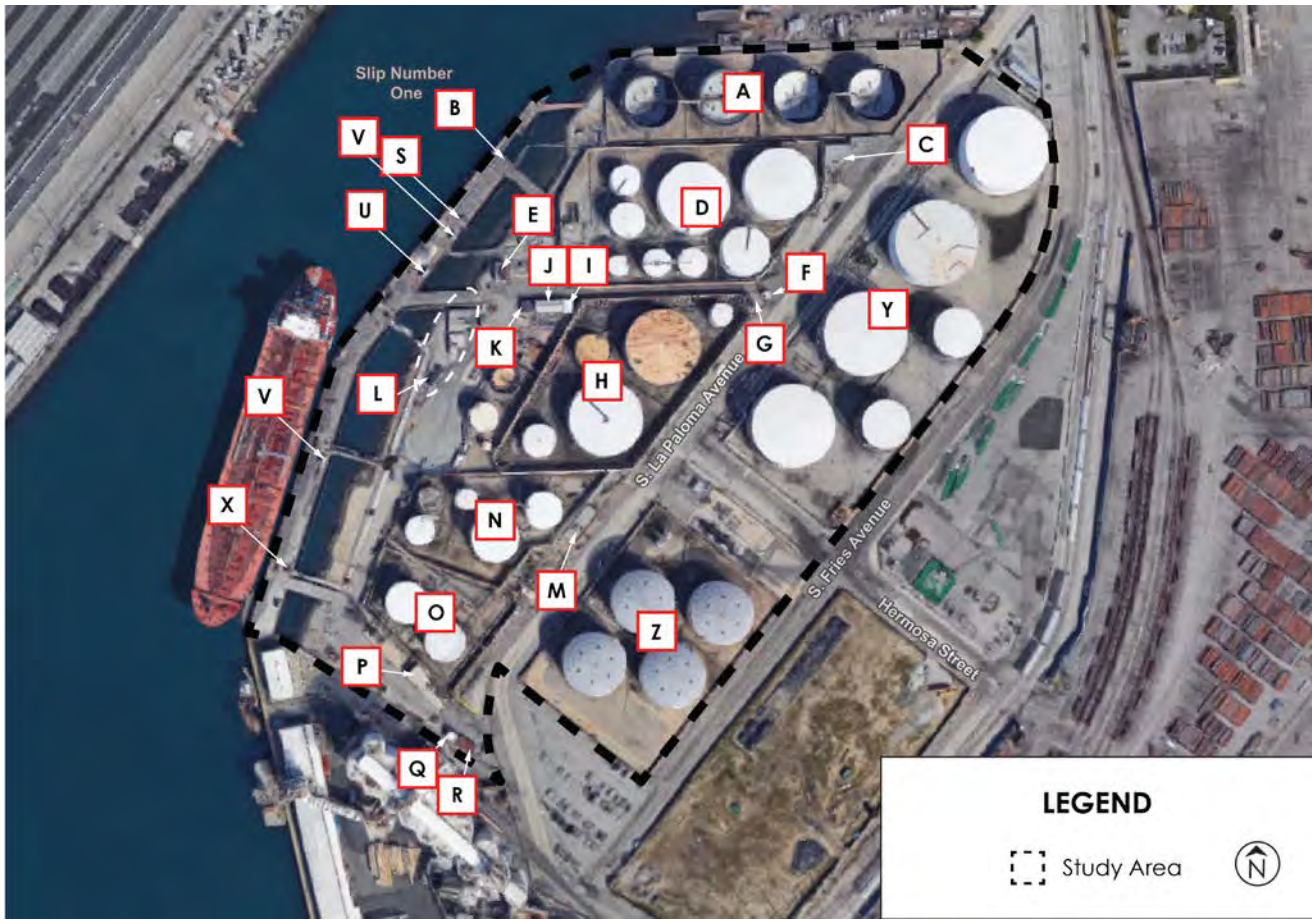


Figure 2: *Boundaries of Berths 163 and 164. Base image courtesy of Google Maps. Labels for each building and structure correspond to table on Page 4.*

D6. Significance, Continued from Page 2

National Register of Historic Places

Criterion A

To be eligible for listing in the National Register under Criterion A, a property must have a direct association with events that have made a significant contribution to the broad patterns of our history. The Study Area was evaluated within the context of the oil industry in the Port of Los Angeles.

The oil industry in the port dates to the turn of the twentieth century. As early as 1909, Union Oil had established a terminal at which it could load petroleum onto ships. It soon established a refinery in Wilmington, and was the first company to lay a pipeline from its oil fields near Brea to its new refinery there. As more oil fields were discovered, the port became a center for oil export. Union Oil and Standard Oil, located at Berths 150-151 and Berth 100, respectively, dominated oil export at the port. By 1914, Associated Petroleum and General Petroleum joined them.

Though the continued discovery of oil in the early 1920s in the Los Angeles area made California a leading source of the world's oil, few oil fields had the facilities to store or process petroleum onsite. This made export the only option. In 1923, 21.5 million tons of oil were exported through the port, and Los Angeles surpassed San Francisco as the busiest port on the West Coast (Queenan, 69). By the mid-1920s, Shell Oil of California, Pan American Petroleum Company, Gilmore Oil Company, Southern Pacific Company, Petroleum Export Corporation, Julian Petroleum, and Petroleum Midway Company, Limited all had storage and export facilities at the port (Queenan, 65-66). The City passed a $15 million bond for the improvement of harbor facilities so the port could keep up with the demand for oil.

Though slightly affected by the onset of the Great Depression, the oil industry remained steady into the 1930s. This was due in large part to the discovery of the Wilmington Oil Field in 1932. New construction slowed, though Union Oil constructed a new wharf at Berth 149 as its operations continued to grow. Construction during this period was largely limited to maintenance to keep the wharfs in working order. By the end of the 1930s, the oil industry and the port in general were recovering from the decline earlier in the decade. By the late 1940s, the port and the oil industry had both fully recovered. In the post-World War II period, port improvements continued for the shipment of oil. In 1962, the port constructed the world's largest underwater pipeline beneath the Main Channel from the General Petroleum facility on Terminal Island to an enormous new passenger and cargo terminal at Berths 90-93 (Queenan, 105). By mid-1960s, the onset of the containerization made the construction of newer, larger facilities necessary throughout the port. The use of these larger standardized containers for shipping cargo meant that larger ships had to be constructed, leading to changes in port infrastructure. Much of the port's infrastructure had been modernized by the end of the decade.

Though the port itself has undoubtedly played a significant role within the context of the oil industry in Los Angeles in general, the Study Area comprising Berths 163 and 164 does not appear to represent that significance in a meaningful way. The earliest use of Berths 163 and 164 occurred in 1923. This was well after the establishment of oil-related facilities in the port, which began as early as 1909. The development of Berths 163 and 164 represents the continuation of a trend, not a significant part of that trend. They were simply a part of the larger oil industry operations in the port during the twentieth century Per National Register Bulletin #15, "Mere association with historic events or trends is not enough, in and of itself, to qualify under Criterion A: the property's specific association must be considered important as well." Research did not reveal any evidence to suggest that the oil-related activities that occurred at Berths 163 and 164 would rise to the level of significance outside of mere association with an ongoing trend.

There is no indication that any of the companies operating out of Berths 163 and 164 would be considered significant within the context of the oil industry in Los Angeles or the port. Minimal information was found about most. Many were oil refining and export companies, some of the many that operated in the port over the course of the twentieth century. Others were subsidiaries of larger companies, as was the case with American Bitumuls and California Chemical, which were both subsidiaries of Standard Oil. While larger companies like Standard Oil were undoubtedly significant within the context of the oil industry in Los Angeles, those that operated within the Study Area were simply subsidiary companies that manufactured products utilizing petroleum.

Julian Petroleum/Sunset Oil, about which the most information was found and occupied the site for a substantial period of time, developed the northern portion of Berth 164 by 1924. The company was incorporated by Courtney Chauncey "C.C." Julian, a Canadian oil promoter, in 1923 (Watkins, 17). C.C. Julian transferred the company to S.C. Lewis in 1925, and in 1927, Julian Petroleum merged with the California-Eastern Oil Company. Within a year, the nation was rocked with the news that Julian Petroleum had participated in stock fraud totaling $150 million. The scandal continued into the early 1930s, as bribery, blackmail, and other crimes were revealed. As a result, Julian Petroleum and California-Eastern Oil were disassembled and auctioned off to the Sunset Pacific Oil Company. In 1934, Sunset Oil was incorporated from its predecessors, Julian Petroleum, California-Eastern, and Sunset Pacific. Sunset Oil would go on to flourish after World War II and eventually became the largest independent petroleum marketer on the Pacific Coast before merging with the International Mining Corporation to become Sunset International Petroleum (Tygiel, *Great Los Angeles Swindle,* 327).

By the 1920s industry giants with a presence at the port included Union Oil, Standard Oil, Texas Company, and Shell Oil. Numerous smaller oil companies with a presence at the port included California Petroleum, Hancock Oil, General Petroleum, Pan-American Oil (later Richfield Oil), and Associated Oil. Julian Petroleum was one of these smaller companies. It was the subject of scandal and substantial news coverage for its stock fraud, but there is no evidence that it was significant within the context of the oil industry in Los Angeles or the port. It was simply one of many oil-related companies at the port at the time.

Furthermore, the facilities within the Study Area were largely used by the companies described above for storage and export of oil-related products and were often just a small part of the company's larger real estate holdings, which may have also included oil-producing properties, refining facilities, and corporate buildings. It is unlikely that a significant event, such as a groundbreaking invention or important business deal, occurred at a utilitarian storage and export area like Berths 163 and 164.

For the reasons outlined above, the Study Area does not appear to be significant under Criterion A.

Criterion B

To be eligible for listing in the National Register under Criterion B, a property must be associated with the lives of persons significant in our past.

Courtney Chauncey "C.C." Julian founded Julian Petroleum in 1923. Julian was the subject of substantial media attention during the scandals surrounding his company. Julian was born in 1885 in Manitoba, Canada. Though he dreamed of becoming a lawyer, he lacked the funds or education necessary for law school. Instead, he worked a series of menial jobs before becoming a real estate speculator on the Canadian frontier. He worked in the oil fields in Bakersfield, California in 1907, returning to Canada soon after. He married Mary O'Donohue in 1910. In 1917, Julian moved to California with his family and began working as an oil driller outside Bakersfield (Tygiel, *Great Los Angeles Swindle,* 17-23). He began selling oil stock the next year for an oilfield operation in Texas. Many of his early efforts resulted in dry wells. Finally, in 1922, he found success in Santa Fe Springs, where oil had recently been struck (Tygiel, *Great Los Angeles Swindle,* 30). Julian had a talent for advertising, and he utilized it to promote his business ventures in local newspapers like the *Los Angeles Times* and *Examiner* (Tygiel, *Great Los Angeles Swindle,* 34). He began selling stock in his new venture and soon saw success. By 1923, however, Julian Petroleum was under investigation for stock fraud ("Julian Buyers are Cautioned"). Julian stepped down as president in 1925 (Tygiel, *Great Los Angeles Swindle,* 119). The Julian Petroleum stock scandal that would break in 1927 was nationwide news, and revealed an "ever-deepening web" of corruption and crime (Tygiel, "Money-Gusher"). He would later come under fire again for overstating claims about a mining site called Leadfield in Death Valley.

National Register Bulletin #32: Guidelines for Evaluating and Documenting Properties Associated with Significant Persons states "specific individuals must have made contributions or played a role that can be justified as significant within a defining area of American history or prehistory." Though C.C. Julian was a prominent figure in the public eye in the 1920s due to his involvement with Julian Petroleum and the company's stock fraud trial, there is no evidence to suggest that he would be considered a significant person. He does not appear to have made any significant contributions to history in general or the oil industry in Los Angeles in particular.

No other specific individuals associated with the Study Area were uncovered during the course of research. *National Register Bulletin #32* also states, "When specific individuals cannot be identified, or the significance of the activities, accomplishments, or influence of specific individuals cannot be identified or explained, significance rests more in a property's representation of a pattern of history, and the appropriate criterion is A rather than B."

While there were undoubtedly significant individuals associated with companies like Standard Oil, their productive lives would be best represented by properties with a more direct association such as their offices or places of residences, not a storage facility of a subsidiary company like those found on Berths 163 and 164.

For the reasons outlined above, the Study Area does not appear to be significant under Criterion B.

Criterion C

To be eligible for listing under Criterion C, a property must embody the distinctive characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction.

The Study Area is a typical example of a wharf and oil storage complex. The complex was developed over the course of the twentieth century. Construction began in 1923 when the Port built the wharf. In the 1920s, Julian Petroleum built a tank farm, office building, and storage building on the northern portion of Berth 164. Development of the Study Area continued by subsequent tenants from the 1930s through the 2000s. Therefore, it does not represent a particular period.

The buildings and structures within the Study Area are typical oil-related and industrial facilities, including storage tanks and storage buildings, from their periods. The Berths themselves are typical wood wharves from the 1920s. Wood wharves were a common type of port infrastructure during and after this period and were constructed at ports around the country. Berths 163 and 164 utilize common construction techniques and materials, and they do not embody the distinctive characteristics of a type, period, or method of construction. Furthermore, the materials that make up the wharf have been replaced over the years as part of continued maintenance and damage repair. It is likely that nearly all of the materials of the wharf, including pilings and deck, have been replaced since the 1920s. (See integrity discussion below for further details.)

Minimal definitive information was found about the builders of the various features of within the Study Area, and there is no evidence that any of the buildings or structures represent the work of a master. The Study Area does not possess high artistic value. *National Register Bulletin #15* states that "a property is eligible for its high artistic values if it so fully articulates a particular concept of design that it expresses an aesthetic ideal." In order to be eligible under this aspect of Criterion C, a property must express a concept of design or an aesthetic ideal "more fully than other properties of its type." This is not the case for the Study Area. The study area appears to be aa typical example of an oil terminal, and it does not articulate a particular concept of design more fully than other examples of its type.

The last aspect of Criterion C - represents a significant and distinguishable entity whose components may lack individual distinction - refers to historic districts. First and foremost, the Study Area was evaluated as a potential historic district. *National Register Bulletin #15* provides guidance on the evaluation of historic districts; it notes that a district may be eligible even "if all of its components lack individual distinction, provided that the grouping achieves significance as a whole within its historic context."[1] As noted above under the Criterion A evaluation, the Study Area does not appear to be significant within its historic context. In order for a property to be eligible as a historic district, it must significant under the last aspect of Criterion C as well as Criterion A, B, or D or other aspects of Criterion C. This is not the case for the Study Area. Though it qualifies as a distinguishable entity whose components lack individual distinction, it is not significant under any of the other criteria or aspects of Criterion C. The Study Area is unified by a single use, but its development has taken place over multiple decades and does not represent a definable period of time. The wharf itself has existed since at least the 1920s, while the other buildings and structures within the Study Area were constructed as needed over the course of the twentieth century. Furthermore, *National Register Bulletin #15* emphasizes that "the majority of the components that add to the district's historic character, even if they are individually undistinguished, must possess integrity, as must the district as a whole." As discussed further below, the Study Area as a whole does not retain integrity.

For the reasons outlined above, the Study Area does not appear to be significant under Criterion C.

Criterion D

To be eligible for listing under Criterion D, a property's physical material must have yielded, or may be likely to yield, information important to history or prehistory.

This criterion generally applies to archaeological resources, but may apply to a built resource in instances where a resource may contain important information about such topics as construction techniques or human activity. In any case, the resource must be the principal source of information. This is unlikely to be true for the Study Area. Therefore, the Study Area does not appear to be eligible as a district under Criterion D.

Integrity

To be eligible for listing in the National Register, properties must retain their physical integrity from the period in which they gained significance. In the case of architecturally significant properties, the period of significance is normally the date of construction. For historically significant properties, the period of significance is usually measured by the length of the associations. As the Study Area is not significant under any of the National Register criteria, it has no period of significance. Nevertheless, the Study Area was analyzed as a whole against the seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association. While some factors of integrity are more important than others depending on the property, a majority of the seven recognized factors should be retained.

Location – The place where the historic property was constructed or the place where the historic event occurred.

The Study Area is still located on Mormon Island within the Port of Los Angeles. While the buildings and structures within the Study Area have been constructed over time and some have been altered and/or demolished, research did not reveal any definitive evidence to suggest that the buildings and structures were moved to or from another location. Therefore, the integrity of location is intact.

Setting – The physical environment of the historic property.

The Study Area, located on Mormon Island within the Port of Los Angeles, has witnessed decades of change at the Port since its initial development in the 1920s. The facilities on the Port have been modernized, modified, and expanded to accommodate larger cargo ships and increased storage space. In the late 1960s, much of the Port was converted for containerization, which resulted in significant changes to the built environment of the surrounding setting. Continued development within the boundaries of the Study Area has impacted the integrity of immediate setting. The Study Area therefore no longer retains integrity of setting.

Design – The combination of elements that create the form, plan, space, structure, and style of a property.

The Study Area's integrity of design has also been diminished by ongoing development. The combination of elements on Berths 163 and 164 such as utilitarian materials and oil-related infrastructure and technology reflect its continued function and aesthetic as an oil terminal. However, ongoing changes such as the construction and development of new buildings and structures, incorporation of new technology and safety equipment, abandonment and demolition of older facilities, reconfiguration of terminals, and the establishment of new leasehold areas as tenants changed have all changed the spatial relationships between the physical elements that comprise the Study Area. The Study Area's current configuration is the result of as-needed construction over the course of the twentieth century. It no longer fully reflects any original or early site planning from within the period of significance, which ends with the containerization period. The Study Area therefore does not retain integrity of design.

Materials – The physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.

The materials used to construct the buildings and structures within the Study Area are predominantly wood, metal, and concrete. The materials used—concrete, metal, and wood—were commonly available throughout the twentieth century and reveal little about any specific period. The largest wood structure in the Study Area, the timber wharf, has been essentially rebuilt in small sections due to continued maintenance and damage repair, per consultation with employees at the present-day leaseholds. Smaller wood buildings, such as Office 3, have undergone alterations such as replacement windows. Research indicates that metal tanks within the Study Area—in particular, Tank Farm 5—have been re-sheathed in new metal siding, concealing their exteriors. In addition, over time, new materials such as vinyl and T1-11 have been introduced within the Study Area. These cumulative alterations have diminished the Study Area's integrity of materials.

Workmanship – The physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.

The nature of the buildings and structures within the Study Area is utilitarian. Most are prefabricated and assembled onsite, such as storage tanks and sheds. While they can generally be identified as dating from a specific era, this type of construction does not reveal important information about a particular culture or people during a period in history, nor does it contain evidence of a craftsman's labor.

Evidence of construction techniques can, however, be seen in the timber wharf, which has been largely reconstructed (as discussed above) and in the board-formed concrete walls surrounding the tank farms. While the timber wharf has been largely reconstructed (see above), the construction technique is still evident. As such, the workmanship that is evident does remain intact.

Feeling – A property's expression of the aesthetic or historic sense of a particular period of time.

The Study Area does not retain integrity of feeling. Due to continued development on and around the Study Area, including construction and development of new buildings and structures, incorporation of new technology and safety equipment, abandonment and demolition of older facilities, reconfiguration of terminals, and the establishment of new leasehold areas as tenants changed, it no longer conveys the feeling of an early twentieth century oil terminal.

Association – The direct link between an important event or person and a historic property.

The integrity of association does not apply, because the Study Area does not have any historic or architectural significance to convey.

The Study Area does not retain integrity of setting, design, materials, or feeling. Therefore, it does not retain a majority of its aspects of integrity.

Conclusion

The Study Area comprising Berths 163 and 164 does not appear to be significant as a historic district under any of the four National Register criteria. For the reasons outlined above, it does not appear to be eligible for the National Register due to a lack of historic and architectural significance as well as physical integrity.

California Register of Historical Resources

The California Register criteria mirror those of the National Register. The Study Area does not appear to be eligible for the California Register for the same reasons outlined above.

Los Angeles Historic Preservation Overlay Zones

Under the Los Angeles Cultural Heritage Ordinance, an HCM is defined as any site (including significant trees or other plant life located on the site), building or structure of particular historic or cultural significance to the City of Los Angeles. As such, the HCM criteria are not applied to groupings of buildings or structures like those within the Study Area.

While the HPOZ ordinance does not provide specific eligibility criteria for the designation of an HPOZ, it defines an HPOZ as "any area of the City of Los Angeles containing buildings, structures, Landscaping, Natural Features or lots having Historic, architectural, Cultural or aesthetic significance."

The Study Area does not have historic, architectural, cultural, or aesthetic significance for the reasons discussed above in the National Register evaluation and therefore does not appear to be eligible as a local HPOZ.

***D7. References, Continued from Page 2**

"Julian Buyers Are Cautioned." *Los Angeles Times*. June 29, 1923. II2.

"National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation." National Park Service, Cultural Resources. Edited by Patrick Andrus and Rebecca Shrimpton. Accessed August 2018. https://www.nps.gov/nr/publications/bulletins/nrb15/.

"National Register Bulletin 32: Guidelines for Properties Associated with Significant Persons." National Park Service, Cultural Resources. Beth Grosvenor Boland. Accessed August 2018. https://www.nps.gov/nr/publications/bulletins/nrb32/.

Queenan, Charles F. *The Port of Los Angeles: From Wilderness to World Port.* Los Angeles Harbor Department, 1983.

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Watkins, T.H. *The Hungry Years: A Narrative History of the Great Depression in America.* New York: Henry Holt & Company, 1999.

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Survey #
DOE #
Other Listings
Review Code
Reviewer
Date

Page 13 **Resource Name or #** (Assigned by Recorder) A: Tank Farm 1

*** P1. Other Identifier:** Berth 163

***P2. Location:** ☐ **Not for Publication** ☑ **unrestricted** ***a. County** Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necesary.)

***b. USGS 7.5'Quad** Torrance **Date** 1964 **T** 5S ; **R** 13W ; ____ **1/4 of** ____ **1/4 of** **Sec** ____ ; S.B. **B.M.**

c. Address 841 La Paloma Street City: Los Angeles Zip 90744

d. UTM (Give more than one for large and/or linear resources) Zone ____ ; ____ mE/ ____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, etc. as appropriate) APN 7440-014-904

P3a. Description: (Describe resource and its major elements. Include design, materials, condition,alterations, size, setting, and boudnaries.)

On the north half of Berth 163, there is a tank farm (Tank Farm 1 for the purposes of this report) consisting of four metal storage tanks of equal size—approximately 90 feet in diameter—surrounded by a concrete dike wall. Each set of two tanks are connected by metal catwalks; each of the four tanks has a set of stairs leading to the rim of the tank as well as pipelines connected to their bases that lead underground. Access to the interior of the dike wall appears to be via a metal ladder/stair at its west end. Two of the tanks were constructed between 1956 and 1960, and two were constructed by 1971. Based on historic aerial photographs, the two tanks to the west (closer to Slip Number 1) were constructed first. Tenancy information from those dates indicates that Tank Farm 1 was constructed for the Golden Eagle Refining Company. Tank Farm 1 is currently located within the NuStar leasehold.

Arrows in photo below indicate two westernmost tanks in tank farm.

***P3b. Resource Attributes:** (List Attributes and codes) HP39. Other

***P4. Resources Present:** ☐ Building ☑ Structure ☐ Object ☐ Site ☐ District ☑ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing: (Photograph required for buildings, structures, and objects.)

P5b. Description of Photo:
(View, date, accession #)
View looking NE towards Tank Farm 1, 8/6/18.

***P6. Date Constructed/Age and Source:** ☑ Historic ☐ Prehistoric ☐ Both

c. 1956, 19
Historic Aerials

***P7. Owner and Address:**
LA City Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

***P8. Recorded by:**
Amanda Duane
GPA Consulting
617 S. Olive Street, Ste 910
Los Angeles, CA 90014

***P9. Date Recorded:** 8/17/2018

***P10. Survey Type:** (Describe)
Survey - Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Berths 163 and 164, Mormon Island, Los Angeles, California, Historical Resource Evaluation Report," August 2018.

***Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☑ District Record ☐ Linear Reature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record Other (List):

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Survey #
DOE #
Other Listings
Review Code
Reviewer
Date

Page 14 **Resource Name or #** (Assigned by Recorder) B: Timber Wharf

P1. Other Identifier: Berth 163 and 164

***P2. Location:** ☐ **Not for Publication** ☑ **unrestricted** ***a. County** Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necesary.)

***b. USGS 7.5'Quad** Torrance **Date** 1964 **T** 5S ; **R** 13W ; ____ **1/4 of** ____ **1/4 of** **Sec** ____ ; S.B. **B.M.**

c. Address 841-961 La Paloma Street City: Los Angeles Zip 90744

d. UTM (Give more than one for large and/or linear resources) Zone ____ ; ____ mE/ ____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, etc. as appropriate) APN 7440-014-904

P3a. Description: (Describe resource and its major elements. Include design, materials, condition,alterations, size, setting, and boudnaries.)

The timber wharf extends between Berth 163 and 164. It was constructed in 1923 as part of a building program of at least 3,300 other linear feet of wharf; research indicates that the first tenant to utilize the wharf was the Crumpe-Steele Company. Diagonally laid timbers above cross-braced wood support pilings form the surface of the wharf.. There is oil-related equipment such as manifolds and temporary buildings on the wharf. The wharf has been continually repaired over the years, with most of its timbers and support pilings having been replaced in kind over time, on an as-needed basis. Damaged areas may also be patched or covered with metal plates if they have not yet been replaced. The structure is currently within both the Valero and NuStar leaseholds.

***P3b. Resource Attributes:** (List Attributes and codes) HP39. Other

***P4. Resources Present:** ☐ Building ☑ Structure ☐ Object ☐ Site ☐ District ☑ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing: (Photograph required for buildings, structures, and objects.)

P5b. Description of Photo:
(View, date, accession #)
View looking N from Berth 163, 8/6/18.

***P6. Date Constructed/Age and Source:** ☑ Historic ☐ Prehistoric ☐ Both
1923
Los Angeles Times

***P7. Owner and Address:**
LA City Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

***P8. Recorded by:**
Amanda Duane
GPA Consulting
617 S. Olive Street, Ste 910
Los Angeles, CA 90014

***P9. Date Recorded:** 8/17/2018

***P10. Survey Type:** (Describe)
Survey - Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Berths 163 and 164, Mormon Island, Los Angeles, California, Historical Resource Evaluation Report," August 2018.

***Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☑ District Record ☐ Linear Reature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record Other (List):

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Survey #
DOE #
Other Listings
Review Code
Reviewer
Date

Page 15 **Resource Name or #** (Assigned by Recorder) C: Offices 1 and 2

*** P1. Other Identifier:** Berth 163

***P2. Location:** ☐ **Not for Publication** ☑ **unrestricted** ***a. County** Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necesary.)

***b. USGS 7.5'Quad** Torrance **Date** 1964 **T** 5S ; **R** 13W ; ____ **1/4 of** ____ **1/4 of** **Sec** ____ ; S.B. **B.M.**

c. Address 841 La Paloma Street City: Los Angeles Zip 90744

d. UTM (Give more than one for large and/or linear resources) Zone ____ ; ____ mE/ ____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, etc. as appropriate) APN 7440-014-904

P3a. Description: (Describe resource and its major elements. Include design, materials, condition,alterations, size, setting, and boudnaries.)

On the east end of the south half of Berth 163, at the northeast corner of Tank Farm 2 and outside the dike wall, there are two prefabricated buildings that serve as offices for NuStar. They are both rectangular with flat roofs and their primary elevations face south. Their exteriors are clad in vertical T1-11 siding. The prefabricated building to the west, Office 1, is larger and has vinyl windows with false muntins; the prefabricated building to the east, Office 2, has aluminum sliding windows. The entrance to Office 1 is a pair of French doors. Office 2 has two hollow metal doors for entrances. Each entrance is accessed by a set of wooden stairs. Based on historic aerial photography, the offices were constructed c. 2011, likely for NuStar. They are currently located within the NuStar leasehold.

***P3b. Resource Attributes:** (List Attributes and codes) HP06. 1-3 Story Commercial Building

***P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☑ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing: (Photograph required for buildings, structures, and objects.)

P5b. Description of Photo:
(View, date, accession #)
Office 1, view looking NE, 8/6/18.

***P6. Date Constructed/Age and Source:** ☑ Historic ☐ Prehistoric ☐ Both
c. 2011
Historic Aerials

***P7. Owner and Address:**
LA City Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

***P8. Recorded by:**
Amanda Duane
GPA Consulting
617 S. Olive Street, Ste 910
Los Angeles, CA 90014

***P9. Date Recorded:** 8/17/2018

***P10. Survey Type:** (Describe)
Survey - Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Berths 163 and 164, Mormon Island, Los Angeles, California, Historical Resource Evaluation Report," August 2018.

***Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☑ District Record ☐ Linear Reature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record Other (List):

***NRHP Status Code** 6Z

***Resource Name or #:**(Assigned by Recorder) C: Offices 1 and 2

Recorded By: Amanda Duane **Date:** 8/22/2018 ☑ Continuation ☐ Update

View looking NE towards Office 2, 8/6/2018

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Survey #
DOE #
Other Listings
Review Code
Reviewer
Date

Page 17 **Resource Name or #** (Assigned by Recorder) D: Tank Farm 2

*** P1. Other Identifier:** Berth 163

***P2. Location:** ☐ **Not for Publication** ☑ **unrestricted** ***a. County** Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necesary.)

***b. USGS 7.5'Quad** Torrance **Date** 1964 **T** 5S ; **R** 13W ; ____ **1/4 of** ____ **1/4 of** **Sec** ____ ; S.B. **B.M.**

c. Address 841 La Paloma Street City: Los Angeles Zip 90744

d. UTM (Give more than one for large and/or linear resources) Zone ____ ; ____ mE/ ____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, etc. as appropriate) APN 7440-014-904

P3a. Description: (Describe resource and its major elements. Include design, materials, condition,alterations, size, setting, and boudnaries.)

On the east end of the south half of Berth 163, there is another, larger tank farm (Tank Farm 2 for the purposes of this report) consisting of two large metal storage tanks—approximately 120 feet in diameter—one medium metal storage tank—approximately 90 feet in diameter—and five smaller metal storage tanks that range from approximately 40 to 60 feet in diameter. There are eight tanks in the tank farm, and they are all surrounded by a board-formed concrete dike wall. There are pipelines at their bases that lead to each tank as well as to the docking area at the wharf. Each of the tanks has a set of stairs leading to its rim. Access to the interior of the concrete dike wall appears to be through a metal door at its west elevation, as well as a metal ladder/stair. Historic aerial photographs indicate that seven of the eight tanks in Tank Farm 2 were constructed prior to 1939. The eighth tank, the southwestern most tank, was constructed between 1963 and 1972. Tenancy information from those dates indicates that the majority of Tank Farm 2 was constructed for the Petrol Corporation, and later expanded for American Bitumuls or California Chemical Company. It is currently located within the NuStar leasehold.

Arrows in photo below indicate westernmost tanks.

***P3b. Resource Attributes:** (List Attributes and codes) HP39. Other

***P4. Resources Present:** ☐ Building ☑ Structure ☐ Object ☐ Site ☐ District ☑ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing: (Photograph required for buildings, structures, and objects.)

P5b. Description of Photo:
(View, date, accession #)
View looking NE at Tank Farm 2, 8/6/18.

***P6. Date Constructed/Age and Source:** ☑ Historic ☐ Prehistoric ☐ Both

c. 1935, c.
Historic Aerials

***P7. Owner and Address:**
LA City Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

***P8. Recorded by:**
Amanda Duane
GPA Consulting
617 S. Olive Street, Ste 910
Los Angeles, CA 90014

***P9. Date Recorded:** 8/17/2018

***P10. Survey Type:** (Describe)
Survey - Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Berths 163 and 164, Mormon Island, Los Angeles, California, Historical Resource Evaluation Report," August 2018.

***Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☑ District Record ☐ Linear Reature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record Other (List):

***NRHP Status Code** 6Z

***Resource Name or #:**(Assigned by Recorder) D: Tank Farm 2

Recorded By: Amanda Duane **Date:** 8/22/2018 ☑ Continuation ☐ Update

View looking NE at Tank Farm 2 dike wall entrance, 8/6/18

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Survey #
DOE #
Other Listings
Review Code
Reviewer
Date

Page 19 **Resource Name or #** (Assigned by Recorder) E: Boiler Room

*** P1. Other Identifier:** Berth 163

***P2. Location:** ☐ **Not for Publication** ☑ **unrestricted** ***a. County** Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necesary.)

***b. USGS 7.5'Quad** Torrance **Date** 1964 **T** 5S ; **R** 13W ; ____ **1/4 of** ____ **1/4 of** **Sec** ____ ; ____ **B.M.**

c. Address 841 La Paloma Street City: Los Angeles Zip 90744

d. UTM (Give more than one for large and/or linear resources) Zone ____ ; ____ mE/ ____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, etc. as appropriate) APN 7440-014-904

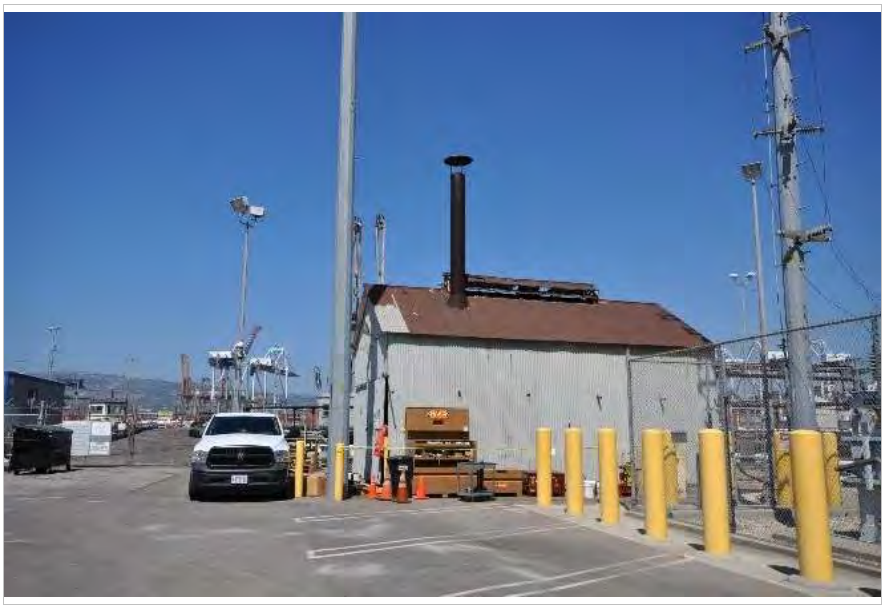
P3a. Description: (Describe resource and its major elements. Include design, materials, condition,alterations, size, setting, and boudnaries.)

West of Tank Farm 2 near the edge of the water on the south half of Berth 163, there is a rectangular boiler room building (Boiler Room for the purposes of this report). It is rectangular in plan with a front-gabled roof with a gabled monitor. The walls and roof are corrugated metal. On its north and south elevations there are sliding metal doors. At the south end of the roof there is a tall metal chimney with a conical cap. On its west elevation, there is an L-shaped pipe. It was constructed in 1935. Tenancy information from those dates indicates that the Boiler Room building was constructed for the Petrol Corporation.

***P3b. Resource Attributes:** (List Attributes and codes) HP04. Ancillary Building

***P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☑ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing: (Photograph required for buildings, structures, and objects.)



P5b. Description of Photo:
(View, date, accession #)
View looking NE towards Boiler Room, 8/6/18.

***P6. Date Constructed/Age and Source:** ☑ Historic ☐ Prehistoric ☐ Both
1925
Applied Earthworks

***P7. Owner and Address:**
LA City Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

***P8. Recorded by:**
Amanda Duane
GPA Consulting
617 S. Olive Street, Ste 910
Los Angeles, CA 90014

***P9. Date Recorded:** 8/17/2018

***P10. Survey Type:** (Describe)
Survey - Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Berths 163 and 164, Mormon Island, Los Angeles, California, Historical Resource Evaluation Report," August 2018.

***Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☑ District Record ☐ Linear Reature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record Other (List):

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Survey #
DOE #
Other Listings
Review Code
Reviewer
Date

Page 20 **Resource Name or #** (Assigned by Recorder) F: Guard Shack 1

*** P1. Other Identifier:** Berth 164

***P2. Location:** ☐ **Not for Publication** ☑ **unrestricted** ***a. County** Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necesary.)

***b. USGS 7.5'Quad** Torrance **Date** 1964 **T** 5S ; **R** 13W ; ____ **1/4 of** ____ **1/4 of** **Sec** ____ ; ____ **B.M.**

c. Address 961 La Paloma Street City: Los Angeles Zip 90744

d. UTM (Give more than one for large and/or linear resources) Zone ____ ; ____ mE/ ____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, etc. as appropriate) APN 7440-014-904

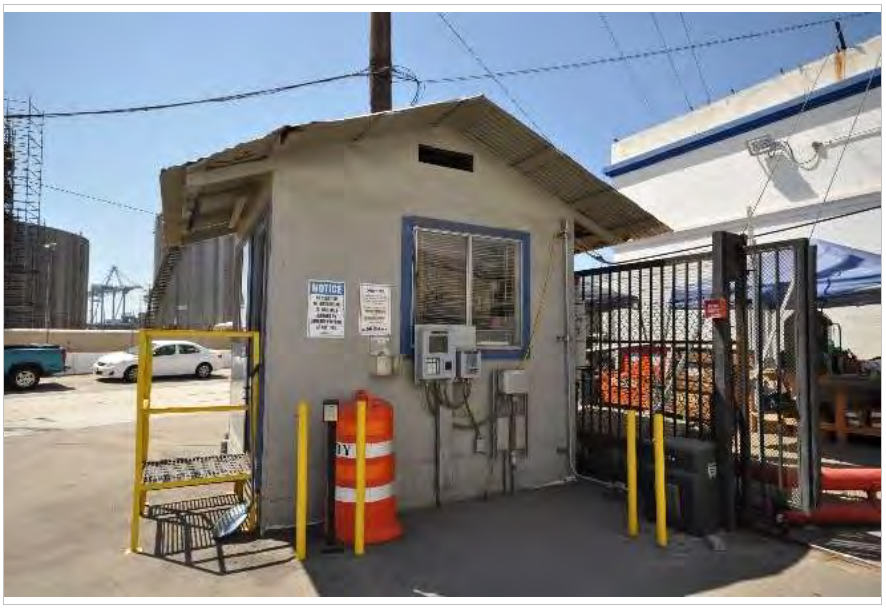
P3a. Description: (Describe resource and its major elements. Include design, materials, condition,alterations, size, setting, and boudnaries.)

On the east end of the north half of Berth 164, northeast of the Transformer Building, is a guard shack (Guard Shack 1 for the purposes of this report). The building is rectangular in plan with a side-gabled roof, and its primary elevation faces northeast. The shack has metal siding, a corrugated metal roof, aluminum sliding windows, and a partially glazed door. The entrance is elevated, and is accessed by a set of metal stairs. What appears to be the guard shack is visible in historic aerial photographs as early as 1994. It is currently located within the Valero leasehold.

***P3b. Resource Attributes:** (List Attributes and codes) HP04. Ancillary Building

***P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☑ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing: (Photograph required for buildings, structures, and objects.)



P5b. Description of Photo:
(View, date, accession #)
View looking SW towards Guard Shack 1, 8/6/18.

***P6. Date Constructed/Age and Source:** ☑ Historic ☐ Prehistoric ☐ Both
c. 1994
Historic Aerials

***P7. Owner and Address:**
LA City Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

***P8. Recorded by:**
Amanda Duane
GPA Consulting
617 S. Olive Street, Ste 910
Los Angeles, CA 90014

***P9. Date Recorded:** 8/17/2018

***P10. Survey Type:** (Describe)
Survey - Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Berths 163 and 164, Mormon Island, Los Angeles, California, Historical Resource Evaluation Report," August 2018.

***Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☑ District Record ☐ Linear Reature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record Other (List):

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Survey #
DOE #
Other Listings
Review Code
Reviewer
Date

Page 21 **Resource Name or #** (Assigned by Recorder) G: Transformer Building

*** P1. Other Identifier:** Berth 164

***P2. Location:** ☐ **Not for Publication** ☑ **unrestricted** ***a. County** Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necesary.)

***b. USGS 7.5'Quad** Torrance **Date** 1964 **T** 5S ; **R** 13W ; ____ **1/4 of** ____ **1/4 of** **Sec** ____ ; ____ **B.M.**

c. Address 961 La Paloma Street City: Los Angeles Zip 90744

d. UTM (Give more than one for large and/or linear resources) Zone ____ ; ____ mE/ ____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, etc. as appropriate) APN 7440-014-904

P3a. Description: (Describe resource and its major elements. Include design, materials, condition,alterations, size, setting, and boudnaries.)

On the east end of the north half of Berth 164, at the northeast corner of Tank Farm 3, there is a reinforced concrete building. It is shown on a Sanborn Map as a transformer building, and is called Transformer Building for the purposes of this report. The Sanborn Map also indicates that the Transformer Building was constructed in 1924. The building is small and rectangular with a flat roof with a parapet and board-formed concrete walls. On its southeast and northwest elevations, there are metal doors. There are louvered vents on its southeast and northeast elevations. The building is embellished with two belt courses. Tenancy information from 1924 indicates that the Transformer Building was constructed for Julian Petroleum. It is currently located within the NuStar leasehold.

***P3b. Resource Attributes:** (List Attributes and codes) HP04. Ancillary Building

***P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☑ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing: (Photograph required for buildings, structures, and objects.)

P5b. Description of Photo:
(View, date, accession #)
View looking W at Transformer Building, 8/6/18.

***P6. Date Constructed/Age and Source:** ☑ Historic ☐ Prehistoric ☐ Both
1924
Sanborn Fire Insurance Map

***P7. Owner and Address:**
LA City Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

***P8. Recorded by:**
Amanda Duane
GPA Consulting
617 S. Olive Street, Ste 910
Los Angeles, CA 90014

***P9. Date Recorded:** 8/17/2018

***P10. Survey Type:** (Describe)
Survey - Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Berths 163 and 164, Mormon Island, Los Angeles, California, Historical Resource Evaluation Report," August 2018.

***Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☑ District Record ☐ Linear Reature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record Other (List):

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Survey #
DOE #
Other Listings
Review Code
Reviewer
Date

Page 22 **Resource Name or #** (Assigned by Recorder) H: Tank Farm 3

*** P1. Other Identifier:** Berth 164

***P2. Location:** ☐ **Not for Publication** ☑ **unrestricted** ***a. County** Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necesary.)

***b. USGS 7.5'Quad** Torrance **Date** 1964 **T** 5S ; **R** 13W ; ____ **1/4 of** ____ **1/4 of** **Sec** ____ ; ____ **B.M.**

c. Address 961 La Paloma Street City: Los Angeles Zip 90744

d. UTM (Give more than one for large and/or linear resources) Zone ____ ; ____ mE/ ____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, etc. as appropriate) APN 7440-014-904

P3a. Description: (Describe resource and its major elements. Include design, materials, condition,alterations, size, setting, and boudnaries.)

On the north half of Berth 164, there is a tank farm (Tank Farm 3 for the purposes of this report) consisting of five metal storage tanks within one concrete dike wall and two metal storage tanks within a secondary concrete dike wall. The five tanks within the larger concrete dike wall consist of two large metal storage tanks—approximately 120 feet in diameter—and three smaller metal storage tanks that range from approximately 40 to 60 feet in diameter. The two tanks within the secondary dike wall are approximately 50 feet in diameter. There are pipelines at their bases that lead to each tank. The smaller tanks have sets of stairs leading to their rims; the larger tanks do not appear to have stairs. Access to the interior of the primary concrete dike wall appears to be via a metal ladder/stair at its southwest corner. Access to the interior of the secondary concrete dike wall appears to be via a metal ladder/stair at its north elevation. Four of the tanks within the primary dike wall are visible on a historic aerial photograph from 1928; they are all present on a historic aerial photograph from 1944. Tenancy information from those dates indicates that the majority of Tank Farm 3 was constructed for the Petrol Corporation, and later expanded for American Bitumuls or California Chemical Company. It is currently located within the NuStar leasehold.

The white arrow on the photograph below indicates tank in primary dike wall; black arrows indicate tanks in secondary dike wall.

***P3b. Resource Attributes:** (List Attributes and codes) HP39. Other

***P4. Resources Present:** ☐ Building ☑ Structure ☐ Object ☐ Site ☐ District ☑ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing: (Photograph required for buildings, structures, and objects.)

P5b. Description of Photo:
(View, date, accession #)
View looking E at Tank Farm 3, 8/6/18.

***P6. Date Constructed/Age and Source:** ☑ Historic ☐ Prehistoric ☐ Both

c. 1928, c.
Historic Aerials

***P7. Owner and Address:**
LA City Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

***P8. Recorded by:**
Amanda Duane
GPA Consulting
617 S. Olive Street, Ste 910
Los Angeles, CA 90014

***P9. Date Recorded:** 8/17/2018

***P10. Survey Type:** (Describe)
Survey - Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Berths 163 and 164, Mormon Island, Los Angeles, California, Historical Resource Evaluation Report," August 2018.

***Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☑ District Record ☐ Linear Reature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record Other (List):

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Survey #
DOE #
Other Listings
Review Code
Reviewer
Date

Page 23 **Resource Name or #** (Assigned by Recorder) I: Gabled Shed

*** P1. Other Identifier:** Berth 164

***P2. Location:** ☐ **Not for Publication** ☑ **unrestricted** ***a. County** Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necesary.)

***b. USGS 7.5'Quad** Torrance **Date** 1964 **T** 5S ; **R** 13W ; ____ **1/4 of** ____ **1/4 of** **Sec** ____ ; ____ **B.M.**

c. Address 961 La Paloma Street City: Los Angeles Zip 90744

d. UTM (Give more than one for large and/or linear resources) Zone ____ ; ____ mE/ ____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, etc. as appropriate) APN 7440-014-904

P3a. Description: (Describe resource and its major elements. Include design, materials, condition,alterations, size, setting, and boudnaries.)

On the north half of Berth 164, west of Tank Farm 3, there is a small gabled shed building. Its exterior walls and roof are made of corrugated metal. Its south elevation abuts equipment. Its west elevation abuts the Storage Building. It was constructed after November 2014. It is currently located within the NuStar leasehold.

Black arrow in image below indicates location of Gabled Shed.

***P3b. Resource Attributes:** (List Attributes and codes) HP04. Ancillary Building

***P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☑ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing: (Photograph required for buildings, structures, and objects.)

P5b. Description of Photo:
(View, date, accession #)
View looking SE towards Gabled Shed, 8/6/18.

***P6. Date Constructed/Age and Source:** ☑ Historic ☐ Prehistoric ☐ Both

After 2014
Applied Earthworks

***P7. Owner and Address:**
LA City Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

***P8. Recorded by:**
Amanda Duane
GPA Consulting
617 S. Olive Street, Ste 910
Los Angeles, CA 90014

***P9. Date Recorded:** 8/17/2018

***P10. Survey Type:** (Describe)
Survey - Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Berths 163 and 164, Mormon Island, Los Angeles, California, Historical Resource Evaluation Report," August 2018.

***Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☑ District Record ☐ Linear Reature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record Other (List):

***NRHP Status Code** 6Z

***Resource Name or #:**(Assigned by Recorder) I: Gabled Shed

Recorded By: Amanda Duane **Date:** 8/22/2018 ☑ Continuation ☐ Update

2014 Applied Earthworks photo, view looking west (gabled shed not present).

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Survey #
DOE #
Other Listings
Review Code
Reviewer
Date

Page 25 **Resource Name or #** (Assigned by Recorder) J: Storage Building 1

*** P1. Other Identifier:** Berth 164

***P2. Location:** ☐ **Not for Publication** ☑ **unrestricted** ***a. County** Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necesary.)

***b. USGS 7.5'Quad** Torrance **Date** 1964 **T** 5S ; **R** 13W ; ____ **1/4 of** ____ **1/4 of** **Sec** ____ ; ____ **B.M.**

c. Address 961 La Paloma Street City: Los Angeles Zip 90744

d. UTM (Give more than one for large and/or linear resources) Zone ____ ; ____ mE/ ____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, etc. as appropriate) APN 7440-014-904

P3a. Description: (Describe resource and its major elements. Include design, materials, condition,alterations, size, setting, and boudnaries.)

On the north half of Beth 164, west of Tank Farm 3, there is a rectangular corrugated metal building (Storage Building 1 for the purposes of this report). Its primary elevation faces north. Its exterior walls and roof are made of corrugated metal. On its north elevation there is a sliding metal door; on its west elevation, there is an additional door. The building has multi-light fixed metal windows. The Storage Building was constructed in 1925. Tenancy information from this date indicates that the Storage Building was constructed for Julian Petroleum. It is currently located within the NuStar leasehold.

***P3b. Resource Attributes:** (List Attributes and codes) HP04. Ancillary Building

***P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☑ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing: (Photograph required for buildings, structures, and objects.)

P5b. Description of Photo:
(View, date, accession #)
View looking SE at Storage Building 1, 8/6/18.

***P6. Date Constructed/Age and Source:** ☑ Historic ☐ Prehistoric ☐ Both
1925
Applied Earthworks

***P7. Owner and Address:**
LA City Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

***P8. Recorded by:**
Amanda Duane
GPA Consulting
617 S. Olive Street, Ste 910
Los Angeles, CA 90014

***P9. Date Recorded:** 8/17/2018

***P10. Survey Type:** (Describe)
Survey - Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Berths 163 and 164, Mormon Island, Los Angeles, California, Historical Resource Evaluation Report," August 2018.

***Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☑ District Record ☐ Linear Reature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record Other (List):

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Survey #
DOE #
Other Listings
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Reviewer
Date

Page 26 **Resource Name or #** (Assigned by Recorder) K: Office 3

*** P1. Other Identifier:** Berth 164

***P2. Location:** ☐ **Not for Publication** ☑ **unrestricted** ***a. County** Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necesary.)

***b. USGS 7.5'Quad** Torrance **Date** 1964 **T** 5S ; **R** 13W ; ____ **1/4 of** ____ **1/4 of** **Sec** ____ ; ____ **B.M.**

c. Address 961 La Paloma Street City: Los Angeles Zip 90744

d. UTM (Give more than one for large and/or linear resources) Zone ____ ; ____ mE/ ____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, etc. as appropriate) APN 7440-014-904

P3a. Description: (Describe resource and its major elements. Include design, materials, condition,alterations, size, setting, and boudnaries.)

West of the Storage Building, there is a small rectangular building (Office 3 for the purposes of this report). Its primary elevation faces north. Office 3 has a front-gabled roof clad in composition shingles, shallow open eaves, gable-end vents, and simple bargeboards. The exterior is clad in horizontal wood clapboards, and windows consist of non-original aluminum sliders. The primary entrance, on the north elevation, is a single partially glazed wood door. On the west elevation, there is a sliding aluminum window, a fixed wood window, and a window that has been boarded up. There are no openings on other the elevations. Office 3 was constructed in 1925. Tenancy information from this date indicates that Office 3 was constructed for Julian Petroleum. It is currently located within the NuStar leasehold.

***P3b. Resource Attributes:** (List Attributes and codes) HP06. 1-3 Story Commercial Building

***P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☑ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing: (Photograph required for buildings, structures, and objects.)

P5b. Description of Photo:
(View, date, accession #)
View looking SE at Office 3, 8/6/18.

***P6. Date Constructed/Age and Source:** ☑ Historic ☐ Prehistoric ☐ Both
1925
Applied Earthworks

***P7. Owner and Address:**
LA City Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

***P8. Recorded by:**
Amanda Duane
GPA Consulting
617 S. Olive Street, Ste 910
Los Angeles, CA 90014

***P9. Date Recorded:** 8/17/2018

***P10. Survey Type:** (Describe)
Survey - Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Berths 163 and 164, Mormon Island, Los Angeles, California, Historical Resource Evaluation Report," August 2018.

***Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☑ District Record ☐ Linear Reature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record Other (List):

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Survey #
DOE #
Other Listings
Review Code
Reviewer
Date

Page 27 **Resource Name or #** (Assigned by Recorder) L: Pre-Fabricated Sheds

*** P1. Other Identifier:** Berth 164

***P2. Location:** ☐ **Not for Publication** ☑ **unrestricted** ***a. County** Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necesary.)

***b. USGS 7.5'Quad** Torrance **Date** 1964 **T** 5S ; **R** 13W ; ____ **1/4 of** ____ **1/4 of** **Sec** ____ ; ____ **B.M.**

c. Address 961 La Paloma Street City: Los Angeles Zip 90744

d. UTM (Give more than one for large and/or linear resources) Zone ____ ; ____ mE/ ____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, etc. as appropriate) APN 7440-014-904

P3a. Description: (Describe resource and its major elements. Include design, materials, condition,alterations, size, setting, and boudnaries.)

At the west edge of the north half of Berth 164, near the edge of the water, there is a group of eight pre-fabricated sheds. The sheds vary in size, but they are all rectangular. They are typically clad in T1-11 vertical plywood siding. One shed is corrugated metal. Roof shapes vary from gabled to flat. Where windows are present, they are sliding aluminum windows. Doors consist of hollow metal or wood slab doors. The entrances on some sheds are elevated and accessed by a set of wood stairs. What appears to be the corrugated metal shed is visible in historic aerial photographs from 1960. The other sheds appear throughout the 2000s. If the building present in the historic aerials was the shed, tenancy information from this date indicates that it was constructed for Sunset Oil or the Golden Eagle Refining Company. The newer sheds were likely built for NuStar. All the sheds are currently located within the NuStar leasehold.

***P3b. Resource Attributes:** (List Attributes and codes) HP04. Ancillary Building

***P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☑ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing: (Photograph required for buildings, structures, and objects.)

P5b. Description of Photo:
(View, date, accession #)
View looking NW at 4 of 8 sheds, 8/6/18.

***P6. Date Constructed/Age and Source:** ☑ Historic ☐ Prehistoric ☐ Both

Various
Historic Aerials

***P7. Owner and Address:**
LA City Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

***P8. Recorded by:**
Amanda Duane
GPA Consulting
617 S. Olive Street, Ste 910
Los Angeles, CA 90014

***P9. Date Recorded:** 8/17/2018

***P10. Survey Type:** (Describe)
Survey - Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Berths 163 and 164, Mormon Island, Los Angeles, California, Historical Resource Evaluation Report," August 2018.

***Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☑ Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☑ District Record ☐ Linear Reature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record Other (List):

View looking NW at 5th of 8 pre-fabricated sheds, 8/6/18.

View looking NW at 5th and 6th of 8 pre-fabricated sheds, 8/6/18.

View looking NW at 7th and 8th of 8 pre-fabricated sheds, 8/6/18.

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
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Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Survey #
DOE #
Other Listings
Review Code
Reviewer
Date

Page 29 **Resource Name or #** (Assigned by Recorder) M: Office 4

*** P1. Other Identifier:** Berth 164

***P2. Location:** ☐ **Not for Publication** ☑ **unrestricted** ***a. County** Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necesary.)

***b. USGS 7.5'Quad** Torrance **Date** 1964 **T** 5S ; **R** 13W ; ____ **1/4 of** ____ **1/4 of** **Sec** ____ ; ____ **B.M.**

c. Address 961 La Paloma Street City: Los Angeles Zip 90744

d. UTM (Give more than one for large and/or linear resources) Zone ____ ; ____ mE/ ____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, etc. as appropriate) APN 7440-014-904

P3a. Description: (Describe resource and its major elements. Include design, materials, condition,alterations, size, setting, and boudnaries.)

At the east edge of the south half of Berth 164, there is an office building (Office 4 for the purposes of this report) that is L-shaped in plan with a metal mansard roof. The building is constructed of concrete block and has fixed rectangular windows and partially glazed wood doors. The building was constructed around 1974. Tenancy information from this date indicates that the it was constructed for Edgington Oil Refining Company, Inc.

***P3b. Resource Attributes:** (List Attributes and codes) HP06. 1-3 Story Commercial Building

***P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☑ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing: (Photograph required for buildings, structures, and objects.)

P5b. Description of Photo:
(View, date, accession #)
View looking NW at Office 4, 8/6/18.

***P6. Date Constructed/Age and Source:** ☑ Historic ☐ Prehistoric ☐ Both

c. 1974
Applied Earthworks

***P7. Owner and Address:**
LA City Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

***P8. Recorded by:**
Amanda Duane
GPA Consulting
617 S. Olive Street, Ste 910
Los Angeles, CA 90014

***P9. Date Recorded:** 8/17/2018

***P10. Survey Type:** (Describe)
Survey - Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Berths 163 and 164, Mormon Island, Los Angeles, California, Historical Resource Evaluation Report," August 2018.

***Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☑ District Record ☐ Linear Reature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record Other (List):

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Survey #
DOE #
Other Listings
Review Code
Reviewer
Date

Page 30 **Resource Name or #** (Assigned by Recorder) N: Tank Farm 4

*** P1. Other Identifier:** Berth 164

***P2. Location:** ☐ **Not for Publication** ☑ **unrestricted** ***a. County** Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necesary.)

***b. USGS 7.5'Quad** Torrance **Date** 1964 **T** 5S ; **R** 13W ; ____ **1/4 of** ____ **1/4 of** **Sec** ____ ; ____ **B.M.**

c. Address 961 La Paloma Street City: Los Angeles Zip 90744

d. UTM (Give more than one for large and/or linear resources) Zone ____ ; ____ mE/ ____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, etc. as appropriate) APN 7440-014-904

P3a. Description: (Describe resource and its major elements. Include design, materials, condition,alterations, size, setting, and boudnaries.)

On the south half of Berth 164, there is a tank farm (Tank Farm 4 for the purposes of this report) consisting of five metal storage tanks within a concrete dike wall. The largest of the five tanks is approximately 80 feet in diameter. The four smaller tanks range in size from approximately 35 to 60 feet in diameter. There are pipelines at their bases that lead to each tank. Two of the tanks have ladders to access their rims, with catwalks to reach the other tanks without stairs or ladders. Access to the interior of the concrete dike wall appears to be via a metal ladder/stair at its west edge. Tank Farm 4 was constructed in 1940. Tenancy information indicates that the tank farm was likely constructed for the Exeter Refining Company. It is currently located within the Valero leasehold.

***P3b. Resource Attributes:** (List Attributes and codes) HP39. Other

***P4. Resources Present:** ☐ Building ☑ Structure ☐ Object ☐ Site ☐ District ☑ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing: (Photograph required for buildings, structures, and objects.)

P5b. Description of Photo:
(View, date, accession #)
View looking E at Tank Farm 4, 8/6/18.

***P6. Date Constructed/Age and Source:** ☑ Historic ☐ Prehistoric ☐ Both

1940
Applied Earthworks

***P7. Owner and Address:**
LA City Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

***P8. Recorded by:**
Amanda Duane
GPA Consulting
617 S. Olive Street, Ste 910
Los Angeles, CA 90014

***P9. Date Recorded:** 8/17/2018

***P10. Survey Type:** (Describe)
Survey - Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Berths 163 and 164, Mormon Island, Los Angeles, California, Historical Resource Evaluation Report," August 2018.

***Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☑ District Record ☐ Linear Reature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record Other (List):

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
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Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Survey #
DOE #
Other Listings
Review Code
Reviewer
Date

Page 31 **Resource Name or #** (Assigned by Recorder) O: Tank Farm 5

*** P1. Other Identifier:** Berth 164

***P2. Location:** ☐ **Not for Publication** ☑ **unrestricted** ***a. County** Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necesary.)

***b. USGS 7.5'Quad** Torrance **Date** 1964 **T** 5S ; **R** 13W ; ____ **1/4 of** ____ **1/4 of** **Sec** ____ ; ____ **B.M.**

c. Address 961 La Paloma Street City: Los Angeles Zip 90744

d. UTM (Give more than one for large and/or linear resources) Zone ____ ; ____ mE/ ____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, etc. as appropriate) APN 7440-014-904

P3a. Description: (Describe resource and its major elements. Include design, materials, condition,alterations, size, setting, and boudnaries.)

On the south half of Berth 164, there is a tank farm (Tank Farm 5 for the purposes of this report) consisting of two metal storage tanks within a concrete dike wall. The two tanks are approximately 70 feet in diameter. There are pipelines at their bases that lead to each tank. There is a set of stairs leading to the rim of the more easterly tank, and a catwalk connecting it to the more westerly tank. Access to the interior of the concrete dike wall appears to be via a metal ladder/stair at its south edge. Based on historic aerial photographs, Tank Farm 5 was constructed between 1952 and 1956. Tenancy information indicates that the tank farm was constructed for the Exeter Refining Company or Edgington Oil Refinery, Inc. It is currently located within the Valero leasehold.

***P3b. Resource Attributes:** (List Attributes and codes) HP39. Other

***P4. Resources Present:** ☐ Building ☑ Structure ☐ Object ☐ Site ☐ District ☑ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing: (Photograph required for buildings, structures, and objects.)

P5b. Description of Photo:
(View, date, accession #)
View looking N at Tank Farm 5, 8/6/18.

***P6. Date Constructed/Age and Source:** ☑ Historic ☐ Prehistoric ☐ Both
c. 1955
Historic Aerials

***P7. Owner and Address:**
LA City Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

***P8. Recorded by:**
Amanda Duane
GPA Consulting
617 S. Olive Street, Ste 910
Los Angeles, CA 90014

***P9. Date Recorded:** 8/17/2018

***P10. Survey Type:** (Describe)
Survey - Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Berths 163 and 164, Mormon Island, Los Angeles, California, Historical Resource Evaluation Report," August 2018.

***Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☑ District Record ☐ Linear Reature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record Other (List):

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
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Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Survey #
DOE #
Other Listings
Review Code
Reviewer
Date

Page 32 **Resource Name or #** (Assigned by Recorder) P: Storage Building 2

*** P1. Other Identifier:** Berth 164

***P2. Location:** ☐ **Not for Publication** ☑ **unrestricted** ***a. County** Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necesary.)

***b. USGS 7.5'Quad** Torrance **Date** 1964 **T** 5S ; **R** 13W ; ____ **1/4 of** ____ **1/4 of** **Sec** ____ ; ____ **B.M.**

c. Address 961 La Paloma Street City: Los Angeles Zip 90744

d. UTM (Give more than one for large and/or linear resources) Zone ____ ; ____ mE/ ____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, etc. as appropriate) APN 7440-014-904

P3a. Description: (Describe resource and its major elements. Include design, materials, condition,alterations, size, setting, and boudnaries.)

On the south half of Berth 164, south of Tank Farm 5, there is a storage building (Storage Building 2 for the purposes of this report) that is rectangular in plan with a flat roof. The building is constructed of concrete and has large metal doors on its south, west, and east elevations. The doors are a combination of roll up and tilt up in operation. Windows on the building consist of multi-light steel casements and tilt sash windows. The north elevation of the building abuts the concrete dike wall of Tank Farm 5. Storage Building 2 was constructed in 1940. Tenancy information indicates that the it was likely constructed for the Exeter Refining Company. Storage Building 2 is currently located within the Valero leasehold.

***P3b. Resource Attributes:** (List Attributes and codes) HP04. Ancillary Building

***P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☑ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing: (Photograph required for buildings, structures, and objects.)

P5b. Description of Photo:
(View, date, accession #)
View looking E at Storage Building 2, 8/6/18.

***P6. Date Constructed/Age and Source:** ☑ Historic ☐ Prehistoric ☐ Both
1940
Applied Earthworks

***P7. Owner and Address:**
LA City Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

***P8. Recorded by:**
Amanda Duane
GPA Consulting
617 S. Olive Street, Ste 910
Los Angeles, CA 90014

***P9. Date Recorded:** 8/17/2018

***P10. Survey Type:** (Describe)
Survey - Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Berths 163 and 164, Mormon Island, Los Angeles, California, Historical Resource Evaluation Report," August 2018.

***Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☑ District Record ☐ Linear Reature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record Other (List):

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Survey #
DOE #
Other Listings
Review Code
Reviewer
Date

Page 33 **Resource Name or #** (Assigned by Recorder) Q: Guard Shack 2

*** P1. Other Identifier:** Berth 164

***P2. Location:** ☐ **Not for Publication** ☑ **unrestricted** ***a. County** Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necesary.)

***b. USGS 7.5'Quad** Torrance **Date** 1964 **T** 5S ; **R** 13W ; ____ **1/4 of** ____ **1/4 of** **Sec** ____ ; ____ **B.M.**

c. Address 961 La Paloma Street City: Los Angeles Zip 90744

d. UTM (Give more than one for large and/or linear resources) Zone ____ ; ____ mE/ ____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, etc. as appropriate) APN 7440-014-904

P3a. Description: (Describe resource and its major elements. Include design, materials, condition,alterations, size, setting, and boudnaries.)

On the south half of Berth 164, across from Storage Building 2, there is a guard shack (Guard Shack 2 for the purposes of this report) that is rectangular in plan with a flat roof. The building is constructed of concrete block and its primary elevation faces northeast. On the northeast elevation, there is a recessed entryway and single-light fixed window. On the southeast elevation, there is a multi-light steel window. There are no openings on the other elevations. Based on historic aerial photographs, Guard Shack 2 was constructed between 1956 and 1960. Tenancy information indicates that it was likely constructed for Edgington Oil Refinery Inc. Guard Shack 2 is currently located within the Valero leasehold.

***P3b. Resource Attributes:** (List Attributes and codes) HP06. 1-3 Story Commercial Building

***P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☑ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing: (Photograph required for buildings, structures, and objects.)

P5b. Description of Photo:
(View, date, accession #)
View looking SW at Guard Shack 2, 8/6/18.

***P6. Date Constructed/Age and Source:** ☑ Historic ☐ Prehistoric ☐ Both
c. 1960
Historic Aerials

***P7. Owner and Address:**
LA City Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

***P8. Recorded by:**
Amanda Duane
GPA Consulting
617 S. Olive Street, Ste 910
Los Angeles, CA 90014

***P9. Date Recorded:** 8/17/2018

***P10. Survey Type:** (Describe)
Survey - Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Berths 163 and 164, Mormon Island, Los Angeles, California, Historical Resource Evaluation Report," August 2018.

***Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☑ District Record ☐ Linear Reature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record Other (List):

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Survey #
DOE #
Other Listings
Review Code
Reviewer
Date

Page 34 **Resource Name or #** (Assigned by Recorder) R: Office 5

*** P1. Other Identifier:** Berth 164

***P2. Location:** ☐ **Not for Publication** ☑ **unrestricted** ***a. County** Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necesary.)

***b. USGS 7.5'Quad** Torrance **Date** 1964 **T** 5S ; **R** 13W ; ____ **1/4 of** ____ **1/4 of** **Sec** ____ ; ____ **B.M.**

c. Address 961 La Paloma Street City: Los Angeles Zip 90744

d. UTM (Give more than one for large and/or linear resources) Zone ____ ; ____ mE/ ____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, etc. as appropriate) APN 7440-014-904

P3a. Description: (Describe resource and its major elements. Include design, materials, condition,alterations, size, setting, and boudnaries.)

On the south half of Berth 164, adjacent to Guard Shack 2, there is a side-gabled corrugated metal building. Its original use is unknown, but it is presumed to have been an office (Office 5 for the purposes of this report). The building is rectangular in plan, and its exterior and roof are made of corrugated metal. Its primary elevation faces northeast. On the northeast elevation, there are two metal doors and multi-light steel windows. There are also multi-light steel windows on the southwest elevation. Based on historic aerial photography, Office 5 was constructed between 1952 and 1956. Tenancy information indicates that the tank farm was constructed for either the Exeter Refining Company or the Edgington Oil Refinery, Inc.

***P3b. Resource Attributes:** (List Attributes and codes) HP04. Ancillary Building

***P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☑ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing: (Photograph required for buildings, structures, and objects.)

P5b. Description of Photo:
(View, date, accession #)
View looking SW at Office 5, 8/6/18.

***P6. Date Constructed/Age and Source:** ☑ Historic ☐ Prehistoric ☐ Both

c. 1952
Historic Aerials

***P7. Owner and Address:**
LA City Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

***P8. Recorded by:**
Amanda Duane
GPA Consulting
617 S. Olive Street, Ste 910
Los Angeles, CA 90014

***P9. Date Recorded:** 8/17/2018

***P10. Survey Type:** (Describe)
Survey - Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Berths 163 and 164, Mormon Island, Los Angeles, California, Historical Resource Evaluation Report," August 2018.

***Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☑ District Record ☐ Linear Reature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record Other (List):

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Survey #
DOE #
Other Listings
Review Code
Reviewer
Date

Page 35 **Resource Name or #** (Assigned by Recorder) S: Wharf Building 1

*** P1. Other Identifier:** Berth 163

***P2. Location:** ☐ **Not for Publication** ☑ **unrestricted** ***a. County** Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necesary.)

***b. USGS 7.5'Quad** Torrance **Date** 1964 **T** 5S ; **R** 13W ; ____ **1/4 of** ____ **1/4 of** **Sec** ____ ; ____ **B.M.**

c. Address 841 La Paloma Street City: Los Angeles Zip 90744

d. UTM (Give more than one for large and/or linear resources) Zone ____ ; ____ mE/ ____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, etc. as appropriate) APN 7440-014-904

P3a. Description: (Describe resource and its major elements. Include design, materials, condition,alterations, size, setting, and boudnaries.)

Along the wharf, there are several small buildings, many of which are pre-fabricated. The northernmost (Wharf Building 1 for the purposes of this report) is a front-gabled shed. It has vinyl siding and a vinyl roof, with a pair of partially glazed vinyl doors on its north elevation. Based on historic aerial photography, Wharf Building 1 was added to the wharf c. 2011 for Valero. It is currently located within the Valero leasehold.

***P3b. Resource Attributes:** (List Attributes and codes) HP04. Ancillary Building

***P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☑ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing: (Photograph required for buildings, structures, and objects.)

P5b. Description of Photo:
(View, date, accession #)
View looking NE at Wharf Building 1, 8/6/18.

***P6. Date Constructed/Age and Source:** ☑ Historic ☐ Prehistoric ☐ Both
c. 2011
Historic Aerials

***P7. Owner and Address:**
LA City Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

***P8. Recorded by:**
Amanda Duane
GPA Consulting
617 S. Olive Street, Ste 910
Los Angeles, CA 90014

***P9. Date Recorded:** 8/17/2018

***P10. Survey Type:** (Describe)
Survey - Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Berths 163 and 164, Mormon Island, Los Angeles, California, Historical Resource Evaluation Report," August 2018.

***Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☑ District Record ☐ Linear Reature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record Other (List):

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Survey #
DOE #
Other Listings
Review Code
Reviewer
Date

Page 36 **Resource Name or #** (Assigned by Recorder) T: Wharf Building 2

*** P1. Other Identifier:** Berth 163

***P2. Location:** ☐ **Not for Publication** ☑ **unrestricted** ***a. County** Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necesary.)

***b. USGS 7.5'Quad** Torrance **Date** 1964 **T** 5S ; **R** 13W ; ____ **1/4 of** ____ **1/4 of** **Sec** ____ ; ____ **B.M.**

c. Address 841 La Paloma Street City: Los Angeles Zip 90744

d. UTM (Give more than one for large and/or linear resources) Zone ____ ; ____ mE/ ____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, etc. as appropriate) APN 7440-014-904

P3a. Description: (Describe resource and its major elements. Include design, materials, condition,alterations, size, setting, and boudnaries.)

Along the wharf, there are several small buildings, many of which are pre-fabricated. South of Wharf Building 1, there is a rectangular building (Wharf Building 2 for the purposes of this report) with a side-gabled roof. It has corrugated metal siding with a corrugated metal roof, aluminum sliding windows, and a wood step to access the door. Based on historic aerial photography, Wharf Building 2 was added to the wharf between 1980 and 1994. It is currently located within the Valero leasehold.

***P3b. Resource Attributes:** (List Attributes and codes) HP04. Ancillary Building

***P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☑ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing: (Photograph required for buildings, structures, and objects.)

P5b. Description of Photo:
(View, date, accession #)
View looking NE towards Wharf Building 2, 8/6/18.

***P6. Date Constructed/Age and Source:** ☑ Historic ☐ Prehistoric ☐ Both
Pre-1994
Historic Aerials

***P7. Owner and Address:**
LA City Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

***P8. Recorded by:**
Amanda Duane
GPA Consulting
617 S. Olive Street, Ste 910
Los Angeles, CA 90014

***P9. Date Recorded:** 8/17/2018

***P10. Survey Type:** (Describe)
Survey - Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Berths 163 and 164, Mormon Island, Los Angeles, California, Historical Resource Evaluation Report," August 2018.

***Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☑ District Record ☐ Linear Reature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record Other (List):

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Survey #
DOE #
Other Listings
Review Code
Reviewer
Date

Page 37 **Resource Name or #** (Assigned by Recorder) U: Wharf Building 3

*** P1. Other Identifier:** Berth 163

***P2. Location:** ☐ **Not for Publication** ☑ **unrestricted** ***a. County** Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necesary.)

***b. USGS 7.5'Quad** Torrance **Date** 1964 **T** 5S ; **R** 13W ; ____ **1/4 of** ____ **1/4 of** **Sec** ____ ; ____ **B.M.**

c. Address 841 La Paloma Street City: Los Angeles Zip 90744

d. UTM (Give more than one for large and/or linear resources) Zone ____ ; ____ mE/ ____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, etc. as appropriate) APN 7440-014-904

P3a. Description: (Describe resource and its major elements. Include design, materials, condition,alterations, size, setting, and boudnaries.)

Along the wharf, there are several small buildings, many of which are pre-fabricated. South of Wharf Building 2, there is a narrow rectangular building (Wharf Building 3 for the purposes of this report) with a pent roof. It has vertical T1-11 plywood siding with a corrugated metal roof, aluminum sliding windows, and a wood door. Based on historic aerial photography, Wharf Building 3 was added to the wharf prior to 2003. It is currently located within the Valero leasehold.

***P3b. Resource Attributes:** (List Attributes and codes) HP04. Ancillary Building

***P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☑ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing: (Photograph required for buildings, structures, and objects.)

P5b. Description of Photo:
(View, date, accession #)
View looking NE at Wharf Building 3, 8/6/18.

***P6. Date Constructed/Age and Source:** ☑ Historic ☐ Prehistoric ☐ Both
Pre-2003
Historic Aerials

***P7. Owner and Address:**
LA City Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

***P8. Recorded by:**
Amanda Duane
GPA Consulting
617 S. Olive Street, Ste 910
Los Angeles, CA 90014

***P9. Date Recorded:** 8/17/2018

***P10. Survey Type:** (Describe)
Survey - Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Berths 163 and 164, Mormon Island, Los Angeles, California, Historical Resource Evaluation Report," August 2018.

***Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☑ District Record ☐ Linear Reature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record Other (List):

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Survey #
DOE #
Other Listings
Review Code
Reviewer
Date

Page 38 **Resource Name or #** (Assigned by Recorder) V: Wharf Building 4

*** P1. Other Identifier:** Berth 164

***P2. Location:** ☐ **Not for Publication** ☑ **unrestricted** ***a. County** Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necesary.)

***b. USGS 7.5'Quad** Torrance **Date** 1964 **T** 5S ; **R** 13W ; ____ **1/4 of** ____ **1/4 of** **Sec** ____ ; ____ **B.M.**

c. Address 961 La Paloma Street City: Los Angeles Zip 90744

d. UTM (Give more than one for large and/or linear resources) Zone ____ ; ____ mE/ ____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, etc. as appropriate) APN 7440-014-904

P3a. Description: (Describe resource and its major elements. Include design, materials, condition,alterations, size, setting, and boudnaries.)

Along the wharf, there are several small buildings, many of which are pre-fabricated. South of Wharf Building 3, there is a rectangular building (Wharf Building 4 for the purposes of this report) with a flat roof. It has metal siding, aluminum sliding windows, and a partially glazed door. Based on historic aerial photography, Wharf Building 4 was added to the wharf prior to 2004. It is currently located within the Valero leasehold.

***P3b. Resource Attributes:** (List Attributes and codes) HP04. Ancillary Building

***P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☑ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing: (Photograph required for buildings, structures, and objects.)

P5b. Description of Photo:
(View, date, accession #)
View looking SW at Wharf Building 4, 8/6/18.

***P6. Date Constructed/Age and Source:** ☑ Historic ☐ Prehistoric ☐ Both
Pre-2004
Historic Aerials

***P7. Owner and Address:**
LA City Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

***P8. Recorded by:**
Amanda Duane
GPA Consulting
617 S. Olive Street, Ste 910
Los Angeles, CA 90014

***P9. Date Recorded:** 8/17/2018

***P10. Survey Type:** (Describe)
Survey - Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Berths 163 and 164, Mormon Island, Los Angeles, California, Historical Resource Evaluation Report," August 2018.

***Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☑ District Record ☐ Linear Reature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record Other (List):

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Survey #
DOE #
Other Listings
Review Code
Reviewer
Date

Page 39 **Resource Name or #** (Assigned by Recorder) W: Wharf Building 5

*** P1. Other Identifier:** Berth 164

***P2. Location:** ☐ **Not for Publication** ☑ **unrestricted** ***a. County** Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necesary.)

***b. USGS 7.5'Quad** Torrance **Date** 1964 **T** 5S ; **R** 13W ; ____ **1/4 of** ____ **1/4 of** **Sec** ____ ; ____ **B.M.**

c. Address 961 La Paloma Street City: Los Angeles Zip 90744

d. UTM (Give more than one for large and/or linear resources) Zone ____ ; ____ mE/ ____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, etc. as appropriate) APN 7440-014-904

P3a. Description: (Describe resource and its major elements. Include design, materials, condition,alterations, size, setting, and boudnaries.)

Along the wharf, there are several small buildings, many of which are pre-fabricated. North of Wharf Building 6, there is a rectangular building (Wharf Building 5 for the purposes of this report) with a flat roof. It has vertical T1-11 plywood siding, aluminum sliding windows, and a partially glazed wood door. Based on historic aerial photography, Wharf Building 5 was added to the wharf after 2004. It is currently located within the Valero leasehold.

***P3b. Resource Attributes:** (List Attributes and codes) HP04. Ancillary Building

***P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☑ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing: (Photograph required for buildings, structures, and objects.)

P5b. Description of Photo:
(View, date, accession #)
View looking NE at Wharf Building 5, 8/6/18.

***P6. Date Constructed/Age and Source:** ☑ Historic ☐ Prehistoric ☐ Both
After 2004
Historic Aerials

***P7. Owner and Address:**
LA City Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

***P8. Recorded by:**
Amanda Duane
GPA Consulting
617 S. Olive Street, Ste 910
Los Angeles, CA 90014

***P9. Date Recorded:** 8/17/2018

***P10. Survey Type:** (Describe)
Survey - Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Berths 163 and 164, Mormon Island, Los Angeles, California, Historical Resource Evaluation Report," August 2018.

***Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☑ District Record ☐ Linear Reature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record Other (List):

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Survey #
DOE #
Other Listings
Review Code
Reviewer
Date

Page 40 **Resource Name or #** (Assigned by Recorder) X: Wharf Building 6

*** P1. Other Identifier:** Berth 164

***P2. Location:** ☐ **Not for Publication** ☑ **unrestricted** ***a. County** Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necesary.)

***b. USGS 7.5'Quad** Torrance **Date** 1964 **T** 5S ; **R** 13W ; ____ **1/4 of** ____ **1/4 of** **Sec** ____ ; ____ **B.M.**

c. Address 961 La Paloma Street City: Los Angeles Zip 90744

d. UTM (Give more than one for large and/or linear resources) Zone ____ ; ____ mE/ ____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, etc. as appropriate) APN 7440-014-904

P3a. Description: (Describe resource and its major elements. Include design, materials, condition,alterations, size, setting, and boudnaries.)

Along the wharf, there are several small buildings, many of which are pre-fabricated. South of Wharf Building 5, there is a rectangular building (Wharf Building 6 for the purposes of this report) with a flat roof. It has metal siding, aluminum sliding windows, and a partially glazed door. Based on historic aerial photography, Wharf Building 6 was added to the wharf prior to 2004. It is currently located within the Valero leasehold.

***P3b. Resource Attributes:** (List Attributes and codes) HP04. Ancillary Building

***P4. Resources Present:** ☑ Building ☐ Structure ☐ Object ☐ Site ☐ District ☑ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing: (Photograph required for buildings, structures, and objects.)

P5b. Description of Photo:
(View, date, accession #)
View looking SE at Wharf Building 6, 8/6/18.

***P6. Date Constructed/Age and Source:** ☑ Historic ☐ Prehistoric ☐ Both
Pre-2004
Historic Aerials

***P7. Owner and Address:**
LA City Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

***P8. Recorded by:**
Amanda Duane
GPA Consulting
617 S. Olive Street, Ste 910
Los Angeles, CA 90014

***P9. Date Recorded:** 8/17/2018

***P10. Survey Type:** (Describe)
Survey - Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Berths 163 and 164, Mormon Island, Los Angeles, California, Historical Resource Evaluation Report," August 2018.

***Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☑ District Record ☐ Linear Reature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record Other (List):

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Survey #
DOE #
Other Listings
Review Code
Reviewer
Date

Page 41 **Resource Name or #** (Assigned by Recorder) Y: Tank Farm 6

*** P1. Other Identifier:** Backlands

***P2. Location:** ☐ **Not for Publication** ☑ **unrestricted** ***a. County** Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necesary.)

***b. USGS 7.5'Quad** Torrance **Date** 1964 **T** 5S ; **R** 13W ; ____ **1/4 of** ____ **1/4 of** **Sec** ____ ; ____ **B.M.**

c. Address ____ City: Los Angeles Zip 90744

d. UTM (Give more than one for large and/or linear resources) Zone ____ ; ____ mE/ ____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, etc. as appropriate) APN 7440-014-904

P3a. Description: (Describe resource and its major elements. Include design, materials, condition,alterations, size, setting, and boudnaries.)

On the east side of La Paloma Avenue in the backlands, there is a tank farm (Tank Farm 6 for the purposes of this report) consisting of four large metal storage tanks and two smaller metal storage tanks within one concrete dike wall. The four larger tanks are approximately 150 feet in diameter, while the two smaller tanks are approximately 80 feet in diameter. There are pipelines at their bases that lead to each tank. Each tank has a set of stairs leading to its rim. Access to the interior of the concrete dike wall appears to be via a metal ladder/stair at its west edge. Based on historic aerial photography, Tank Farm 6 was constructed between 1971 and 1979. It is currently located within the Valero leasehold.

***P3b. Resource Attributes:** (List Attributes and codes) HP39. Other

***P4. Resources Present:** ☐ Building ☑ Structure ☐ Object ☐ Site ☐ District ☑ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing: (Photograph required for buildings, structures, and objects.)

P5b. Description of Photo:
(View, date, accession #)
View looking NE at Tank Farm 6, 8/6/18.

***P6. Date Constructed/Age and Source:** ☑ Historic ☐ Prehistoric ☐ Both

c. 1971
Historic Aerials

***P7. Owner and Address:**
LA City Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

***P8. Recorded by:**
Amanda Duane
GPA Consulting
617 S. Olive Street, Ste 910
Los Angeles, CA 90014

***P9. Date Recorded:** 8/17/2018

***P10. Survey Type:** (Describe)
Survey - Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Berths 163 and 164, Mormon Island, Los Angeles, California, Historical Resource Evaluation Report," August 2018.

***Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☑ District Record ☐ Linear Reature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record Other (List): ____

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Survey #
DOE #
Other Listings
Review Code
Reviewer
Date

Page 42 **Resource Name or #** (Assigned by Recorder) Z: Tank Farm 7

*** P1. Other Identifier:** Backlands

***P2. Location:** ☐ **Not for Publication** ☑ **unrestricted** ***a. County** Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necesary.)

***b. USGS 7.5'Quad** Torrance **Date** 1964 **T** 5S ; **R** 13W ; ____ **1/4 of** ____ **1/4 of** **Sec** ____ ; ____ **B.M.**

c. Address ____ City: Los Angeles Zip 90744

d. UTM (Give more than one for large and/or linear resources) Zone ____ ; ____ mE/ ____ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, etc. as appropriate) APN 7440-014-904

P3a. Description: (Describe resource and its major elements. Include design, materials, condition,alterations, size, setting, and boudnaries.)

On the east side of La Paloma Avenue in the backlands, there is a tank farm (Tank Farm 7 for the purposes of this report) consisting of four large metal storage tanks. The four tanks are approximately 150 feet in diameter, while the two smaller tanks are approximately 110 feet in diameter. There are pipelines at their bases that lead to each tank. Each tank has a set of stairs leading to its rim, and each tank has a geodesic domed covering. Access to the interior of the concrete dike wall appears to be via a metal ladder/stair at its west edge. Based on historic aerial photography, Tank Farm 7 was constructed between 1956 and 1960. It is currently located within the Valero leasehold.

***P3b. Resource Attributes:** (List Attributes and codes) HP39. Other

***P4. Resources Present:** ☐ Building ☑ Structure ☐ Object ☐ Site ☐ District ☑ Element of District ☐ Other (isolates, etc.)

P5a. Photograph or Drawing: (Photograph required for buildings, structures, and objects.)

P5b. Description of Photo:
(View, date, accession #)
View looking NE at Tank Farm 7, 8/6/18.

***P6. Date Constructed/Age and Source:** ☑ Historic ☐ Prehistoric ☐ Both

c. 1956

***P7. Owner and Address:**
LA City Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

***P8. Recorded by:**
Amanda Duane
GPA Consulting
617 S. Olive Street, Ste 910
Los Angeles, CA 90014

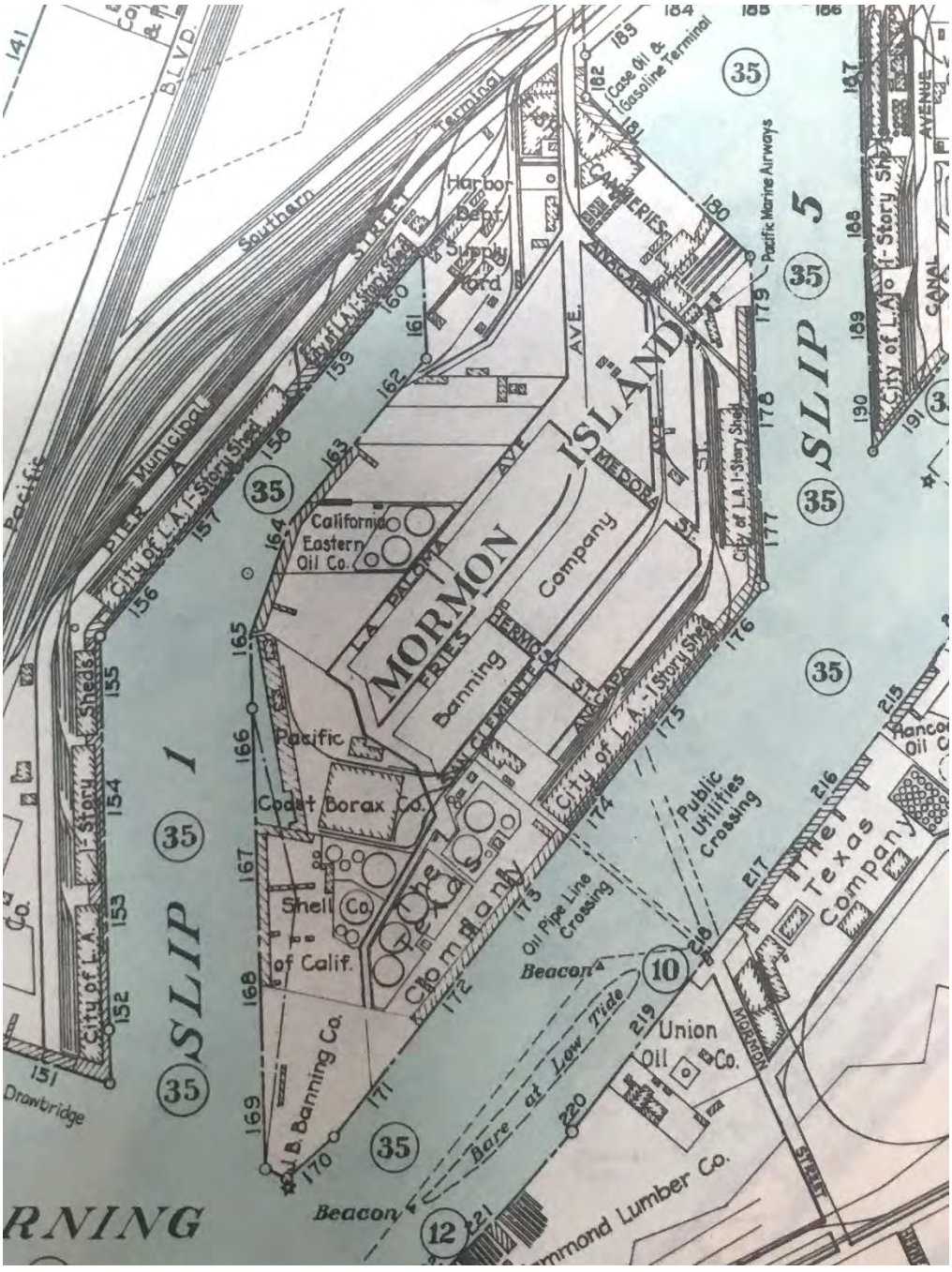
***P9. Date Recorded:** 8/17/2018

***P10. Survey Type:** (Describe)
Survey - Intensive

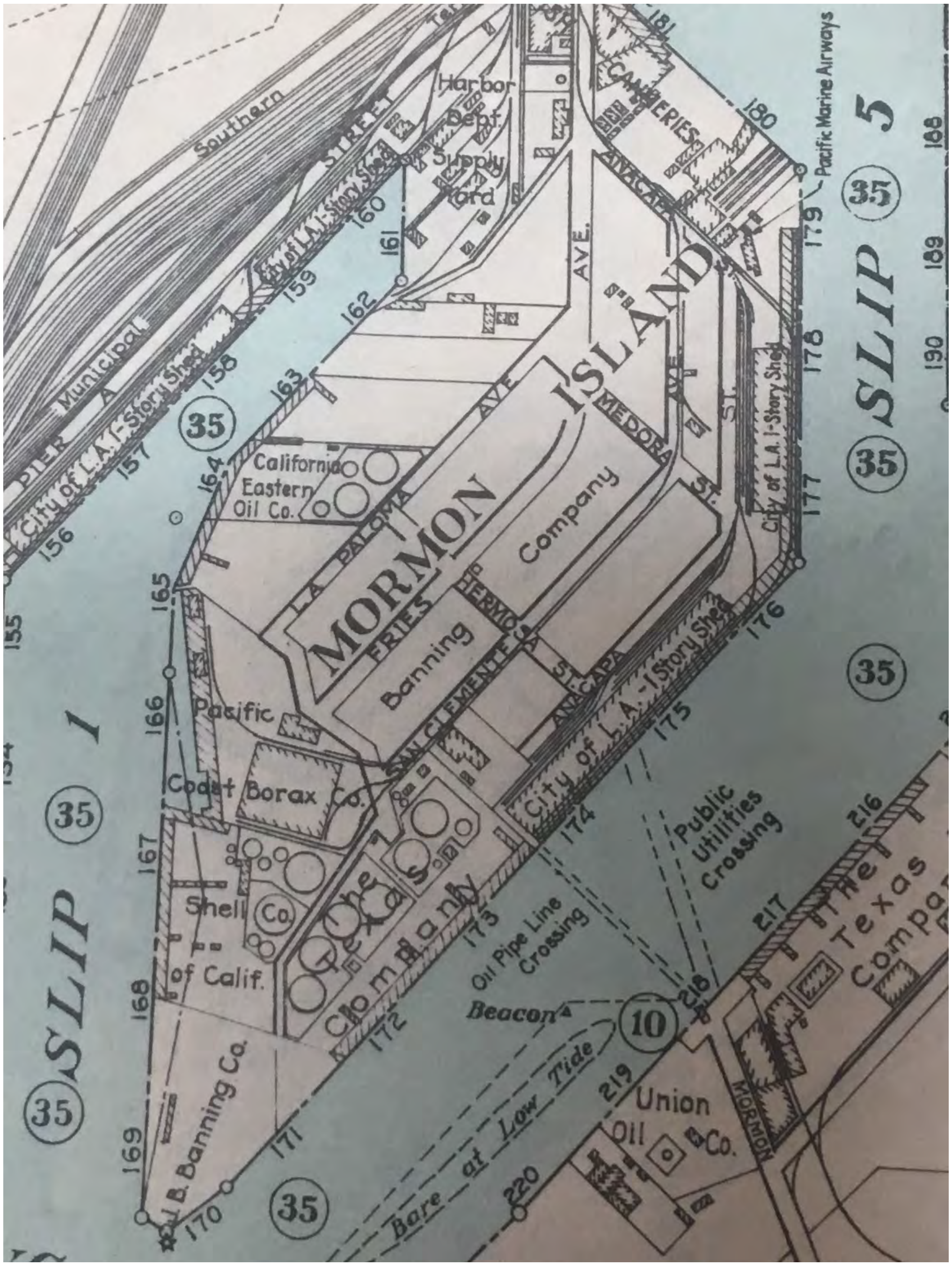
***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Berths 163 and 164, Mormon Island, Los Angeles, California, Historical Resource Evaluation Report," August 2018.

***Attachments:** ☐ NONE ☐ Location Map ☐ Sketch Map ☐ Continuation Sheet ☐ Building, Structure, and Object Record
☐ Archaeological Record ☑ District Record ☐ Linear Reature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record Other (List): ____

Appendix C – Port of Los Angeles Annual Harbor Maps


SLIP 1
SLIP 5
ISLAND
MORMON
Banning
Company
California Eastern Oil Co.
Pacific Coast Borax Co.
Shell Co. of Calif.
The Texas Company
Union Oil Co.
J. B. Banning Co.
Hammond Lumber Co.
Harbor Dept. Supply Yard
Case Oil & Gasoline Terminal
Pacific Marine Airways
Public Utilities Crossing
Oil Pipe Line Crossing
Bare at Low Tide
Beacon
Drawbridge
Municipal Pier
Southern Pacific Terminal
City of L.A. 1-Story Shed
Sheds
BLVD.
AVE.
ST.

1927


MORMON ISLAND
Mormon Company
Banning
Harbor Dept Supply Yard
CANNERIES
Pacific Marine Airways
SLIP 5
SLIP 1
Municipal
PIER A
Southern
STREET
City of L.A. 1-Story Shed
California Eastern Oil Co.
LA PALOMA
AVE.
FRIES
HERMOSA
SAN CLEMENTE
ANACAPA
MEDORA
ST.
Pacific Coast Borax Co.
Shell Co. of Calif.
The Texas Company
J.B. Banning Co.
Oil Pipe Line Crossing
Public Utilities Crossing
Beacon
Bare at Low Tide
Union Oil Co.
MORMON
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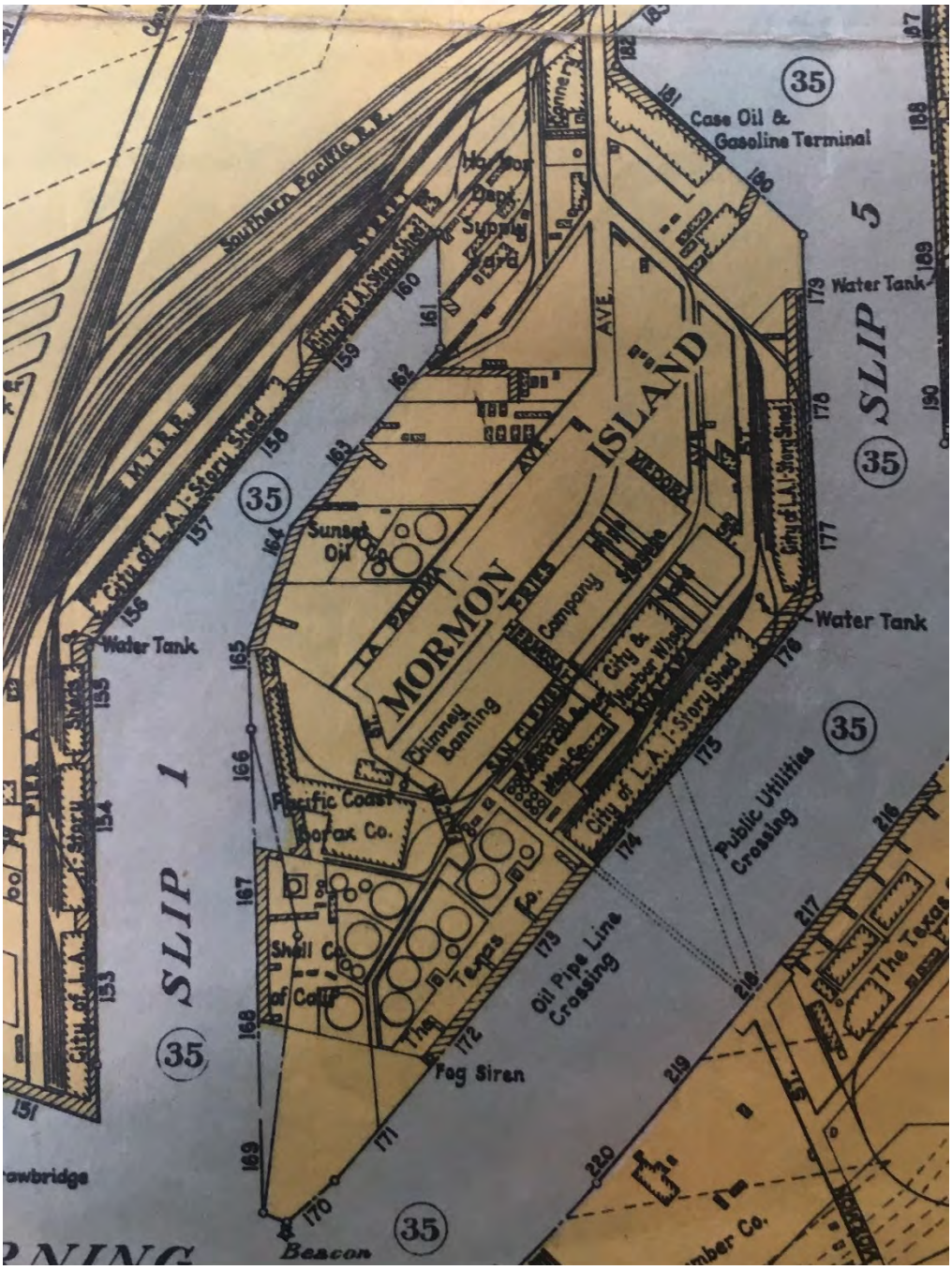
1927-1928


Southern Pacific R.R.
Harbor Dept. Supply Yard
Case Oil & Gasoline Terminal
Water Tank
City of L.A. 1-Story Shed
M.T.R.R.
Sunset Pacific Oil Co.
LA PALOMA
MORMON
FRIES
Company
ISLAND
MEDORA
SAN CLEMENTE
Chimney Banning
Pacific Coast Borax Co.
Shell Co. of Calif.
The Texas Co.
Oil Pipe Line Crossing
Public Utilities Crossing
J.B. Banning Co.
SLIP 1
SLIP 5
35

1933


Case Oil & Gasoline Terminal
Water Tank
SLIP 5
ISLAND AVE.
MORMON
Sunset Oil
Company
Water Tank
Chimney Banning
Pacific Coast Borax Co.
Public Utilities Crossing
SLIP 1
Oil Pipe Line Crossing
Fog Siren
Beacon
35

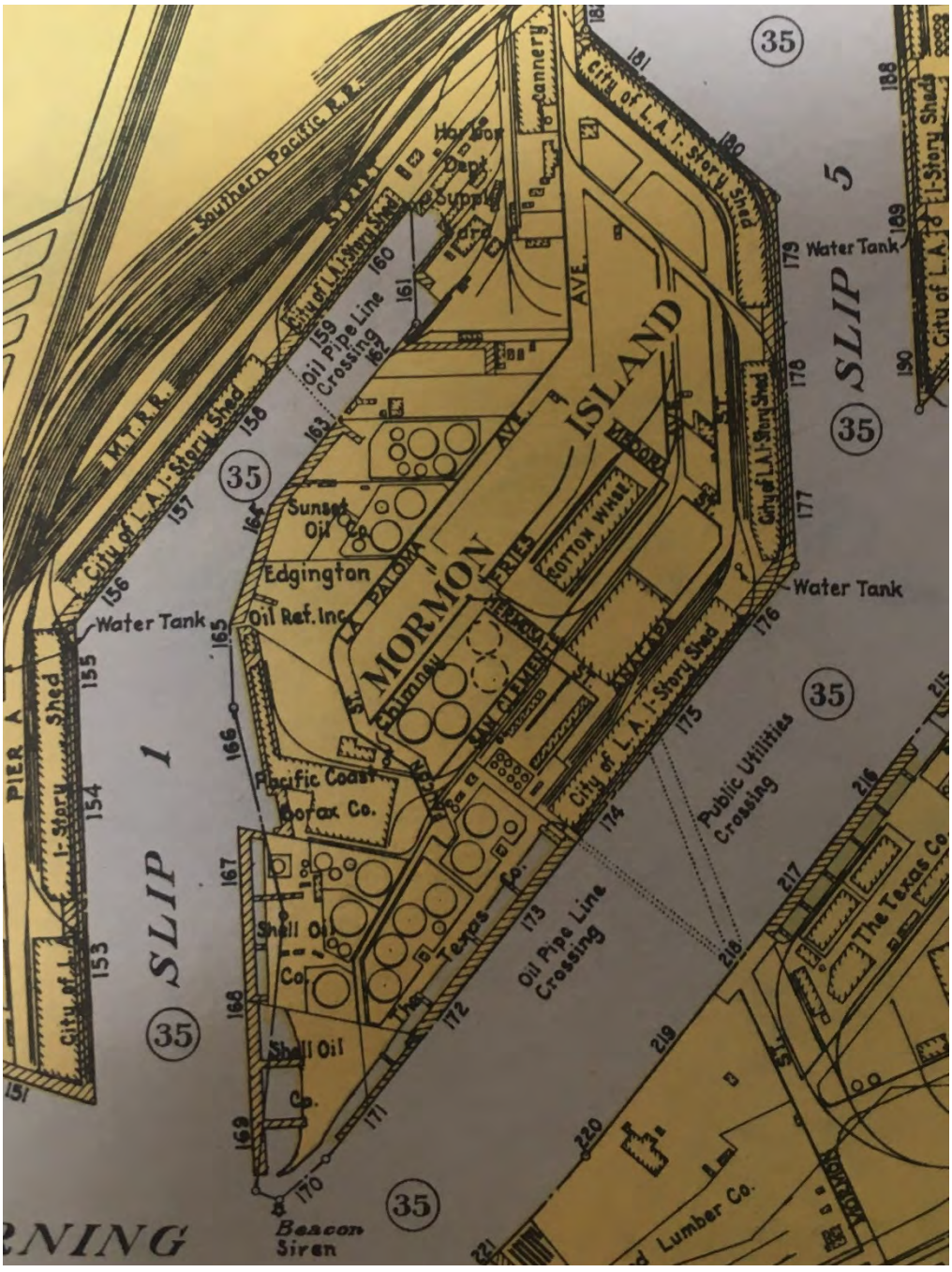
1935


Southern Pacific R.R.
Harbor Dept. Supply Yard
Case Oil & Gasoline Terminal
Water Tank
SLIP 5
ISLAND AVE.
MEDORA ST.
Petrol Corp.
Sunset Oil Co.
Exeter Refining Co.
LA PALOMA
FRIES
Company
MORMON
Chimney
Banning
SAN CLEMENTE
City & Harbor Wharf
Horn
Water Tank
Pacific Coast Borax Co.
Shell Oil Co.
Texas Co.
The
Fog Siren
Oil Pipe Line Crossing
Public Utilities Crossing
SLIP 1
Beacon
35

1941


Southern Pacific R.R.
Harbor Dept. Supply
Canneries
Case Oil & Gasoline Terminal
Water Tank
SLIP 5
SLIP 1
ISLAND AVE.
MEDORA ST.
MORMON
LA PALOMA
TERRACE
Petrol Corp.
Sunset Oil Co.
Exeter Refining Co.
Water Tank
Chimney
Pacific Coast Borax Co.
Shell Oil Co.
Texas Co.
Oil Pipe Line Crossing
Public Utilities Crossing
The Texas Co.
City of L.A. 1-Story Shed
Beacon
35

1947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Fish Cannery
City of L.A. 1-Story Shed
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Sunset Oil Co.
Edgington Oil Ref. Inc
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Texas Co.
Public Utilities Crossing
The Texas Co.
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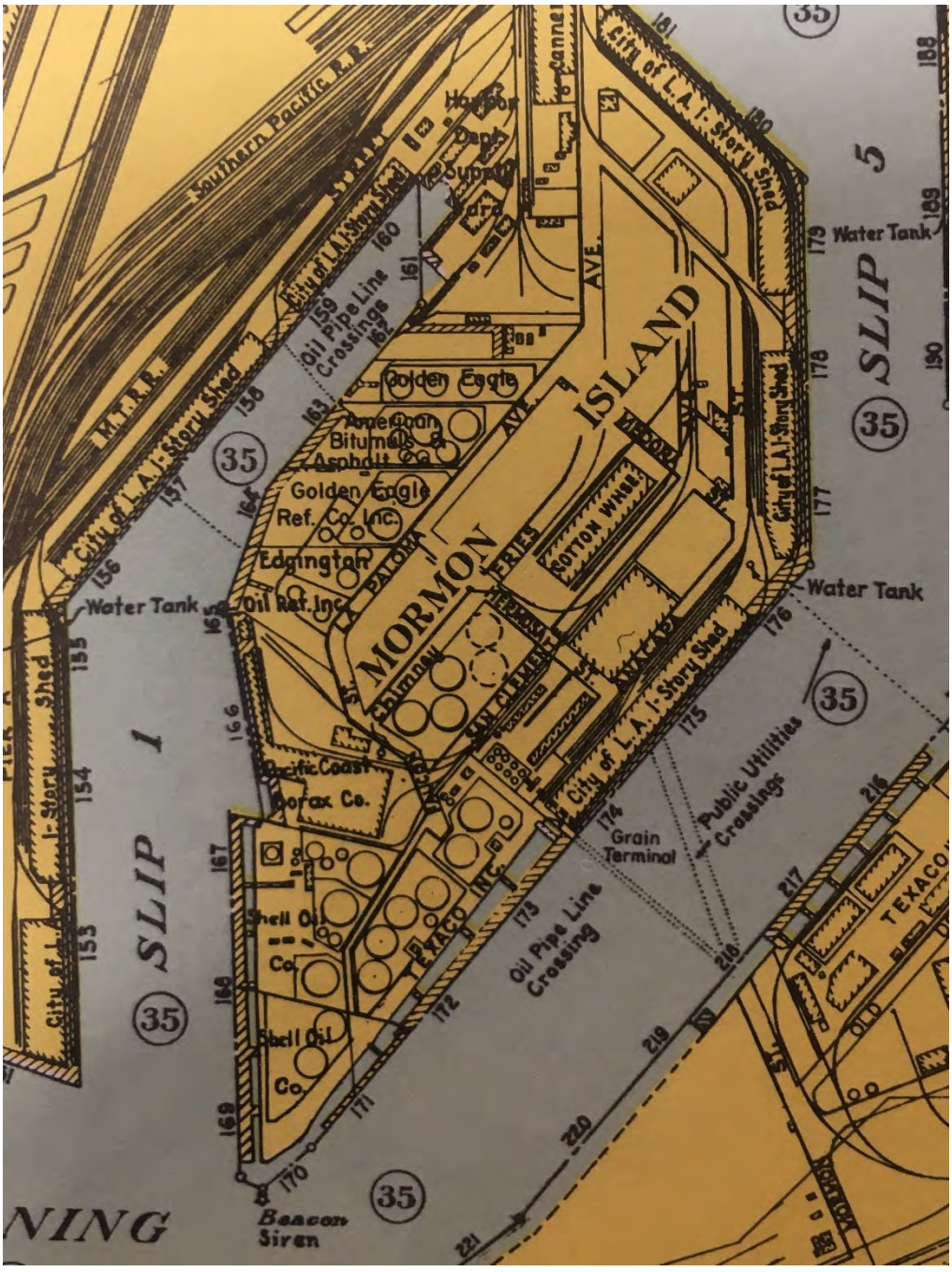
1957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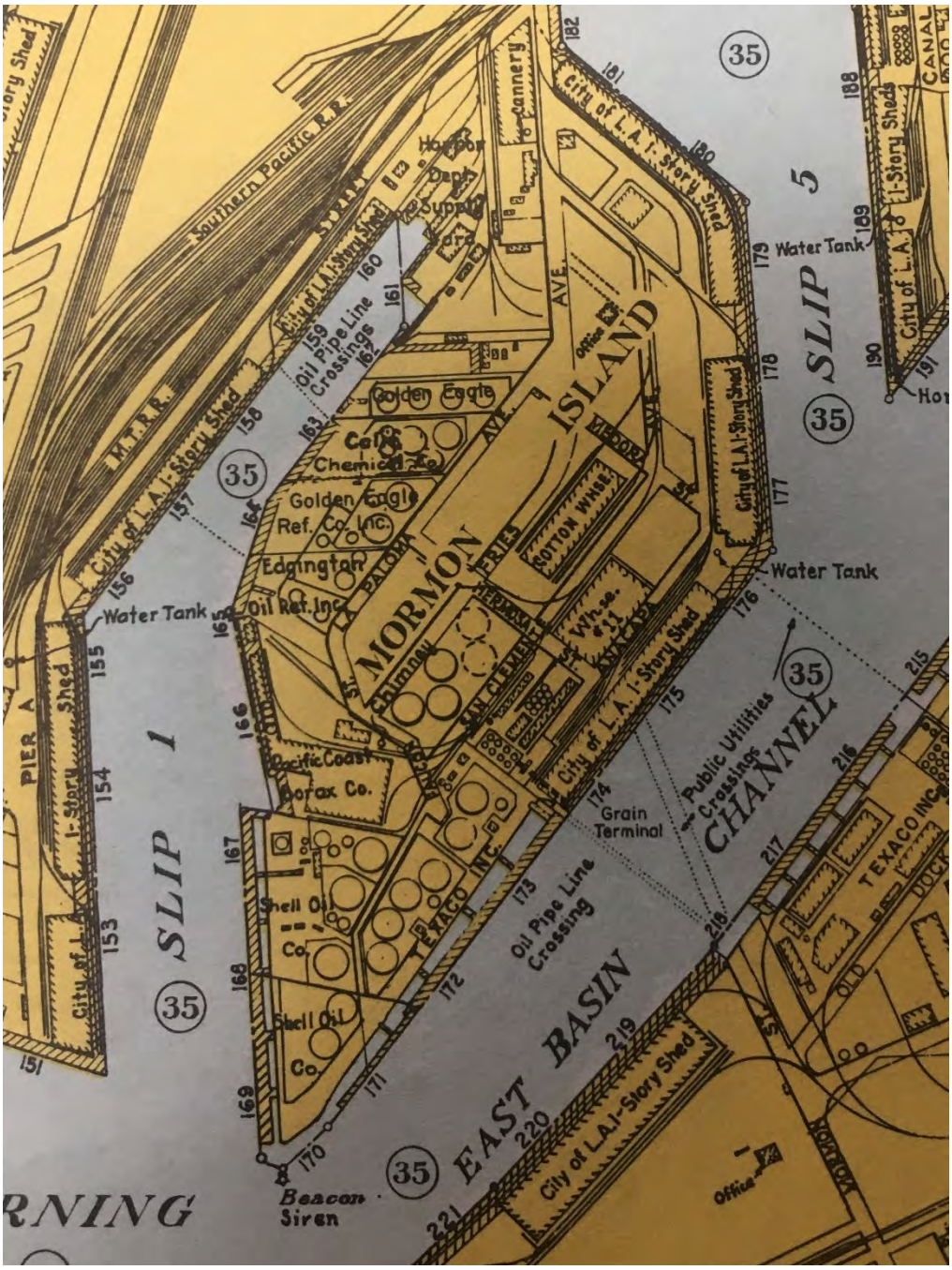
Golden Eagle
American Bitumuls & Asphalt
Golden Eagle Ref. Co. Inc.
Edgington Oil Ref. Inc.
Water Tank
MORMON ISLAND
AVE.
PALOMA
FRIES
ROTTON WHARF
MOORE
KAY CLEMENT
Pacific Coast Borax Co.
Shell Oil Co.
TEXACO INC.
Grain Terminal
Public Utilities Crossings
Oil Pipe Line Crossing
Beacon Siren
SLIP 1
SLIP 5
35

1963


Southern Pacific R.R.
Harbor Dept. Supply Store
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City of L.A. 1-Story Shed
Water Tank
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Oil Pipe Line Crossings
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Chemical Co.
Golden Eagle Ref. Co. Inc.
Edgington Oil Ref. Inc.
MORMON
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Pacific Coast Borax Co.
SLIP 1
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Shell Oil Co.
TEXACO INC.
Oil Pipe Line Crossing
Grain Terminal
Public Utilities Crossings
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EAST BASIN
Beacon Siren
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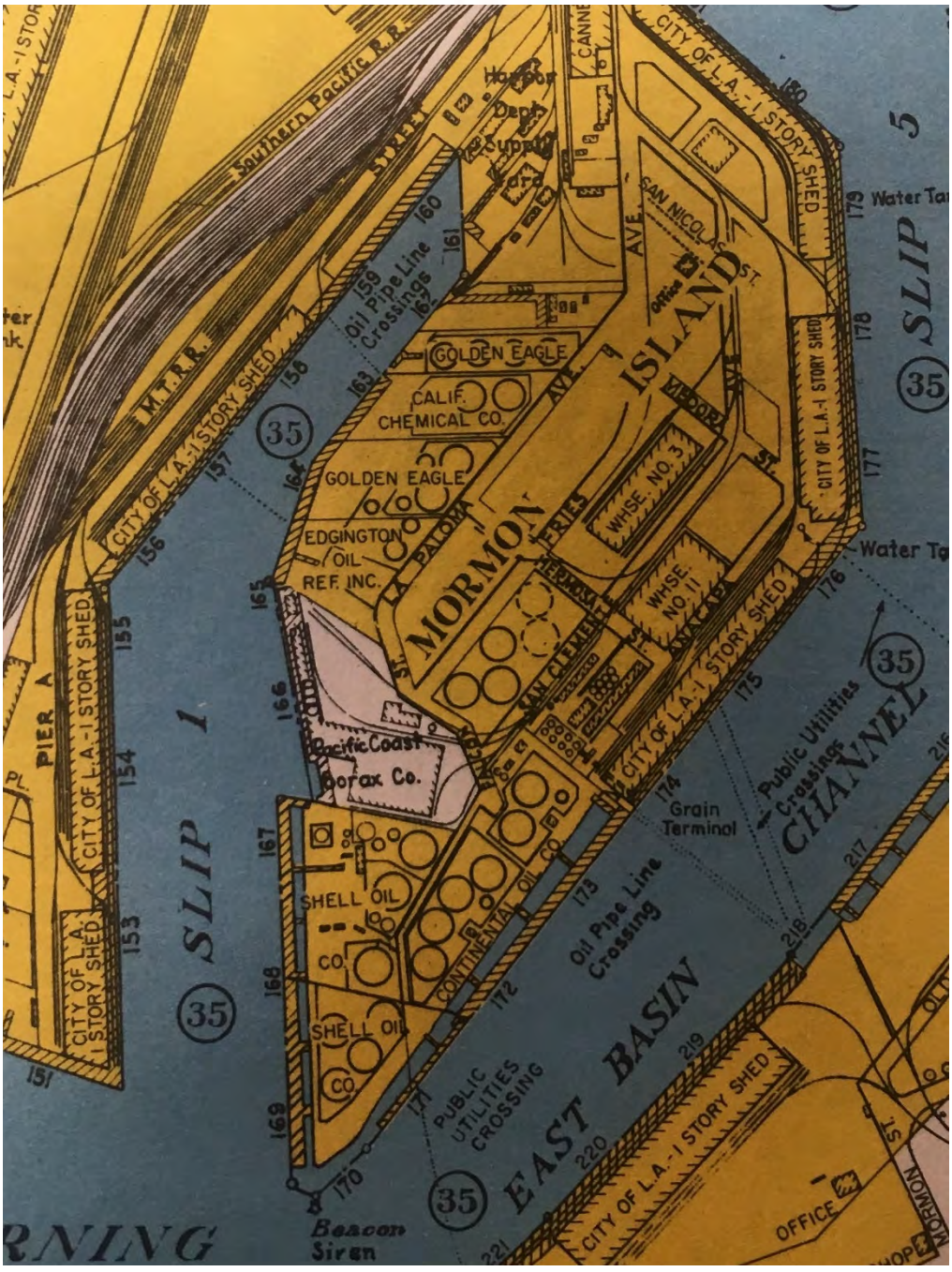
1967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Harbor Dept. Fire Supply
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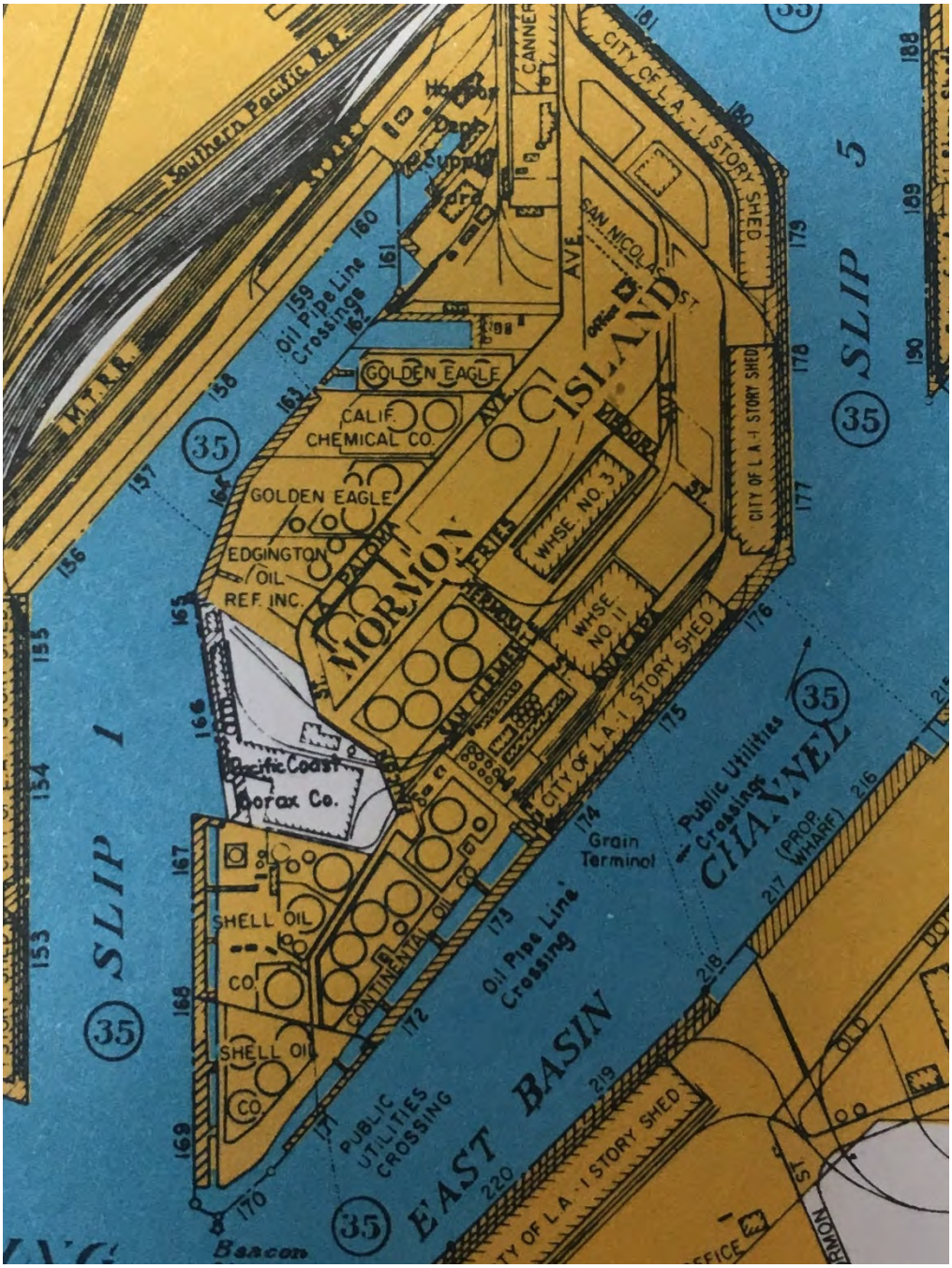
SAN NICOLAS ST.
AVE.
ISLAND
SLIP 5
Water Ta
Oil Pipe Line Crossings
GOLDEN EAGLE
CALIF. CHEMICAL CO.
GOLDEN EAGLE
EDGINGTON OIL REF. INC.
M.T.R.R.
CITY OF L.A.-1 STORY SHED
MORMON
LA PALOMA
FRIES
WHSE. NO. 3
WHSE. NO. 11
SAN CLEMENTE
Water To
PIER A
CITY OF L.A.-1 STORY SHED
SLIP 1
Pacific Coast Borax Co.
Public Utilities Crossing
CHANNEL
Grain Terminal
SHELL OIL CO.
CONTINENTAL OIL CO.
Oil Pipe Line Crossing
SHELL OIL CO.
PUBLIC UTILITIES CROSSING
EAST BASIN
CITY OF L.A.-1 STORY SHED
OFFICE
Beacon Siren
RNING

1974


Southern Pacific R.R.
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SLIP 1
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EAST BASIN
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CHANNEL
GOLDEN EAGLE
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EDGINGTON OIL REF. INC.
Pacific Coast Borax Co.
SHELL OIL CO.
SHELL OIL CO.
CONTINENTAL OIL CO.
Oil Pipe Line Crossing
Oil Pipe Line Crossing
Public Utilities Crossing
PUBLIC UTILITIES CROSSING
Grain Terminal
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WHSE. NO. 3
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CITY OF L.A. 1 STORY SHED
CITY OF L.A. 1 STORY SHED
SAN NICOLAS ST
AVALON AVE
Beacon
OLD

1981

2-21-08
10

RESOLUTION NO. 6518 ADOPTED, AS AMENDED
BY THE BOARD OF HARBOR COMMISSIONERS

February 21, 2008

Rose M. Dwarshak

SECRETARY

Executive Director's
Report to the
Board of Harbor Commissioners

DATE: **FEBRUARY 15, 2008**

FROM: **CONSTRUCTION DIVISION**

SUBJECT: **RESOLUTION TO ADOPT THE LOS ANGELES HARBOR DEPARTMENT SUSTAINABLE CONSTRUCTION GUIDELINES FOR REDUCING AIR EMISSIONS**

SUMMARY:

The proposed Resolution adopts the Los Angeles Harbor Department Sustainable Construction Guidelines for Reducing Air Emissions. Following adoption, the guidelines will be used to establish air emission criteria for inclusion in construction bid specifications. The guidelines will reinforce and require sustainability measures during performance of the contracts, balancing the need to protect the environment, be socially responsible, and provide for the economic development of the Port. Future resolutions are anticipated to expand the guidelines to cover other aspects of construction, such as materials management, energy use, health and safety, and labor. These guidelines fall within the framework of the forthcoming Port Sustainability Program.

RECOMMENDATION:

It is recommended that the Port of Los Angeles Board of Harbor Commissioners (Board) adopt the Los Angeles Harbor Department Sustainable Construction Guidelines for Reducing Air Emissions.

DISCUSSION:

1. The Port strives to be a leader in the development of implementation of sustainable planning, design, and construction practices. The Los Angeles Mayor's Executive Directive No. 10 on Sustainable Practices in the city of Los Angeles requires the Port to develop a comprehensive sustainability program. This program will cover both Port development and operations and will provide the "umbrella" program over all Port activities. For example, the Clean Air Action Plan (CAAP), the Clean Marina Program, and the Green Building Policy are all programs adopted by the Board that fall within the larger framework of the Port's sustainability program.

2. As part of our sustainability program the Port is developing specific policies to govern all aspects of construction. The first specific policy we propose for Board adoption is "The Sustainable Construction Guidelines for Reducing Air Emissions." While the CAAP uses the CEQA review process to implement project-specific mitigation measures, the proposed Construction Guidelines for Reducing Air Emissions establishes a port-wide policy for all projects.

3. These measures are expected to reduce diesel particulate matter, green house gases, and other criteria pollutants. The Port is committed to developing and implementing planning, design, and construction practices that minimize air pollutants to the extent feasible for all future projects.

4. The intent of the Guidelines is to facilitate the integration of sustainable concepts and practices into all capital projects at the Port, and to phase-in the implementation of these procedures in a practical yet aggressive manner. Following approval, these guidelines will be made a part of all construction specifications advertised for bids.

5. Significant features of these Guidelines include, but are not limited to:

   - All ships & barges used primarily to deliver construction related materials for Los Angeles Harbor Department (LAHD) construction contracts shall comply with the Vessel Speed Reduction Program and use low-sulfur fuel within 40 nautical miles of Point Fermin.

   - Harbor craft shall meet U.S. EPA Tier-2 engine emission standards, and the requirement will be raised to U.S. EPA Tier-3 engine emission standards by January 1, 2011.

   - All dredging equipment shall be electric.

   - On-road heavy-duty trucks shall comply with EPA 2004 on-road emission standards for PM10 and NOx and shall be equipped with a CARB verified Level 3 device. Emission standards will be raised to EPA 2007 on-road emission standards for PM10 and NOx by January 1, 2012.

   - Construction equipment (excluding on-road trucks, derrick barges, and harbor craft) shall meet Tier-2 emission off-road standards. The requirement will be raised to Tier-3 by January 1, 2012, and Tier-4 by January 1, 2015. In addition, construction equipment shall be retrofitted with a California Air Resources Board (CARB) certified Level 3 diesel emissions control device.

   - Comply with SCAQMD Rule 403 regarding Fugitive Dust, and other fugitive dust control measures.

   - Additional Best Management Practices, based on Best Available Control Technology (BACT), will be required on construction equipment (including on-road trucks) to further reduce air emissions. The above measures shall be met unless a piece of specialized equipment is unavailable within the State of California(including through a leasing agreement); a contractor has applied for

necessary incentive funds to put controls on a piece of equipment but the application or funding process is not yet complete; or a contractor has ordered a control device for a piece of equipment but that order has not been completed by the manufacturer and the contractor is unable to lease the device from a dealer within 200 miles of the project.

6. These guidelines are based largely on the construction air emissions requirements contained in the Berths 136-149 Container Terminal Environmental Impact Statement (EIS) Environmental Impact Report (EIR), which were developed in cooperation with the South Coast Air Quality Management District (AQMD) and were compiled from numerous air quality regulatory sources including: AQMD rules, San Pedro Bay Ports Clean Air Action Plan, California Air Resources Board Regulations, United States Environmental Protection Agency (EPA) regulations, and Port of Los Angeles CEQA Mitigation Monitoring reports. In preparation of these guidelines, staff has also reviewed and, where appropriate, incorporated the Draft Sustainable Planning, Design, and Construction Guidelines being prepared by Los Angeles World Airports, and other applicable regulatory and industry standards.

7. These guidelines do not supersede any existing standards, regulations, or codes. They are designed to work in conjunction with existing regulations and may be used to streamline compliance with established regulations, including CEQA and NEPA. If conflicts between these guidelines and existing regulations are encountered, the more rigorous requirement will be met, where allowed by law.

8. Staff will monitor the implementation of these guidelines and recommend appropriate changes as new technologies are developed and construction practices evolve.

ENVIRONMENTAL ASSESSMENT:

The proposed action is a Resolution to adopt the "Los Angeles Harbor Department Sustainable Construction Guidelines for Reducing Air Emissions." The guidelines are designed to reduce environmental impacts during Port construction projects, consistent with the Port's Environmental Policy. As such, the proposed action is exempt from the requirements of the California Environmental Quality Act (CEQA) in accordance with Article II, Section 2(m), of the Los Angeles City CEQA Guidelines.

FINANCIAL IMPACT:

Costs to comply with this resolution will be considered as a normal part of project construction costs and will be included in individual project budgets.

SUBJECT: **RESOLUTION TO ADOPT THE LOS ANGELES HARBOR DEPARTMENT SUSTAINABLE CONSTRUCTION GUIDELINES FOR REDUCING AIR EMISSIONS**

ECONOMIC IMPACT:

The proposed clean air sustainability policies are a set of equipment requirements and dust control procedure changes which are not anticipated to have a significant regional direct employment impact.

CITY ATTORNEY:

The proposed Resolution has been reviewed and approved by the City Attorney.

TRANSMITTALS:

1. Draft Outline of Port Sustainability Program – Elements and Status
2. Resolution
3. Los Angeles Harbor Department Sustainable Construction Guidelines for Reducing Air Emissions

for SHAUN SHAHRESTANI
Chief Harbor Engineer
Construction Division

MICHAEL R. CHRISTENSEN
Deputy Executive Director

APPROVED:

GERALDINE KNATZ, Ph.D.
Executive Director

RAZ:lh:tz
BoardReportAirEmissions

Port Sustainability Program
Elements and Status

DRAFT

	In Development	Draft	Adopted
Sustainable Development			
Green Building Policy			X
Green Leasing Requirements			X
Sustainable Planning & Design Guidelines			
Site Design	X		
Water Efficiency	X		
Energy & Atmosphere	X		
Materials & Resources	X		
Indoor Environmental Quality	X		
Lighting	X		
Sustainable Construction Guidelines			
Air Emissions		X	
Traffic	X		
Materials Management	X		
Water & Stormwater	X		
Energy	X		
Health & Safety	X		
Labor	X		
Noise	X		
Sustainable Operations			
Climate Action Plan		X	
SP Bay Clean Air Action Plan (CAAP)			X
Employee Rideshare			X
Green Terminal Program	X		
Environmental Management System			X
Clean Marina Program			X
POLA Recycling Program			X
Environmentally Preferable Purchasing Policy		X	
Renewable Energy Program	X		
Clean Water Action Plan	X		
Biological Resources Management Plan	X		
Tree Planting Program			X
Green Ports Program			X
Green Business - Sustainable Economic Development			
Green Technology Investment			
Technology Advancement Program			X
Green Business Development Opportunities			
Wilmington Waterfront Redevelopment	X		

TRANSMITTAL NO. 1

RESOLUTION NO. 6518

A Resolution of the Board of Harbor Commissioners of the City of Los Angeles (Board) adopting the "Los Angeles Harbor Department Sustainable Construction Guidelines for Reducing Air Emissions."

WHEREAS, the Port of Los Angeles strives to be a leader in the development and implementation of sustainable planning, design, and construction practices and is developing a Port Sustainability Program; and

WHEREAS, the Los Angeles Mayor's Executive Directive No. 10 on Sustainable Practices in the City of Los Angeles, the Board's Green Growth policy, and the San Pedro Bay Ports Clean Air Action Plan provide the framework for this effort; and

WHEREAS, the Port of Los Angeles is committed to developing and implementing planning, design, and construction practices that minimize diesel particulate matter as well as other criteria pollutants and greenhouse gases; and

WHEREAS, pursuant to this policy, these Los Angeles Harbor Department Sustainable Construction Guidelines for Reducing Air Emissions shall apply to all Los Angeles Harbor Department construction specifications advertised for bids after the adoption of this resolution; and

WHEREAS, it is intended that future resolutions will address the establishment of the Port's Sustainability Program and ultimately provide a comprehensive set of Sustainable Planning, Design, and Construction Guidelines; and

NOW, THEREFORE, be it resolved that the Board hereby adopts the attached "Los Angeles Harbor Department Sustainable Construction Guidelines for Reducing Air Emissions."

ATTEST:

S. Dod Thurn

President, Board of Harbor Commissioners

I HEREBY CERTIFY that the foregoing Resolution was adopted by the Board of Harbor Commissioners of the City of Los Angeles at its meeting of FEB 21 2008

Rose M. Dworshak

ROSE M. DWORSHAK
Board Secretary

APPROVED AS TO FORM
FEBRUARY 15, 2008
ROCKARD J. DELGADILLO, City Attorney

By _____
DEPUTY

RAZ:lh - ResolutionAirEmissions - 2/14/08

TRANSMITTAL NO. 2

LOS ANGELES HARBOR DEPARTMENT
SUSTAINABLE CONSTRUCTION GUIDELINES
FOR REDUCING AIR EMISSIONS

These guidelines shall apply to all construction projects advertised for bids by the LAHD after the date of approval of this resolution. The LAHD is not precluded from adding additional more stringent requirements as they become technologically available.

I. General Construction Best Management Practices

The LAHD shall implement a process to add Best Management Practices (BMPs) to reduce air emissions from all LAHD-sponsored construction projects. The LAHD shall determine the BMPs once the contractor identifies and secures a final equipment list and project scope. The LAHD shall then meet with the contractor to identify potential BMPs and work with the contractor to include such measures in the contract. BMPs shall be based on Best Available Control Technology (BACT) guidelines and may also include changes to construction practices and design to reduce or eliminate environmental impacts.

II. Specific Environmental Measures

In addition to the above described BMPs, the following specific environmental measures and/or practices shall be added to LAHD construction specifications where applicable.

Vessels

All ships & barges used primarily to deliver construction-related materials to a LAHD-contractor construction site shall comply with the expanded Vessel Speed Reduction Program (VSRP) of 12 knots from 40 nautical miles (nm) from Point Fermin to the Precautionary Area.

These ships must also use low-sulfur fuel (maximum sulfur content of 0.2 percent) in auxiliary engines, main engines, and boilers within 40 nm of Point Fermin.

Harbor Craft

Prior to December 31, 2010: All harbor craft with C1 or C2 marine engines must achieve a minimum emission reduction equivalent to a U.S. Environmental Protection Agency (EPA) Tier-2 2004 level off-road marine engine.

From January 1, 2011 on: All harbor craft with C1 or C2 marine engines must utilize a U.S. EPA Tier-3 engine, or cleaner.

Dredging Equipment

All dredging equipment shall be electric.

On-Road Trucks

Prior to December 31, 2011: All on-road heavy-duty diesel trucks with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater used at the Port of Los Angeles shall comply with EPA 2004 on-road emission standards for PM10 and NOx (0.10 g/bhp-hr PM10 and 2.0 g/bhp-hr NOx).

In addition, all on-road heavy heavy-duty trucks with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater used at the Port of Los Angeles shall be equipped with a CARB verified Level 3 device.

From January 1, 2012 on: All on-road heavy-duty diesel trucks with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater used at the Port of Los Angeles shall comply with EPA 2007 on-road emission standards for PM10 and NOx (0.01 g/bhp-hr and 0.20 g/bhp-hr).

Construction Equipment (excluding on-road trucks)

Prior to December 31, 2011: All off-road diesel-powered construction equipment greater than 50 horsepower (hp), except derrick barges and marine vessels, shall meet Tier-2 emission off-road emission standards, at a minimum. In addition, all construction equipment greater than 50 hp, shall be retrofitted with a CARB -certified Level 3 diesel emissions control device.

All construction equipment shall be maintained according to manufacturers' specifications.

Construction equipment shall not idle more than 5 minutes when not in use.

High-pressure fuel injectors shall be installed on construction equipment vehicles.

From January 1, 2012 to December 31, 2014: All off-road diesel-powered construction equipment greater than 50 hp, except ships and barges and marine vessels, shall meet Tier-3 emission off-road emission standards, at a minimum. In addition, all construction equipment greater than 50 horsepower (hp), shall be retrofitted with a CARB certified Level 3 diesel emissions control device.

All construction equipment shall be maintained according to manufacturers' specifications.

Construction equipment shall not idle more than 5 minutes when not in use.

High-pressure fuel injectors shall be installed on construction equipment vehicles.

From January 1, 2015 on: All off-road diesel-powered construction equipment greater than 50 hp, except ships and barges and marine vessels, shall meet Tier-4 emission off-road emission standards, at a minimum. In addition, all construction equipment greater than 50 hp, shall be retrofitted with a CARB certified Level 3 diesel emissions control device.
All construction equipment shall be maintained according to manufacturers' specifications.

Construction equipment shall not idle more than 5 minutes when not in use.

High-pressure fuel injectors shall be installed on construction equipment vehicles.

Exceptions to Harbor Craft, On-Road Truck, and Construction Equipment (excluding on-road trucks) Requirements

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

1 A piece of specialized equipment is unavailable in a controlled form, or within the required Tier level within the state of California, including through a leasing agreement.

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

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

Fugitive Dust Control

SCAQMD Rule 403 requires a Fugitive Dust Control Plan be prepared and approved for construction sites. The following measures to reduce dust should be included in this plan, at a minimum:

- SCAQMD's Best Available Control Technology (BACT) measures must be followed on all projects. They are outlined on Table 1 in Rule 403. Large construction projects (on a property which contains 50 or more disturbed acres) shall also follow Rule 403 Tables 2 and 3.

- Active grading sites shall be watered three times per day.
- Contractors shall apply approved non-toxic chemical soil stabilizers to all inactive construction areas or replace groundcover in disturbed areas.
- Contractors shall provide temporary wind fencing around sites being graded or cleared.
- Trucks hauling dirt, sand, or gravel shall be covered or shall maintain at least 2 feet of freeboard in accordance with Section 23114 of the California Vehicle Code. ("Spilling Loads on Highways").
- Construction contractors shall install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off tires of vehicles and any equipment leaving the construction site.
- The grading contractor shall suspend all soil disturbance activities when winds exceed 25 mph or when visible dust plumes emanate from a site; disturbed areas shall be stabilized if construction is delayed.
- Open storage piles (greater than 3 feet tall and a total surface area of 150 square feet) shall be covered with a plastic tarp or chemical dust suppressant.
- Stabilize the materials while loading, unloading and transporting to reduce fugitive dust emissions.
- Belly-dump truck seals should be checked regularly to remove trapped rocks to prevent possible spillage.
- Comply with track-out regulations and provide water while loading and unloading to reduce visible dust plumes.
- Waste materials should be hauled off-site immediately.