Section 3.2

Air Quality and Meteorology

SECTION SUMMARY

This section describes existing air quality and meteorology within the Port, potential impacts on air quality and human health associated with construction and operation of the proposed Project and alternatives, and mitigation measures.

Section 3.2, Air Quality and Meteorology, provides the following:

- a description of existing air quality in the Port area;
- a list of local, state, and federal regulations and policies that apply to the proposed Project as well as the alternatives (a full description is in Appendix B1-B3 of this Draft EIS/EIR);
- a discussion on the methodology used to determine whether the proposed Project and alternatives would result in an impact on air quality from air emissions;
- an impact analysis of the proposed Project and alternatives; and
- a description of any mitigation measures proposed to reduce any potential impacts and residual impacts, as applicable.

Key Points of Section 3.2:

The proposed Project and alternatives would improve the existing Everport Container Terminal, and its operations would be consistent with other uses and container terminals in the proposed project area.

Construction Impacts

Construction of the proposed Project, Alternative 1, and Alternatives 3 through 5 would result in significant air quality emissions impacts under CEQA. Construction of the proposed Project and Alternatives 3 through 5 would also result in significant air quality emissions impacts under NEPA.

Construction-related concentrations would result in significant ambient air concentrations under CEQA for the proposed Project, Alternative 1, and Alternatives 3 through 5. The proposed Project and Alternatives 3 through 5 would also result in significant ambient air concentrations under NEPA.

After the application of mitigation measures MM AQ-1 through MM AQ-5, summarized below, construction impacts would be reduced but would remain significant and unavoidable for air quality impacts.

MM AQ-1: Harbor Craft Used During Construction.

MM AQ-2: On-road Trucks Used during Construction.

MM AQ-3: Non-Road Construction Equipment

MM AQ-4: Cargo Ships Used During Construction.

MM AQ-5: General Construction Mitigation Measure.

Operational Impacts

Operation of the proposed Project and all alternatives would result in significant air quality emissions impacts under CEQA. Operation of the proposed Project and Alternatives 3 through 5 would also result in significant air quality emissions impacts under NEPA.

Operation of the proposed Project and Alternatives 1 through 5 would result in significant ambient air concentrations under CEQA. Operation of the proposed Project and Alternatives 3 through 5 would also result in significant ambient air concentrations under NEPA.

After the application of MM AQ-6, MM AQ-7, LM AQ-1, and LM AQ-2, summarized below, operational impacts would be reduced but would remain significant and unavoidable.

MM AQ-6: Vessel Speed Reduction Program (VSRP).

MM AQ-7: Alternative Maritime Power (AMP).

LAHD's standard lease measure LM AQ-1 and lease measure LM AQ-2 would be included in the tenant's lease. Although not quantifiable, these measures would further reduce future air quality emissions and serve to comply with Port air quality planning requirements.

LM AQ-1: Replacement of Equipment and Review of New Technology.

LM AQ-2: Priority Access System.

Health Risk Impacts

Project construction and operation would emit toxic air contaminant (TAC) emissions that could affect public health. A health risk assessment (HRA) of construction and operation of the proposed Project and alternatives evaluated four different types of health effects: individual cancer risk, acute noncancer hazard index, chronic noncancer hazard index, and population cancer burden.

Individual cancer risk is the additional chance for a person to contract cancer after long-term exposure (in this case 30 years for a resident or sensitive receptor, and 25 years for a worker) to proposed Project or alternative emissions. Under CEQA, individual cancer risk impacts would be less than significant for the proposed Project and all alternatives without mitigation. Under NEPA, individual cancer risk impacts would be significant for the proposed Project, Alternative 3, and Alternative 5 without mitigation. After the application of MM AQ-1 through MM AQ-7, LM AQ-1 and LM AQ-2, individual cancer risk impacts under NEPA would be reduced to less than significant for the proposed Project and all alternatives.

The acute hazard index is a ratio of the short-term average concentrations of TACs in the air to established reference exposure levels. An acute hazard index below 1.0 indicates that adverse noncancer health effects from short-term exposure are not expected. Under CEQA and NEPA, acute hazard index impacts would be less than significant for the proposed Project and all alternatives, both with and without mitigation.

The chronic hazard index is a ratio of long-term average concentrations of TACs in the air to established reference exposure levels. A chronic hazard index below 1.0 indicates that adverse noncancer health effects from long-term exposure are not expected. Under CEQA and NEPA, chronic hazard index

impacts would be less than significant for the proposed Project and all alternatives, both with and without mitigation.

Population cancer burden is the expected number of additional cancer cases among the population exposed to an individual cancer risk impact of 1 per million or greater, assuming a 70-year lifetime residential exposure. Under CEQA, the population cancer burden would be less than significant for the proposed Project and all alternatives without mitigation. Under NEPA, the population cancer burden would be significant for the proposed Project and Alternative 5 without mitigation. After the application of MM AQ-1 through MM AQ-7, LM AQ-1 and LM AQ-2, the population cancer burden under NEPA would be reduced to less than significant for the proposed Project and all alternatives.

Carbon Monoxide Hotspot, Odor, and Air Quality Plan Impacts

Construction and operation of the proposed Project or any of the alternatives would not generate on-road traffic that would contribute to an exceedance of the 1-hour or 8-hour carbon monoxide (CO) standards, would not create an objectionable odor at the nearest sensitive receptor, and would not conflict with or obstruct implementation of the applicable Air Quality Management Plan (AQMP) or the CAAP. Impacts would be less than significant and mitigation would not be required.

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3.2.1 Introduction

Emissions from construction and operation of the proposed Project and alternatives would affect air quality in the immediate proposed project area and the surrounding region. This section includes a description of the affected air quality environment, predicted impacts of the proposed Project and alternatives, and mitigation measures that would reduce significant impacts. Emission and dispersion modeling details are provided in Appendices B1 and B2, respectively. Appendix B3 includes the detailed Health Risk Assessment.

3.2.2 Environmental Setting

The proposed project site is in the Harbor District of the City of Los Angeles, within the South Coast Air Basin (SCAB). The SCAB consists of the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties and all of Orange County. The air basin covers an area of approximately 6,000 square miles and is bounded on the west by the Pacific Ocean; on the north and east by the San Gabriel, San Bernardino, and San Jacinto Mountains; and on the south by the San Diego County line.

3.2.2.1 Regional Climate and Meteorology

The climate of the proposed project region is classified as Mediterranean, characterized by warm, rainless summers and mild, wet winters. The major influence on the regional climate is the Eastern Pacific High (a strong persistent area of high atmospheric pressure over the Pacific Ocean), topography, and the moderating effects of the Pacific Ocean. Seasonal variations in the position and strength of the Eastern Pacific High are a key factor in the weather changes in the area.

The Eastern Pacific High attains its greatest strength and most northerly position during the summer, when it is centered west of northern California. In this location, the Eastern Pacific High effectively shelters Southern California from the effects of polar storm systems. Large-scale atmospheric subsidence associated with the Eastern Pacific High produces an elevated temperature inversion along the West Coast. The base of this subsidence inversion is generally from 1,000 to 2,500 feet (300 to 800 meters) above mean sea level during the summer. Vertical mixing is often limited to the base of the inversion, and air pollutants are trapped in the lower atmosphere. The mountain ranges that surround the Los Angeles Basin constrain the horizontal movement of air and also inhibit the dispersion of air pollutants out of the region. These two factors, combined with the air pollution sources of over 15 million people, are responsible for the high pollutant concentrations that can occur in the SCAB. In addition, the warm temperatures and high solar radiation during the summer months promote the formation of ozone, which has its highest levels during the summer.

3.2.2.2 Criteria Pollutants and Air Monitoring

Criteria Pollutants

Air quality at a given location can be characterized by the concentration of various pollutants in the air. Units of concentration are generally expressed as parts per million by volume (ppmv) or micrograms per cubic meter ($\mu g/m^3$) of air. The significance of a pollutant concentration is determined by comparing the concentration to an appropriate national or state ambient air quality standard. These standards represent the allowable

atmospheric concentrations at which the public health and welfare are protected. They include a reasonable margin of safety to protect the more sensitive individuals in the population.

Pollutants for which ambient air quality standards have been adopted are known as criteria pollutants. These pollutants can harm human health and the environment, and cause property damage. These pollutants are called "criteria" air pollutants because they are regulated by developing human health-based and/or environmentally based criteria (science-based guidelines) for setting permissible levels. The set of limits based on human health is called the primary standards. Another set of limits intended to prevent environmental and property damage is called the secondary standards. The criteria pollutants of greatest concern in this air quality assessment are ozone, CO, nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter less than 10 micrograms in diameter (PM_{10}), and particulate matter less than 2.5 micrograms in diameter ($PM_{2.5}$). NO_X and sulfur oxides (SO_X) refer to generic groups of compounds that include NO_2 and SO_2, respectively, because NO_2 and SO_2 are naturally highly reactive and may change composition when exposed to oxygen, other pollutants, and/or sunlight in the atmosphere. These oxides are produced during combustion.

EPA establishes the National Ambient Air Quality Standards (NAAQS) and defines how to demonstrate whether an area meets the NAAQS. CARB establishes the California Ambient Air Quality Standards (CAAQS), which must be equal to or more stringent than the NAAQS when initially adopted. CARB defines how to demonstrate whether an area meets the CAAQS.

As discussed above, one of the main concerns with criteria pollutants is that they contribute directly to regional human health problems. The known adverse effects associated with these criteria pollutants are shown in Table 3.2-1.

Table 3.2-1: Adverse Effects Associated with Criteria Pollutants

Pollutant [a]	Adverse Effects
Ozone (O_3)	(a) Pulmonary function decrements and localized lung edema in humans and animals; (b) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (c) Increased mortality risk; (d) Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (e) Vegetation damage; (f) Property damage
Carbon Monoxide (CO)	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; (d) Possible increased risk to fetuses
Nitrogen Dioxide (NO_2)	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; (c) Contribution to atmospheric discoloration
Sulfur Dioxide (SO_2)	Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath, and chest tightness during exercise or physical activity in persons with asthma
Suspended Particulate Matter less than 10 Microns (PM_{10})	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Decline in pulmonary function or growth in children; (c) Increased risk of premature death [b]
Suspended Particulate Matter less than 2.5 microns ($PM_{2.5}$)	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Decline in pulmonary function or growth in children; (c) Increased risk of premature death [b]
Lead [c]	(a) Learning disabilities; (b) Impairment of blood formation and nerve conduction
Sulfates [d]	(a) Decrease in lung function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; (f) Property damage

Source: (SCAQMD, 2013).

Notes:

[a] CAAQS have also been established for hydrogen sulfide, vinyl chloride, and visibility reducing particles. They are not shown in this table because they are not pollutants of concern for the proposed Project.

[b] More detailed discussions on the health effects associated with exposure to suspended particulate matter can be found in the following documents: California Air Resources Board's Staff Report: Public Hearing to Consider Amendments to the Ambient Air Quality Standards for Particulate Matter and Sulfates, Chapter 7 (CARB, 2002), and EPA's Air Quality Criteria for Particulate Matter (EPA, 2004a).

[c] Lead is not a pollutant of concern for the proposed Project.

[d] Sulfate is not a pollutant of concern for the proposed Project. SCAQMD has not established an emissions threshold for sulfates, nor does it require dispersion modeling against the localized significance thresholds.

Of the criteria pollutants of concern, ozone is unique because it is not directly emitted from proposed project-related sources. Rather, ozone is a secondary pollutant formed from the precursor pollutants volatile organic compounds (VOC) and NO_X. VOC and NO_X react to form ozone in the presence of sunlight through a complex series of photochemical reactions. As a result, unlike inert pollutants, ozone levels usually peak several hours after the precursors are emitted and many miles downwind of the source. Because of the complexity and uncertainty of predicting photochemical pollutant concentrations, ozone impacts are indirectly addressed in this study by comparing proposed Project and alternative-generated emissions of VOC and NO_X to daily emission

thresholds set by the South Coast Air Quality Management District (SCAQMD). These emission thresholds are discussed in Section 3.2.4.4.

Because most of the proposed Project and alternative-related emission sources would be diesel-powered, diesel particulate matter (DPM, particulate matter in diesel engine exhaust) is a key pollutant evaluated in this analysis. DPM is one of the components of ambient PM_{10} and $PM_{2.5}$.[1] DPM is also classified as a TAC by CARB. As a result, DPM is evaluated in this study both as a criteria pollutant (as a component of PM_{10} and $PM_{2.5}$) and as a TAC.

Local Air Monitoring Levels

EPA designates all areas of the United States according to whether they meet the NAAQS. A *nonattainment* designation means that one or more of the six criteria pollutants considered as indicators of air quality exceeds the primary NAAQS in any given area, over a period of time specified by the NAAQS. States with nonattainment areas must prepare a State Implementation Plan (SIP) that demonstrates how those areas will come into attainment. EPA currently designates the SCAB as a nonattainment area for ozone, $PM_{2.5}$ (24-hour and annual standards), and lead[2] (EPA, 2016a). The severity of nonattainment has been classified by EPA for several pollutants. EPA classifies the SCAB as extreme nonattainment[3] for the 8-hour ozone NAAQS and as serious nonattainment for the annual $PM_{2.5}$ NAAQS. The SCAB is in attainment/maintenance of the NAAQS for CO, SO_2, NO_2, and PM_{10}.

CARB also designates areas of the state according to whether they meet the CAAQS. A nonattainment designation means that a CAAQS has been exceeded more than once in 3 years. CARB currently designates the SCAB as a nonattainment area for ozone, PM_{10}, $PM_{2.5}$, and NO_2. The air basin is in attainment of the CAAQS for CO, SO_2, lead, and sulfates, and is unclassified for hydrogen sulfide and visibility reducing particles (CARB, 2013a).

LAHD has been conducting its own air quality monitoring program since February 2005. This monitoring program supports the Port's commitment to improve air quality within the San Pedro Bay Ports area under the Clean Air Action Plan (CAAP), by helping to better manage and provide feedback on the Port's air quality improvement efforts. The monitoring program includes a network of four air monitoring stations that measure a comprehensive set of air pollutants within the Port's region of influence. The program includes a number of real-time air quality measurements: ozone, sulfur dioxide, nitrogen dioxide, carbon monoxide, two sizes of particulate matter (PM_{10} or coarse particles, and $PM_{2.5}$ or fine particles), polycyclic aromatic hydrocarbons (PAHs), and ultrafine particles. As part of the program, meteorological monitoring stations operate adjacent to each air monitoring station, to help interpret the air quality data and for use in other Port programs. Each meteorological monitoring station collects wind speed, wind direction, and temperature data; in addition, one station also collects solar radiation, relative

[1] Other components of particulate matter emissions include road dust, tire wear, brake wear, gasoline engine exhaust particulates, and construction dust.

[2] The contributions to the violation of the lead standard are caused by lead-related industrial facilities located within a 15-mile radius in the southern portion of Los Angeles County. This project is not a source of lead emissions and would not contribute to a violation of the lead standard.

[3] The *extreme* classification for ozone nonattainment means the air quality is worse than areas with a *severe* classification and more time will be needed to bring the area into attainment of the NAAQS.

humidity, and barometric pressure data. The monitoring stations are strategically located within the Port's region of influence at: 1) Sants Peter and Paul School (Wilmington Community Station), 2) Berth 47 in the Outer Harbor (Coastal Boundary Station), 3) Terminal Island Water Reclamation Plant (TITP) (Source-Dominated Station), and 4) along Harbor Boulevard near 3rd Street, adjacent to the San Pedro Waterfront Promenade (San Pedro Community Station). Meteorological data from the Source-Dominated Station was used in this air quality analysis to model human health risks and criteria pollutant impacts associated with the proposed Project and alternatives.

Table 3.2-2 shows the highest pollutant concentrations recorded at the Source-Dominated TITP Station,for 2012 through 2014, the most recent complete 3-year period of data available.

Table 3.2-2: Maximum Pollutant Concentrations Measured at the TITP Station

Pollutant	Averaging Period	National Standard	State Standard	Highest Monitored Concentration		
				2012	2013	2014
Ozone (ppm)	1-hour	--	0.09	0.071	0.082	0.085
	8-hour National [a]	0.070	--	0.055	0.055	0.054
	8-hour State	--	0.07	0.062	0.068	**0.071**
CO (ppm)	1-hour	35	20	2.8	1.8	6.6
	8-hour	9	9.0	1.8	1.5	1.4
NO_2 (ppm)	1-hour National [b]	0.100	--	0.088	0.088	0.087
	1-hour State	--	0.18	0.112	0.094	0.104
	Annual	0.053	0.030	0.017	0.017	0.016
SO_2 (ppm)	1-hour National [c]	0.075	--	0.038	0.031	0.028
	1-hour State	--	0.25	0.053	0.042	0.025
	24-hour	--	0.04	0.015	0.009	0.008
PM_{10} ($\mu g/m^3$)	24-hour	150	50	**90.0**	**123.9**	**109.6**
	Annual	--	20	**28.6**	**29.90**	**31.1**
$PM_{2.5}$ ($\mu g/m^3$)	24-hour [d]	35	--	30.0	30.7	29.1
	Annual	12	12	**14.9**	**14.2**	**13.6**

Source: (DeMoss, 2015)

Notes:

Exceedances of the standards are shown in bold. All reported values represent the highest recorded concentration during the year unless otherwise noted.

a The monitored concentrations reported for the national 8-hour ozone standard represent the 3-year average (including the reported year and the prior 2 years) of the fourth-highest 8-hour concentration each year.

b The monitored concentrations reported for the national 1-hour NO_2 standard represent the 3-year average (including the reported year and the prior 2 years) of the 98th percentile of the annual distribution of daily maximum 1-hour average concentrations.

c The monitored concentrations reported for the national 1-hour SO_2 standard represent the 3-year average (including the reported year and the prior 2 years) of the 99th percentile of the annual distribution of daily maximum 1-hour average concentrations.

d The monitored concentrations reported for the national 24-hour $PM_{2.5}$ standard represent the 3-year average (including the reported year and the prior 2 years) of the 98th percentile of the annual distribution of daily average concentrations.

Toxic Air Contaminants

The California Office of Environmental Health Hazard Assessment (OEHHA) identifies and studies TAC toxicity. TACs include air pollutants that can produce adverse human health effects, including carcinogenic effects, and non-carcinogenic effects after short-term (acute) or long-term (chronic) exposure. Examples of TAC sources within the SCAB include industrial processes, dry cleaners, gasoline stations, paint and solvent operations, and fossil fuel combustion sources.

SCAQMD determined in the 2015 *Multiple Air Toxics Exposure Study IV* (MATES IV) that about 68 percent of the background airborne carcinogenic risk in the SCAB is due to diesel exhaust (SCAQMD, 2015b), compared to 84 percent in the 2008 MATES III study (SCAQMD, 2008). MATES IV also showed that carcinogenic risk is particularly high in areas surrounding the Port, near Central Los Angeles, and transportation corridors and freeways. The MATES IV study also showed a 70 percent average reduction of DPM levels and an average carcinogenic risk reduction of 57 percent from the MATES III study (SCAQMD, 2015b).

As discussed in Section 1.6.8.1, LAHD, in conjunction with the Port of Long Beach, developed the San Pedro Bay Ports CAAP, which targets all emissions related to the ports. In 2010 the ports released a CAAP update, with emission reduction goals for 2014 and 2023. Between 2005 and 2014, the Port of Los Angeles had achieved actual reductions of 85 percent for DPM, 52 percent for NO_X, and 97 percent for SO_X, relative to uncontrolled levels as described in the 2014 Port Emissions Inventory Report (LAHD, 2015a).

3.2.2.3 Sensitive Receptors

The impact of air emissions on sensitive members of the population is a special concern. Sensitive receptor groups include children, the elderly, and the acutely and chronically ill. The locations of these groups include residences, schools, chile care centers, elder care facilities, and hospitals. For health risk assessment purposes (Impact AQ-7), LAHD also treats recreational areas, such as parks, marinas, and public waterfront areas, as sensitive receptors. The nearest sensitive receptors to the Project site are about 0.3 mile to the west, in San Pedro; they include residences near the intersection of Harbor Boulevard and 3rd Street, the World Tots LA Daycare Center near the intersection of Harbor Boulevard and 5th Street, and the San Pedro Waterfront Promenade (recreational). The nearest school is Port of Los Angeles High School, about 0.5 mile west of the Project site. The nearest elder care facility is the Harbor View House, about 0.4 mile west-southwest of the Project site. The nearest hospital is the Providence Little Company of Mary San Pedro Hospital, about 1.7 miles west of the Project site.

3.2.3 Applicable Regulations

The Federal Clean Air Act of 1970 and its subsequent amendments established air quality regulations and the NAAQS, and delegated enforcement of these standards to the states. In California, CARB is responsible for enforcing air pollution regulations. CARB has, in turn, delegated the responsibility of regulating stationary emission sources to the local air agencies. In the SCAB, the local air agency is SCAQMD.

The following is a list of the key federal, state, and local air quality rules, policies, and agreements that potentially apply to the proposed Project and alternatives. A description of each is available in Appendix B1.

International Rules, Policies, and Agreements:

- International Maritime Organization International Convention for the Prevention of Pollution from Ships Annex VI

Federal Rules, Policies, and Agreements:

- State Implementation Plan
- EPA Emissions Standards for Category 1, 2, and 3 Marine Diesel Compression Ignition Engines
- EPA Emission Standards for Non-Road Diesel Engines
- EPA Emission Standards for Locomotives
- EPA Emission Standards for On-Road Trucks
- EPA Non-Road Diesel Fuel Rule
- EPA and National Highway Traffic Safety Administration Light-Duty Vehicle GHG Emission Standards and Corporate Average Fuel Economy Standards
- EPA General Conformity Rule
- Clean Air Act Conformity Statement

State Rules, Policies, and Agreements:

- California Clean Air Act
- AB 2650
- CARB Heavy Duty Diesel Vehicle Idling Emission Reduction Regulation
- CARB 1998 South Coast Locomotive Emissions Agreement
- CARB 2005 Railroad Statewide Agreement
- CARB California Diesel Fuel Regulation
- CARB In-Use Off-road Diesel Vehicle Regulation
- CARB Measures to Reduce Emissions from Goods Movement Activities
    - Emission Reduction Plan for Ports and Goods Movement in California
    - CARB Regulations for Fuel Sulfur and Other Operational Requirements for OGVs within California Waters and 24 Nautical Miles of the California Baseline
    - CARB Regulation to Reduce Emissions from Diesel Auxiliary Engines on OGVs While at Berth at a California Port
    - CARB Regulation Related to Ocean Going Ship Onboard Incineration
    - CARB Mobile Cargo-Handling Equipment at Ports and Intermodal Rail Yards
    - CARB Emission Standards, Test Procedures, for Large Spark Ignition

Engine Forklifts and Other Industrial Equipment

- CARB California Drayage Truck Regulation
- CARB On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation—Truck and Bus Regulation
- CARB Regulation to Reduce Emissions from Diesel Engines on Commercial Harbor Craft

- CARB Statewide Portable Equipment Registration Program

Local Rules, Policies, and Agreements:

- SCAQMD Rule 402—Nuisance
- SCAQMD Rule 403—Fugitive Dust

LAHD Emission Reduction Programs:

- San Pedro Bay Ports Clean Air Action Plan (2006 and 2010 Update)
- CAAP Measure—SPBP-OGV1, Vessel Speed Reduction Program
- CAAP Measure—SPBP-OGV2, Reduction of At-Berth OGV Emissions
- CAAP Measures—SPBP-OGV3 and 4, OGV Low Sulfur Fuel for Auxiliary Engines, Auxiliary Boilers, and Main Engines
- CAAP Measure—SPBP-OGV5 and 6, Cleaner OGV Engines and OGV Engine Emissions Reduction Technology Improvements and Environmental Ship Index Program
- CAAP Measure—SPBP-HC1, Performance Standards for Harbor Craft
- CAAP Measure—SPBP-CHE1, Performance Standards for CHE
- CAAP Measure—SPBP-RL1, Pacific Harbor Line Rail Switch Engine Modernization
- CAAP Measure—SPBP-RL2, Class 1 Line-Haul and Switcher Fleet Modernization
- CAAP Measure—SPBP-HDV1, Performance Standards for On-Road Heavy-Duty Vehicles; Clean Trucks Program
- 2017 CAAP Update
- LAHD Sustainable Construction Guidelines

3.2.4 Impacts and Mitigation Measures

This section presents a discussion of the potential air quality impacts associated with the construction and operation of the proposed Project and alternatives. Mitigation measures are provided, where feasible, for impacts found to be significant.

3.2.4.1 Methodology

The methodologies used to assess air quality impacts under CEQA and NEPA are detailed in Appendix B1 and B2. The following types of impacts were analyzed.

- Air pollutant emissions of CO, VOC, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ within the SCAB were estimated for construction and operation of the proposed Project and alternatives. To determine their significance, the proposed Project and alternatives emissions minus the appropriate baseline emissions were compared to Significance Criteria AQ-1 (construction) and AQ-3 (operation) identified in Section 3.2.4.4. The criteria pollutant emission calculations are presented in Appendix B1.
- Dispersion modeling of CO, NO_2, SO_2, PM_{10}, and $PM_{2.5}$ emissions was performed to estimate maximum off-site air pollutant concentrations from emission sources attributed to the proposed Project and alternatives. The predicted ambient concentrations associated with construction and operation of the proposed Project and alternatives were compared to Significance Criteria AQ-2 and AQ-4, respectively. A detailed report of the dispersion modeling methodology is presented in Appendix B2.
- Dispersion modeling of vehicle traffic also was performed for a worst-case roadway intersection affected by proposed Project- or alternative-generated truck and automobile trips. The maximum predicted CO "hot spot" concentrations near the intersection were compared to Significance Criterion AQ-5.
- The potential for proposed Project- or alternative-generated odors at sensitive receptors in the proposed project vicinity was assessed qualitatively and compared to Significance Criterion AQ-6.
- An HRA of toxic air contaminant emissions associated with construction and operation of the proposed Project and alternatives was conducted in accordance with OEHHA's *Guidance Manual for Preparation of Health Risk Assessments* (OEHHA, 2015) and SCAQMD's *Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act* (SCAQMD, 2015c). Maximum predicted health risk values in the communities adjacent to the proposed project site were compared to Significance Criterion AQ-7. The HRA includes an evaluation of individual cancer risk, population cancer burden, chronic noncancer hazard index, and acute noncancer hazard index.
- To better apprise the public and decision makers of the proposed Project's environmental impacts under CEQA, the predicted cancer risk for the proposed Project and alternatives is compared to both a CEQA baseline and a future CEQA baseline. The CEQA baseline cancer risk uses 2013 activity levels and 2013 emission factors. The future CEQA baseline cancer risk also uses 2013 activity levels, but the emission factors vary by year throughout the long exposure periods (2013-2042 for residential and sensitive, and 2013-2037 for occupational) to account for the future beneficial effects of existing air quality regulations. The future CEQA baseline cancer risk is typically lower than the CEQA baseline cancer risk because emission factors for port-related equipment generally decline in the future in response to existing air quality regulations and assumptions regarding equipment fleet turnover. The future CEQA baseline was used only for cancer risk because of the decades-long exposure periods that are unique to cancer risk. All other criteria pollutant concentrations and health risk values modeled in this document are based on durations of a year or less, and therefore are adequately represented by the CEQA baseline. The complete HRA Report is presented in Appendix B3.

- LAHD has developed a methodology for assessing mortality and morbidity in CEQA documents based on the health effects associated with changes in $PM_{2.5}$ concentrations. Because mortality and morbidity studies represent major inputs used by CARB and EPA to set CAAQS and NAAQS, project-level mortality and morbidity is presented in LAHD CEQA documents as a further elaboration of local $PM_{2.5}$ impacts, which are already addressed in Impact AQ-4. Per LAHD policy, mortality and morbidity are quantified if dispersion modeling of ambient air quality concentrations during proposed Project operation (Significance Criterion AQ-4) identify a significant impact for 24-hour $PM_{2.5}$. Mortality and morbidity effects are calculated for the population living inside the 2.5 $\mu g/m^3$ proposed project increment isopleth identified during the dispersion modeling.
- Consistency of the proposed Project and alternatives with the AQMP and CAAP was addressed in accordance with Significance Criterion AQ-8.
- Mitigation measures were applied to proposed project and alternative activities that would exceed a significance criterion prior to mitigation, and then evaluated as to their effectiveness in reducing proposed project or alternative impacts.

The emission estimates, dispersion modeling, and health risk estimates presented in this document were calculated using the latest available data, assumptions, and emission factors at the time this document was prepared. The numerical results presented in the tables of this document were rounded, often to the nearest whole number, for presentation purposes. As a result, the sum of tabular data in the tables could differ slightly from the reported totals. For example, if emissions from Source A equal 1.2 pounds per day (lbs/day) and emissions from Source B equal 1.4 lbs/day, the total emissions from both sources would be 2.6 lbs/day. However, in a table, the emissions would be rounded to the nearest lbs/day, such that Source A would be reported as 1 lbs/day, Source B would be reported as 1 lbs/day, and the total emissions from both sources would be reported as 3 lbs/day. Although the rounded numbers create an apparent discrepancy in the table, the underlying addition is accurate.

3.2.4.2 CEQA Baseline

Section 15125 of the CEQA Guidelines requires EIRs to include a description of the physical environmental conditions in the vicinity of a project that exist at the time of the NOP. These environmental conditions normally would constitute the baseline physical conditions by which the CEQA lead agency determines if an impact is significant. The NOP for the proposed Project was published in October 2014. For purposes of this Draft EIS/EIR, the CEQA baseline takes into account the throughput for the 12-month calendar year preceding NOP publication (January through December 2013) in order to provide a representative characterization of activity levels throughout the complete calendar year preceding release of the NOP.

In 2013, the Everport Container Terminal encompassed approximately 205 acres under its long-term lease, supported eight cranes, and handled approximately 1,240,773 TEUs[4], and 166 vessel calls. The CEQA baseline conditions are also described in Section 2.7.1 and summarized in Table 2-1.

[4] TEU is a unit of cargo capacity based on a standard 20-foot-long intermodal container.

The CEQA baseline represents the setting at a fixed point in time. The CEQA baseline differs from the No Project Alternative (Alternative 2) in that the No Project Alternative addresses what is likely to happen at the proposed project site over time, starting from the existing conditions. Therefore, the No Project Alternative allows for growth at the proposed project site that could be expected to occur without additional approvals, whereas the CEQA baseline does not. For the reasons discussed in Appendix B3, this document analyzes the Project's Health Risk Impacts not only in comparison against the CEQA baseline, but also in comparison against a future CEQA baseline.

Future conditions that could be affected by rules and regulations implemented over time were not considered in this baseline. Only rules and regulations effective by December 31, 2013 were considered in the baseline for the source categories listed. The methodology used to quantify baseline emissions is presented in Section 3.2.4.1, Methodology.

The CEQA baseline included the following emission sources: container ships, tugboats, trucks, locomotives, cargo handling equipment (CHE), employee vehicles, and indirect emissions associated with AMP electricity use. In addition to the TEUs and vessel calls noted above, the CEQA baseline for this Project also included 1,112,551 annual truck trips, 475 annual on-dock train trips, and 110 annual near- and off-dock train trips. The peak day CEQA baseline consists of 4 peak day container ship transits, 4 container ships hoteling, 4,505 truck trips, 1.4 on-dock train trips, and 0.3 near- and off-dock train trip. The annual and peak day terminal and source activity information is presented in Appendix B1 Table 3.1-2 for container ships, Table 3.1-3 for CHE, Table 3.1-4 for trucks, and Table 3.1-5 for trains.

Table 3.2-3 summarizes the peak daily emissions within the SCAB associated with operation of the existing terminal during the baseline year. Baseline peak daily emissions were compared to future proposed project peak daily emissions to determine CEQA significance for the proposed Project and alternatives. Peak daily emissions represent reasonable upper-bound estimates of activity levels at the terminal and would occur infrequently.

Table 3.2-3: Peak Daily Operational Emissions: CEQA Baseline (2013) (lbs/day)

Source Category	PM_{10}	$PM_{2.5}$	NO_X	SO_X	CO	VOC
Ships: Main Propulsion Engines	176	141	6,656	620	864	507
Ships: Aux Engines and Boilers	51	41	1,400	445	121	48
Tugboats	15	13	261	<1	81	28
AMP Electricity Use	2	2	20	8	10	<1
Trucks	148	46	2,293	5	170	62
Line Haul Locomotives	42	39	1,140	2	247	67
Switch Locomotives	<1	<1	16	<1	5	1
Cargo Handling Equipment	20	18	963	2	382	48
Worker Vehicles	9	3	9	<1	89	3
Total	**464**	**303**	**12,759**	**1,083**	**1,969**	**765**

Notes:

- Emissions might not add precisely due to rounding.
- The emission estimates presented in this table were calculated using the latest available data, assumptions, and emission factors at the time this document was prepared. Future studies might use updated data, assumptions, and emission factors that were not available at the time of this document.

3.2.4.3 NEPA Baseline

For purposes of this Draft EIS/EIR, the evaluation of significance under NEPA is defined by comparing the proposed Project or other alternative to the NEPA baseline. The NEPA baseline conditions are described in Section 2.7.2 and summarized in Table 2-1. The NEPA baseline condition for determining significance of impacts includes the full range of construction and operational activities the applicant could implement and is likely to implement absent a federal action, in this case the issuance of a Department of Army (DA) permit from the USACE.

Unlike the CEQA baseline, which is defined by conditions at a point in time, the NEPA baseline is not bound by statute to a "flat" or "no-growth" scenario. Instead, the NEPA baseline is dynamic and includes increases in operations for each study year (2018, 2019, 2026, and 2033/2038), which are projected to occur absent a federal permit. Federal permit decisions focus on direct impacts of the proposed Project on the aquatic environment, as well as indirect and cumulative impacts in the uplands determined to be within the scope of federal control and responsibility. Significance of the proposed Project or the alternatives under NEPA is defined by comparing the proposed Project or the alternatives to the NEPA baseline.

The NEPA baseline, for purposes of this Draft EIS/EIR, is the same as the mitigated No Federal Action Alternative (Alternative 1). Under the No Federal Action Alternative, no dredging, dredged material disposal, in-water pile installation, or raising of existing cranes and new crane installation would occur. The No Federal Action Alternative includes only backlands improvements that could be implemented in the absence of a USACE permit but with local approval. These activities do not change the physical or operational capacity of the existing terminal. The NEPA baseline includes construction mitigation measures MM AQ-2 through MM AQ-6 that were identified under CEQA. These mitigation measures are described in Section 3.2.4.5.

Table 3.2-4 presents the peak day criteria pollutant emissions within the SCAB associated with NEPA baseline construction.

Table 3.2-4: Peak Daily Construction Emissions—NEPA Baseline (lbs/day)

Source Category	PM_{10}	$PM_{2.5}$	NO_X	SO_X	CO	VOC
Construction Year 2018						
Off-road Construction Equipment Exhaust	<1	<1	35	<1	65	11
Marine Source Exhaust	0	0	0	0	0	0
On-Road Construction Vehicles	4	1	39	<1	1	<1
Worker Vehicles	<1	<1	<1	<1	1	<1
Fugitive Emissions	1	<1	0	0	0	<1
Construction Year 2018 Total	**6**	**2**	**74**	**0**	**67**	**11**
Construction Year 2019						
Off-road Construction Equipment Exhaust	<1	<1	22	<1	34	6
Marine Source Exhaust	0	0	0	0	0	0
On-Road Construction Vehicles	4	<1	9	<1	1	<1
Worker Vehicles	<1	<1	<1	<1	1	<1
Fugitive Emissions	<1	<1	0	0	0	<1
Construction Year 2019 Total	**4**	**0**	**30**	**0**	**35**	**6**

Notes:

- Emissions of PM_{10} and $PM_{2.5}$ assume that fugitive dust is controlled in accordance with SCAQMD Rule 403 by watering disturbed areas 3 times per day.
- On-road Construction Vehicle emissions include exhaust, road dust, tire wear, and brake wear emissions from haul trucks and material delivery trucks.
- Worker Vehicle emissions include exhaust, road dust, tire wear, and brake wear emissions from construction worker commute.
- Fugitive emissions include construction dust and asphalt off-gassing.
- Emissions might not add precisely due to rounding.
- The emission estimates presented in this table were calculated using the latest available data, assumptions, and emission factors at the time this document was prepared.

The NEPA baseline assumes that by 2033, the terminal would handle up to approximately 1,818,000 TEUs annually, accommodate 208 annual ship calls, generate 1,189,000 annual trucks trips, generate 1,149 annual on-dock train trips, and generate 229 annual near- and off-dock train trips without any federal action. Peak day activity is presented in Appendix B1 Table 3.1-2 for container ships, Table 3.1-3 for CHE, Table 3.1-4 for trucks, and Table 3.1-5 for trains. Because the NEPA baseline is dynamic, it includes different levels of terminal operations at each of the study years 2018, 2019, 2026, and 2033/2038. The NEPA baseline includes mitigation measures MM AQ-6 and MM AQ-7 that were identified under CEQA for operational years 2019 and beyond. These mitigation measures are described in Section 3.2.4.5.

The peak day operational emissions within the SCAB associated with the NEPA baseline are presented in Table 3.2-5. In addition to accounting for growth in cargo throughput and ship calls, the NEPA baseline emissions account for changes in emission factors due to existing regulations that would reduce future emissions from container ships, trucks, locomotives, and cargo handling equipment, as these sources use cleaner fuels or are replaced over time with newer equipment meeting more stringent emission standards. Peak day emissions represent upper-bound estimates of activity levels at the terminal that would occur infrequently. The future proposed project and alternatives peak day

emissions are compared to the NEPA baseline peak day emissions in Table 3.2-5 to determine significance under NEPA.

Table 3.2-5: Peak Daily Operational Emissions—NEPA Baseline (lbs/day)

Source Category	PM_{10}	$PM_{2.5}$	NO_X	SO_X	CO	VOC
Year 2018						
Ships: Main Propulsion Engines	129	122	7,276	150	849	488
Ships: Aux Engines and Boilers	43	40	1,670	107	152	61
AMP Electricity Use	2	2	17	7	8	<1
Tugboats	2	2	62	<1	131	9
Trucks	139	46	2,383	4	216	71
Line Haul Locomotives	27	25	1,080	1	266	44
Switch Locomotives	<1	<1	16	<1	5	1
Cargo Handling Equipment	3	3	270	2	311	27
Worker Vehicles	17	5	10	<1	109	4
Total Operational Year 2018	**362**	**244**	**12,784**	**271**	**2,048**	**705**
Year 2019						
Ships: Main Propulsion Engines	113	106	6,121	118	794	471
Ships: Aux Engines and Boilers	44	41	1,687	110	154	61
AMP Electricity Use	2	2	18	8	9	<1
Tugboats	2	2	63	<1	134	10
Trucks	162	52	2,646	5	234	73
Line Haul Locomotives	25	23	1,046	1	270	42
Switch Locomotives	<1	<1	16	<1	5	1
Cargo Handling Equipment	3	3	236	2	318	26
Worker Vehicles	17	5	8	<1	87	3
Total Operational Year 2019	**367**	**234**	**11,841**	**244**	**2,006**	**687**
Year 2026						
Ships: Main Propulsion Engines	115	108	5,262	120	811	481
Ships: Aux Engines and Boilers	39	37	1,300	100	138	55
AMP Electricity Use	2	2	17	7	8	<1
Tugboats	2	1	60	0	143	10
Trucks	148	42	959	4	154	32
Line Haul Locomotives	17	16	785	1	303	30
Switch Locomotives	<1	<1	14	<1	6	1
Cargo Handling Equipment	4	3	121	3	437	29
Worker Vehicles	17	5	5	<1	58	2
Total Operational Year 2026	**344**	**215**	**8,523**	**236**	**2,058**	**641**

Table 3.2-5: Peak Daily Operational Emissions—NEPA Baseline (lbs/day)

Source Category	PM_{10}	$PM_{2.5}$	NO_X	SO_X	CO	VOC
Year 2033						
Ships: Main Propulsion Engines	153	144	3,938	159	1,076	638
Ships: Aux Engines and Boilers	41	38	843	100	147	58
AMP Electricity Use	2	2	16	7	8	<1
Tugboats	2	2	85	<1	204	15
Trucks	146	41	718	4	157	28
Line Haul Locomotives	37	34	1,964	5	1,216	72
Switch Locomotives	<1	<1	27	<1	12	2
Cargo Handling Equipment	5	4	133	3	563	36
Worker Vehicles	20	6	4	<1	54	2
Total Operational Year 2033	**405**	**270**	**7,729**	**279**	**3,437**	**852**
Year 2038						
Ships: Main Propulsion Engines	153	144	1,765	159	1,076	638
Ships: Aux Engines and Boilers	41	38	459	100	147	58
AMP Electricity Use	2	2	16	7	8	<1
Tugboats	2	2	77	<1	176	13
Trucks	145	40	646	4	152	26
Line Haul Locomotives	23	21	1,416	5	1,216	53
Switch Locomotives	<1	<1	13	<1	12	1
Cargo Handling Equipment	5	4	129	3	563	36
Worker Vehicles	20	6	3	<1	47	2
Total Operational Year 2038	**390**	**257**	**4,524**	**279**	**3,397**	**827**

Notes:

- On-road vehicle emissions include exhaust, road dust, tire wear, and brake wear emissions.
- Worker vehicles emissions include exhaust, road dust, tire wear, and brake wear emissions.
- AMP electricity use reflects indirect emissions from regional power generation.
- Emissions might not add precisely due to rounding.
- The emission estimates presented in this table were calculated using the latest available data, assumptions, and emission factors at the time this document was prepared.

3.2.4.4 Thresholds of Significance

The following thresholds were used to determine the significance of air quality impacts of the proposed Project and alternatives for CEQA and NEPA. The thresholds were based on the standards established by the City of Los Angeles in the *L.A. CEQA Thresholds Guide* (City of Los Angeles, 2006). The *L.A. CEQA Thresholds Guide* incorporates, by reference, the CEQA Air Quality Handbook and associated significance thresholds developed by the SCAQMD (SCAQMD, 1993 and 2015). For the purposes of this EIS/EIR, USACE has adopted the CEQA thresholds.

Construction Thresholds

The *L.A. CEQA Thresholds Guid*e references the SCAQMD *CEQA Air Quality Handbook* (SCAQMD, 1993) and EPA *AP-42* (EPA, 2011b) for calculating and determining the significance of construction emissions. The SCAQMD significance thresholds are updated as necessary on the SCAQMD web page to address new regulations and standards (SCAQMD, 2015).

Each lead city department has the responsibility to determine the appropriate significance thresholds. The LAHD and the USACE as lead agencies on the EIR and EIS have adopted the following thresholds for this document.

Construction-related air emissions would be considered significant if:

AQ-1: The proposed Project or alternative would result in construction-related peak day emissions that exceed any of the SCAQMD thresholds of significance in Table 3.2-6.

For determining CEQA significance, these thresholds are compared to the peak day proposed Project or alternative construction emissions (because the CEQA baseline construction emissions are zero). For determining NEPA significance, these thresholds are compared to the net change in peak day proposed Project or alternative construction emissions relative to NEPA baseline construction emissions.

Construction and operational emissions overlap during certain analysis years and the combined emissions are evaluated in this document. For determining CEQA significance, these thresholds are compared to the net change in proposed Project or alternative emissions relative to CEQA baseline emissions. For determining NEPA significance, these thresholds are compared to the net change in proposed Project or alternative emissions relative to NEPA baseline emissions.

Table 3.2-6: SCAQMD Thresholds for Construction Emissions

Air Pollutant	Emission Threshold (pounds/day)
Volatile organic compounds (VOC)	75
Carbon monoxide (CO)	550
Nitrogen oxides (NO_X)	100
Sulfur oxides (SO_X)	150
Particulates (PM_{10})	150
Particulates ($PM_{2.5}$)	55

Source: SCAQMD, 2015.

AQ-2: The proposed Project or alternative construction would result in off-site ambient air pollutant concentrations that exceed the SCAQMD thresholds of significance in Table 3.2-7.[5]

Table 3.2-7: SCAQMD Thresholds for Ambient Air Quality Concentrations Associated with Project Construction

Air Pollutant[a]	Construction Ambient Concentration Threshold
Nitrogen Dioxide (NO_2)[b]	
1-hour average (federal)[c]	0.100 ppm (188 µg/m^3)
1-hour average (state)	0.18 ppm (338 µg/m^3)
Annual average (federal)	0.0534 ppm (100 µg/m^3)
Annual average (state)	0.030 ppm (57 µg/m^3)
Sulfur Dioxide (SO_2)	
1-hour average (federal)[d]	0.075 ppm (197 µg/m^3)
1-hour average (state)	0.25 ppm (655 µg/m^3)
24-hour average	0.04 ppm (105 µg/m^3)
Carbon Monoxide (CO)	
1-hour average	20 ppm (23,000 µg/m^3)
8-hour average	9.0 ppm (10,000 µg/m^3)
Particulates (PM_{10} or $PM_{2.5}$)[e]	
24-hour average (PM_{10} and $PM_{2.5}$)	10.4 µg/m^3
Annual average (PM_{10} only)	1.0 µg/m^3

Notes:

[a] The SCAQMD has also established concentration thresholds for sulfates and lead, but construction emissions of these pollutants would be negligible; thus, concentration standards would not be exceeded. The NO_2, SO_2, and CO thresholds are absolute thresholds; the maximum predicted impact from proposed Project and alternatives operations is added to the background concentration and compared to the threshold.

[b] To evaluate proposed project impacts on ambient NO_2 levels, the analysis included the use of both the current SCAQMD NO_2 threshold (0.18 ppm) and the newer, more stringent 1-hour federal ambient air quality standard (0.100 ppm). To attain the federal standard, the 3-year average of the 98th percentile of the daily maximum 1-hour averages at a receptor must not exceed 0.100 ppm.

[c] Federal 1-hour average NO_2 concentration is based on the NAAQS because it is more stringent than the SCAQMD thresholds.

[d] To attain the SO_2 federal 1-hour standard, the 3-year average of the 99th percentile of the daily maximum 1-hour averages at a receptor must not exceed 0.075 ppm.

[e] The PM_{10} and $PM_{2.5}$ thresholds are incremental thresholds; the maximum predicted impact from construction activities (without adding the background concentration) is compared to these thresholds.

Sources: SCAQMD, 2015; EPA, 2016c.

[5]These ambient concentration thresholds target those pollutants the SCAQMD has determined are most likely to cause or contribute to an exceedance of the NAAQS or CAAQS. Although the thresholds represent the levels at which the SCAQMD considers the impacts to be significant, the thresholds are not necessarily the same as the NAAQS or CAAQS.

Operation Thresholds

The *L.A. CEQA Thresholds Guide* provides specific significance thresholds for operational air quality impacts that also are based on SCAQMD standards (City of Los Angeles, 2006). For the purposes of this study, a project would create a significant impact if:

AQ-3: The proposed Project or alternative would result in operational emissions that exceed the SCAQMD peak day emission thresholds of significance in Table 3.2-8.

Table 3.2-8: SCAQMD Thresholds for Operational Emissions

Air Pollutant	Peak Day Emission Threshold (pounds/day)
Volatile organic compounds (VOC)	55
Carbon monoxide (CO)	550
Nitrogen oxides (NO_X)	55
Sulfur oxides (SO_X)	150
Particulates (PM_{10})	150
Particulates ($PM_{2.5}$)	55

Source: SCAQMD, 2015.

AQ-4: Project or alternative operations would result in off-site ambient air pollutant concentrations that exceed any of the SCAQMD thresholds of significance in Table 3.2-9.[6]

[6] These ambient concentration thresholds target those pollutants the SCAQMD has determined are most likely to cause or contribute to an exceedance of the NAAQS or CAAQS. Although the thresholds represent the levels at which the SCAQMD considers the impacts to be significant, the thresholds are not necessarily the same as the NAAQS or CAAQS.

Table 3.2-9: SCAQMD Thresholds for Ambient Air Quality Concentrations Associated with Project Operation

Air Pollutant[a]	Operation Ambient Concentration Threshold
Nitrogen Dioxide (NO_2)[b]	
1-hour average (federal)[c]	0.100 ppm (188 µg/m^3)
1-hour average (state)	0.18 ppm (338 µg/m^3)
Annual average (federal)	0.0534 ppm (100 µg/m^3)
Annual average (state)	0.030 ppm (57 µg/m^3)
Sulfur Dioxide (SO_2)[d]	
1-hour average (federal)[e]	0.075 ppm (197 µg/m^3)
1-hour average (state)	0.25 ppm (655 µg/m^3)
24-hour average	0.04 ppm (105 µg/m^3)
Carbon Monoxide (CO)	
1-hour average	20 ppm (23,000 µg/m^3)
8-hour average	9.0 ppm (10,000 µg/m^3)
Particulates (PM_{10} or $PM_{2.5}$)[f]	
24-hour average (PM_{10} and $PM_{2.5}$)	2.5 µg/m^3
Annual average (PM_{10} only)	1.0 µg/m^3

Notes:

[a] The NO_2, SO_2, and CO thresholds are absolute thresholds; the maximum predicted impact from proposed project and alternatives operations is added to the background concentration and compared to the threshold.

[b] To evaluate proposed project impacts to ambient NO_2 levels, the analysis included the use of both the current SCAQMD NO_2 threshold (0.18 ppm) and the newer, more stringent 1-hour federal ambient air quality standard (0.100 ppm). To attain the federal standard, the 3-year average of the 98th percentile of the daily maximum 1-hour averages at a receptor must not exceed 0.100 ppm.

[c] Federal 1-hour average NO_2 concentration is based on the NAAQS because it is more stringent than the SCAQMD thresholds.

[d] To attain the SO_2 federal 1-hour standard, the 3-year average of the 99th percentile of the daily maximum 1-hour averages at a receptor must not exceed 0.075 ppm.

[e] Federal 1-hour average SO_2 concentration is based on the NAAQS because it is more stringent than the SCAQMD thresholds

[f] The PM_{10} and $PM_{2.5}$ thresholds are incremental thresholds; the maximum predicted impact from operational activities (without adding the background concentration) is compared to these thresholds.

Sources: SCAQMD, 2015; EPA, 2016c.

AQ-5: The proposed project or alternative-generated on-road traffic would result in either of the following conditions at an intersection or roadway within 0.25 mile of a sensitive receptor:

- The proposed Project or alternative causes or contributes to an exceedance of the California 1-hour or 8-hour CO standards of 20 or 9.0 ppm, respectively.
- The incremental increase due to the proposed Project or alternative is equal to or greater than 1.0 ppm for the California 1-hour CO standard, or 0.45 ppm for the 8-hour CO standard.

AQ-6: The proposed Project or alternative would create an objectionable odor at the nearest sensitive receptor.

AQ-7: The proposed Project or alternative would expose receptors to significant levels of toxic air contaminants. The determination of significance will be made as follows:

- Maximum Incremental Cancer Risk is greater than or equal to 10 in 1 million.
- Cancer Burden is greater than 0.5 excess cancer cases in areas where the maximum incremental cancer risk for residential receptors is greater than 1 in one million.
- Noncancer Hazard Index is greater than or equal to 1.0 (project increment).

AQ-8: The proposed Project would conflict with or obstruct implementation of an applicable air quality plan.

3.2.4.5 Impact Determination

Proposed Project

Impact AQ-1: The proposed Project would result in construction-related emissions that exceed an SCAQMD threshold of significance in Table 3.2-6

Table 3.2-10A presents the peak day criteria pollutant emissions associated with construction of the proposed Project, with and without mitigation, including disposal of dredged material at a permitted ocean disposal site. Table 3.2-10B presents the peak day criteria pollutant emissions associated with construction of the proposed Project, with and without mitigation, including disposal of dredged material at an upland (inland) permitted disposal site. Maximum emissions for each construction phase were determined by adding the daily emissions from those construction activities that overlap in the proposed construction schedule (Table 2-2 in Chapter 2). The peak day in 2018 is driven by heavy construction equipment for dredging and tug boats and/or trucks for disposal. The peak day in 2019 occurs when the cargo ship for new crane delivery is operating within the analysis area. The equipment needed to raise up to five of the existing cranes is assumed to arrive via container ships already calling at ther Everport Container Terminal.

The Everport Container Terminal would continue to operate during construction of the proposed Project; construction and operational activities would overlap during this time. Total proposed project emissions from overlapping construction and operational activities are presented to show the overall impacts of the proposed project. Table 3.2-11 presents the overlap of project-related construction and operations during 2018 and 2019, with and without mitigation. Decrease in operation at the port in 2018 during construction results in a reduction of operational emissions. The reduction is high enough to offset the increase in emissions due to construction activities, resulting in a less than significant peak day emissions in 2018, as shown in Table 3.2-11.

Table 3.2-10A: Peak Daily Construction Emissions — Proposed Project — Ocean Disposal (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Construction Year 2018 – Ocean Disposal												
Off-road Construction Equipment Exhaust	7	7	179	<1	93	24	5	5	164	<1	86	24
Marine Source Exhaust	10	9	263	<1	179	14	5	5	212	<1	179	12
On-Road Construction Vehicles	5	1	36	<1	3	1	5	1	41	<1	3	1
Worker Vehicles	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	1	<1
Fugitive Emissions	<1	<1	0	0	0	<1	<1	<1	0	0	0	<1
Construction Year 2018 Total	**22**	**17**	**478**	**1**	**275**	**40**	**16**	**11**	**416**	**1**	**269**	**37**
CEQA Impacts												
CEQA Baseline Emissions	0	0	0	0	0	0	0	0	0	0	0	0
Project Minus CEQA Baseline	22	17	478	1	275	40	16	11	416	1	269	37
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	No	No	No	**Yes**	No	No	No
NEPA Impacts												
NEPA Baseline Emissions	6	2	74	<1	67	11	6	2	74	<1	67	11
Project Minus NEPA Baseline	17	15	405	<1	208	28	10	9	343	<1	201	26
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	No	No	No	**Yes**	No	No	No
Construction Year 2019 – Ocean Disposal												
Off-road Construction Equipment Exhaust	1	1	30	<1	10	1	<1	<1	13	<1	20	2
Marine Source Exhaust	54	50	3,324	89	285	126	54	50	3,321	89	285	125
On-Road Construction Vehicles	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	1
Worker Vehicles	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1
Fugitive Emissions	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Construction Year 2019 Total	**56**	**51**	**3,354**	**89**	**296**	**128**	**54**	**50**	**3,334**	**89**	**305**	**129**
CEQA Impacts												

Table 3.2-10A: Peak Daily Construction Emissions — Proposed Project — Ocean Disposal (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
CEQA Baseline Emissions	0	0	0	0	0	0	0	0	0	0	0	0
Project Minus CEQA Baseline	56	51	3,354	89	296	128	54	50	3,334	89	305	129
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**
NEPA Impacts												
NEPA Baseline Emissions	4	<1	30	<1	35	6	4	<1	30	<1	35	6
Project Minus NEPA Baseline	52	51	3,323	89	261	122	50	50	3,304	89	271	123
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**

Notes:

- On-road Construction Vehicle emissions include exhaust, road dust, tire wear, and brake wear emissions from haul trucks and material delivery trucks.
- Worker Vehicle emissions include exhaust, road dust, tire wear, and brake wear emissions from construction worker commute.
- Fugitive emissions include construction dust and asphalt off-gassing.
- Emissions of PM_{10} and $PM_{2.5}$ assume that fugitive dust is controlled in accordance with SCAQMD Rule 403 by watering disturbed areas 3 times per day, for a control efficiency of 61 percent from uncontrolled levels.
- NEPA baseline emissions are emissions presented in Peak Daily Construction Emissions—NEPA Baseline, Table 3.2-4.
- Emissions might not add precisely due to rounding.

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

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Table 3.2-10B: Peak Daily Construction Emissions — Proposed Project — Upland Disposal (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Construction Year 2018 – Upland Disposal												
Off-road Construction Equipment Exhaust	5	5	154	<1	86	21	5	4	145	<1	82	22
Marine Source Exhaust	2	2	54	<1	36	3	1	1	43	<1	36	2
On-Road Construction Vehicles	13	4	110	<1	5	2	12	3	131	<1	7	3
Worker Vehicles	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	1	<1
Fugitive Emissions	1	<1	0	0	0	<1	1	<1	0	0	0	<1
Construction Year 2018 Total	**21**	**11**	**318**	**1**	**129**	**26**	**19**	**9**	**318**	**1**	**126**	**27**
CEQA Impacts												
CEQA Baseline Emissions	0	0	0	0	0	0	0	0	0	0	0	0
Project Minus CEQA Baseline	21	11	318	1	129	26	19	9	318	1	126	27
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	No	No	No	**Yes**	No	No	No
NEPA Impacts												
NEPA Baseline Emissions	6	2	74	<1	67	11	6	2	74	<1	67	11
Project Minus NEPA Baseline	15	9	245	<1	61	15	13	7	245	<1	59	16
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	No	No	No	**Yes**	No	No	No
Construction Year 2019 – Upland Disposal												
Off-road Construction Equipment Exhaust	1	1	30	<1	10	1	0	0	13	<1	20	2
Marine Source Exhaust	54	50	3,324	89	285	126	54	50	3,321	89	285	125
On-Road Construction Vehicles	<1	<1	<1	<1	1	1	<1	<1	<1	<1	<1	1
Worker Vehicles	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1
Fugitive Emissions	<1	<1	0	0	0	<1	<1	<1	0	0	0	<1
Construction Year 2019 Total	**56**	**51**	**3,354**	**89**	**296**	**128**	**54**	**50**	**3,334**	**89**	**305**	**129**
CEQA Impacts												

Table 3.2-10B: Peak Daily Construction Emissions — Proposed Project — Upland Disposal (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
CEQA Baseline Emissions	0	0	0	0	0	0	0	0	0	0	0	0
Project Minus CEQA Baseline	56	51	3,354	89	296	128	54	50	3,334	89	305	129
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**
NEPA Impacts												
NEPA Baseline Emissions	4	<1	30	<1	35	6	4	<1	30	<1	35	6
Project Minus NEPA Baseline	52	51	3,323	89	261	122	50	50	3,304	89	271	123
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	Yes	No	No	**Yes**	No	No	**Yes**

Notes:

- On-road Construction Vehicle emissions include exhaust, road dust, tire wear, and brake wear emissions from haul trucks and material delivery trucks.
- Worker Vehicle emissions include exhaust, road dust, tire wear, and brake wear emissions from construction worker commute.
- Fugitive emissions include construction dust and asphalt off-gassing.
- Emissions of PM_{10} and $PM_{2.5}$ assume that fugitive dust is controlled in accordance with SCAQMD Rule 403 by watering disturbed areas 3 times per day, for a control efficiency of 61 percent from uncontrolled levels.
- NEPA baseline emissions are emissions presented in Peak Daily Construction Emissions—NEPA Baseline, Table 3.2-4.
- Emissions might not add precisely due to rounding.

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

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Table 3.2-11: Peak Daily Combined Construction and Operational Emissions — Proposed Project (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Construction 2018												
Ocean Disposal	22	17	478	1	275	40	16	11	416	1	269	37
Upland Disposal	21	11	318	1	129	26	19	9	318	1	126	27
Operation 2018												
Ships: Main Propulsion Engines	124	117	6,975	143	814	468	124	117	6,975	143	814	468
Ships: Aux Engines and Boilers	41	39	1,601	102	146	58	41	39	1,601	102	146	58
AMP Electricity Use	2	2	16	7	8	<1	2	2	16	7	8	<1
Tugboats	2	1	60	<1	127	9	2	1	60	<1	127	9
Trucks	139	46	2,383	4	216	71	139	46	2,383	4	216	71
Line Haul Locomotives	26	24	1,022	1	252	42	26	24	1,022	1	252	42
Switch Locomotives	<1	<1	15	<1	5	1	<1	<1	15	<1	5	1
Cargo Handling Equipment	3	3	262	2	302	26	3	3	262	2	302	26
Worker Vehicles	17	5	10	<1	109	4	17	5	10	<1	109	4
Total Construction (Ocean Disposal) and Operation Year 2018	**375**	**252**	**12,823**	**261**	**2,254**	**719**	**369**	**246**	**12,761**	**261**	**2,247**	**716**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Project Minus CEQA Baseline	-89	-51	64	-822	285	-47	-95	-57	2	-822	278	-49
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	No	No	No	No	No	No	No	No	No	No
NEPA Impacts												
NEPA Baseline Emissions	367	245	12,858	271	2,115	717	367	245	12,858	271	2,115	717
Project Minus NEPA Baseline	8	7	-35	-11	138	2	2	1	-97	-11	131	0
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	No	No	No	No	No	No	No	No	No	No
Total Construction (Upland Disposal) and Operation Year 2018	**374**	**246**	**12,663**	**261**	**2,107**	**705**	**372**	**244**	**12,663**	**261**	**2,104**	**707**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Project Minus CEQA Baseline	-90	-57	-96	-822	138	-60	-92	-59	-96	-822	136	-59
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75

Table 3.2-11: Peak Daily Combined Construction and Operational Emissions — Proposed Project (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Significant?	No	No	No	No	No	No	No	No	No	No	No	No
NEPA Impacts												
NEPA Baseline Emissions	367	245	12,858	271	2,115	717	367	245	12,858	271	2,115	717
Project Minus NEPA Baseline	7	1	-195	-11	-8	-11	5	-1	-195	-11	-11	-10
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	No	No	No	No	No	No	No	No	No	No
Construction 2019												
Ocean/Upland Disposal	56	51	3,354	89	296	128	54	50	3,334	89	305	129
Operation 2019												
Ships: Main Propulsion Engines	127	119	7,113	146	834	480	111	105	6,068	118	779	460
Ships: Aux Engines and Boilers	42	40	1,695	101	154	61	35	33	1,345	90	123	49
AMP Electricity Use	1	1	10	4	5	<1	2	2	17	7	8	<1
Tugboats	2	2	63	<1	134	10	2	2	63	<1	134	10
Trucks	164	53	2,664	5	235	73	164	53	2,664	5	235	73
Line Haul Locomotives	27	25	1,099	1	284	44	27	25	1,099	1	284	44
Switch Locomotives	<1	<1	16	<1	5	1	<1	<1	16	<1	5	1
Cargo Handling Equipment	4	3	306	2	393	34	4	3	306	2	393	34
Worker Vehicles	17	5	8	<1	88	3	17	5	8	<1	88	3
Total Construction and Operation Year 2019	**438**	**299**	**16,329**	**350**	**2,427**	**834**	**416**	**277**	**14,921**	**313**	**2,354**	**804**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Project Minus CEQA Baseline	-25	-4	3,571	-733	459	69	-48	-26	2,162	-770	385	39
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	No	No	No	**Yes**	No	No	No
NEPA Impacts												
NEPA Baseline Emissions	371	234	11,871	244	2,041	693	371	234	11,871	244	2,041	693
Project Minus NEPA Baseline	67	64	4,459	106	387	142	45	43	3,050	69	313	111
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	**Yes**	**Yes**	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**

Notes:

Table 3.2-11: Peak Daily Combined Construction and Operational Emissions — Proposed Project (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**

- Emissions assume the simultaneous occurrence of maximum daily emissions for each source category. Such levels would rarely occur during day-to-day terminal operations.
- Truck, train, ship, and worker commute emissions include transport within the South Coast Air Basin.
- AMP electricity use reflects indirect emissions from regional power generation.
- Emissions reflect the maximum of upland and marine emissions associated with the disposal of dredged materials (see Appendix B1, Methodology).
- NEPA baseline emissions include the NEPA baseline construction emissions plus the NEPA baseline operational emissions, presented in Table 3.2-4 and Table 3.2-5.
- Emissions might not precisely add due to rounding.

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

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CEQA Impact Determination

Tables 3.2-10A and 3.2-10B show that unmitigated peak daily construction emissions would exceed the SCAQMD daily emission thresholds for NO_X under CEQA during 2018 and 2019. Construction emissions would also exceed the SCAQMD daily emission thresholds for VOC during the 2019 construction year. Therefore, unmitigated proposed project construction emissions would be significant under CEQA for NO_X and VOC prior to mitigation.

The largest contributors to peak day construction emissions in 2018 are marine sources (including tugboats used to assist dredging barges and dive boats), followed by off-road construction equipment (including dredging equipment). The largest contributors to peak day construction emissions in 2019 are ships used to deliver new cranes.

Table 3.2-11 shows that overlapping construction and operational emissions in 2018 would not exceed the SCAQMD daily emission thresholds for construction. However, construction and operational emissions in 2019 exceed the SCAQMD daily emission thresholds for construction for NO_X. Therefore, impacts would be significant during the peak year of construction and operational overlap under CEQA.

Mitigation Measures

The following mitigation measures would reduce criteria pollutant emissions associated with proposed project construction. These mitigation measures would be implemented by the responsible parties identified in Section 3.2.4.7. Tables 3.2-10A and 3.2-10B present the peak day criteria pollutant emissions associated with construction of the proposed Project after the application of mitigation measures MM AQ-1 through MM AQ-5. Table 3.2-11 presents the peak day combined construction and operational emissions after the application of mitigation measures MM AQ-1 through MM AQ-5.

MM AQ-1: **Harbor Craft Used During Construction.** Harbor craft used during construction must be equipped with U.S. Environmental Protection Agency (EPA) Tier 3 engine standards or cleaner at all times during construction.

MM AQ-2: **On-road Trucks Used during Construction.** On-road trucks shall comply with EPA 2010 on-road emission standards or better, unless contractor can reasonably demonstrate that such equipment is unavailable to the satisfaction of LAHD.

MM AQ-3: **Non-Road Construction Equipment** (except vessels, harbor craft, on-road trucks, and dredging equipment). All non-road construction equipment greater than 50 hp must meet EPA Tier 4 emission standards, unless contractor can reasonably demonstrate that such equipment is unavailable to the satisfaction of LAHD.

MM AQ-4: **Cargo Ships Used During Construction.** All ships and barges used primarily to deliver construction-related materials or cranes shall comply with the expanded Vessel Speed Reduction

Program (VSRP) of 12 knots between 40 nautical miles (nm) from Point Fermin and the Precautionary Area.

MM AQ-5: **General Construction Mitigation Measure.** For MM AQ-1 through MM AQ-4, if a CARB-certified technology becomes available that is as good as or better than the existing measure in terms of emissions performance, the technology could replace the existing technology if approved by LAHD.

Residual Impacts

Emissions from construction of the proposed Project would be reduced with mitigation but would remain significant and unavoidable under CEQA for NO_X in 2018 and for NO_X and VOC in 2019. In addition, although emissions from overlapping construction and operation would be reduced with mitigation, they would remain significant and unavoidable under CEQA for NO_X during the year of peak daily emissions, 2019.

NEPA Impact Determination

Tables 3.2-10A and 3.2-10B show that unmitigated peak daily construction emissions would exceed the SCAQMD daily thresholds for NO_X under NEPA in 2018 and exceed thresholds for NOx and VOC under NEPA in 2019. Therefore, unmitigated proposed project construction emissions would be significant under NEPA for NO_X and VOC prior to mitigation.

Table 3.2-11 shows that overlapping construction and operational emissions during 2019, the year of peak daily construction emissions, would exceed the SCAQMD daily emission thresholds for construction for $PM_{2.5}$, NO_X, and VOC. Therefore, impacts would be significant during the peak year of construction and operational overlap under NEPA.

Mitigation Measures

Tables 3.2-10A and 3.2-10B present the peak day criteria pollutant emissions associated with construction of the proposed Project, after the application of MM AQ-1 through MM AQ-5. Table 3.2-11 presents the peak daily combined construction and operational emissions after the application of MM AQ-1 through MM AQ-5.

Residual Impacts

Emissions from construction of the proposed Project would be reduced with mitigation but would remain significant and unavoidable under NEPA for NO_X, in 2018 and for NO_X and VOC in 2019. In addition, emissions of $PM_{2.5}$ from overlapping construction and operation would be reduced to less than significant levels but emissions of NO_X and VOC emissions would remain significant and unavoidable under NEPA for NO_X and VOC during the 2019 peak day.

Impact AQ-2: Proposed project construction would result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.2-7.

Dispersion modeling of on-site construction emissions was performed to assess the impact of the proposed Project on local ambient air concentrations. A summary of the dispersion modeling results is presented here; the complete dispersion modeling report is included in Appendix B2.

CEQA Impact Determination

Table 3.2-12 presents the maximum off-site ground level concentrations of NO_2, SO_2, and CO from construction with and without mitigation. Maximum concentrations for NO_2 and CO from construction occur in 2018, and the maximum concentrations for SO_2 from construction occur in 2019. Table 3.2-13 presents the maximum off-site ground level concentrations of PM_{10} and $PM_{2.5}$ from construction with and without mitigation. Maximum concentrations for PM_{10} and $PM_{2.5}$ from construction occur in 2018. Table 3.2-14 presents maximum off-site ground level concentrations of NO_2, SO_2, and CO when peak construction activity would overlap with terminal operations with and without mitigation. Table 3.2-15 presents the maximum off-site ground level concentrations of PM_{10} and $PM_{2.5}$ when peak construction activity would overlap with terminal operations with and without mitigation. As seen before with emissions, where decrease in operation at the port in 2018 during construction resulted in a reduction of total emissions from construction and operations, lower concentrations were predicted for some pollutants when construction and operational sources were both modeled.

Table 3.2-12: Maximum Off-site Ambient NO_2, SO_2, and CO Concentrations (CEQA) — Proposed Project Construction

Pollutant	Averaging Time	Background Concentration (ppm)[c,d]	Maximum Unmitigated Modeled Project Concentration (ppm)[d]	Total Unmitigated Ground-Level Concentration (ppm)[d]	Maximum Mitigated Modeled Project Concentration (ppm)[d]	Total Mitigated Ground-Level Concentration (ppm)[d]	SCAQMD Threshold (ppm)	Unmitigated Concentration above Threshold?	Mitigated Concentration above Threshold?
NO_2	Federal 1-hour[a]	0.088	0.056	**0.144**	0.053	**0.141**	0.100	**Yes**	**Yes**
	State 1-hour	0.11	0.06	0.18	-	-	0.18	No	-
	Federal annual	0.017	0.004	0.021	-	-	0.053	No	-
	State annual	0.017	0.004	0.021	-	-	0.030	No	-
SO_2	Federal 1-hour[b]	0.038	0.0001	0.038	-	-	0.075	No	-
	State 1-hour	0.05	0.0001	0.05	-	-	0.25	No	-
	24-hour	0.01	0.00004	0.02	-	-	0.04	No	-
CO	1-hour	7	0.1	7	-	-	20 / 35	No	-
	8-hour	1.8	0.1	1.9	-	-	9.0	No	-

Notes:

[a] The federal 1-hour NO_2 modeled concentration represents the 98th percentile of the daily maximum 1-hour averages.

[b] The federal 1-hour SO_2 modeled concentration represents the 99th percentile of the daily maximum 1-hour averages.

[c] The background concentrations for NO_2, SO_2, and CO were obtained from the TITP station.

[d] Exceedances of the thresholds are indicated in **bold**.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-13: Maximum Off-site Ambient PM_{10} and $PM_{2.5}$ Concentrations (CEQA) — Proposed Project Construction

Pollutant	Averaging Time	Maximum Modeled Concentration of CEQA Baseline ($\mu g/m^3$)	Maximum Unmitigated Modeled Concentration of Proposed Project ($\mu g/m^3$)	Maximum Mitigated Modeled Concentration of Proposed Project ($\mu g/m^3$)	Unmitigated Ground-Level Concentration CEQA Increment ($\mu g/m^3$)[a,b]	Mitigated Ground-Level Concentration CEQA Increment ($\mu g/m^3$)[a,b]	SCAQMD Threshold ($\mu g/m^3$)	Unmitigated CEQA Concentration above Threshold?	Mitigated CEQA Concentration above Threshold?
PM_{10}	24-hour	0.0	3.8	-	3.8	-	10.4	No	-
	Annual	0.0	0.8	-	0.8	-	1.0	No	-
$PM_{2.5}$	24-hour	0.0	3.2	-	3.2	-	10.4	No	-

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The CEQA increment represents the proposed Project minus CEQA baseline. Because the CEQA baseline for construction is zero, the CEQA increment equals the maximum modeled concentration.

[c] The maximum modeled project concentration, maximum modeled baseline concentrations, and maximum concentration increments may occur at different receptors. Therefore, the modeled project and baseline concentrations in the table may not necessarily subtract to equal the increment.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-14: Maximum Off-site Ambient NO_2, SO_2, and CO Concentrations (CEQA) — Proposed Project Combined Construction and Operation

Pollutant	Averaging Time	Background Concentration (ppm)[c,d]	Maximum Unmitigated Modeled Project Concentration Interval (ppm)[d]	Total Unmitigated Ground-Level Concentration (ppm)[d]	Maximum Mitigated Modeled Project Concentration (ppm)[d]	Total Mitigated Ground-Level Concentration (ppm)[d]	SCAQMD Threshold (ppm)	Unmitigated Concentration above Threshold?	Mitigated Concentration above Threshold?
NO_2	Federal 1-hour[a]	0.088	0.031	**0.119**	0.031	**0.119**	0.100	**Yes**	**Yes**
	State 1-hour	0.11	0.04	0.16	-	-	0.18	No	-
	Federal annual	0.017	0.0004	0.018	-	-	0.053	No	-
	State annual	0.017	0.0004	0.018	-	-	0.030	No	-
SO_2	Federal 1-hour[b]	0.038	-0.00003	0.038	-	-	0.075	No	-
	State 1-hour	0.05	0.0001	0.05	-	-	0.25	No	-
	24-hour	0.01	-0.00002	0.01	-	-	0.04	No	-
CO	1-hour	7	0.1	7	-	-	20 / 35	No	-
	8-hour	1.8	0.1	1.9	-	-	9.0	No	-

Notes:

[a] The federal 1-hour NO_2 modeled concentration represents the 98th percentile of the daily maximum 1-hour averages.

[b] The federal 1-hour SO_2 modeled concentration represents the 99th percentile of the daily maximum 1-hour averages.

[c] The background concentrations for NO_2, SO_2, and CO were obtained from the TITP station.

[d] The maximum modeled concentration increment represents proposed project construction plus operations minus 2013 CEQA baseline terminal operations.

[e] Exceedances of the thresholds are indicated in **bold.**

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-15: Maximum Off-site Ambient PM_{10} and $PM_{2.5}$ Concentrations (CEQA) — Proposed Project Combined Construction and Operation

Pollutant	Averaging Time	Maximum Modeled Concentration of CEQA Baseline ($\mu g/m^3$)	Maximum Unmitigated Modeled Concentration of Proposed Project ($\mu g/m^3$)	Maximum Mitigated Modeled Concentration of Proposed Project ($\mu g/m^3$)	Unmitigated Ground-Level Concentration CEQA Increment ($\mu g/m^3$)[a,b]	Mitigated Ground-Level Concentration CEQA Increment ($\mu g/m^3$)[a,b]	SCAQMD Threshold ($\mu g/m^3$)	Unmitigated CEQA Concentration above Threshold?	Mitigated CEQA Concentration above Threshold?
PM_{10}	24-hour	8.2	24.0	23.9	**18.0**	**17.9**	10.4	**Yes**	**Yes**
	Annual	3.8	14.7	14.7	**12.3**	**12.3**	1.0	**Yes**	**Yes**
$PM_{2.5}$	24-hour	4.0	6.5	-	3.7	-	10.4	No	-

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The CEQA increment represents the proposed Project minus CEQA baseline. Because the CEQA baseline for construction is zero, the CEQA increment equals the maximum modeled concentration.

[c] The maximum modeled project concentration, maximum modeled baseline concentrations, and maximum concentration increments may occur at different receptors. Therefore, the modeled project and baseline concentrations in the table may not necessarily subtract to equal the increment.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-12 shows that the maximum off-site NO_2 (federal 1-hour average) concentration from construction activities would exceed SCAQMD thresholds. Table 3.2-13 shows that the maximum off-site incremental PM_{10} and $PM_{2.5}$ concentrations from construction activities would not exceed SCAQMD thresholds for any averaging period. Therefore, without mitigation, maximum off-site ambient pollutant concentrations associated with the construction of the proposed Project would be significant under CEQA for NO_2 (federal 1-hour average).

Table 3.2-14 shows that the maximum off-site NO_2 (federal 1-hour average) concentration from overlapping construction and operational activities would exceed the SCAQMD threshold. Table 3.2-15 shows that the maximum off-site incremental PM_{10} (24-hour and annual average) concentrations from overlapping construction and operational activities would exceed SCAQMD thresholds. Therefore, without mitigation, maximum off-site ambient pollutant concentrations associated with the combined construction and operation of the proposed Project would be significant under CEQA for NO_2 (federal 1-hour average) and PM_{10} (24-hour and annual average).

Mitigation Measures

To reduce the level of impact during construction, MM AQ-1 through MM AQ-5 would be applied. These mitigation measures would be implemented by the responsible parties identified in Section 3.2.4.7.

Table 3.2-12 presents the maximum off-site ground level concentration of federal 1-hour average NO_2 from construction with mitigation. Table 3.2-14 presents the maximum concentration of federal 1-hour average NO_2 when peak construction activity with mitigation would overlap with terminal operations. Table 3.2-15 presents the maximum concentration of 24-hour and annual average PM_{10} when peak construction activity with mitigation would overlap with terminal operations.

Residual Impacts

Table 3.2-12 shows that the maximum off-site federal 1-hour NO_2 concentration would be reduced with mitigation but would remain significant. Therefore, with mitigation, maximum off-site ambient pollutant concentrations associated with the construction of the proposed Project would be significant and unavoidable under CEQA for NO_2 (federal 1-hour average).

Table 3.2-14 shows that the maximum off-site federal 1-hour NO_2 concentration from overlapping construction and operational activities would be reduced with mitigation but would remain significant. Table 3.2-15 shows that the maximum off-site incremental PM_{10} (24-hour and annual average) concentration from overlapping construction and operational activities would be reduced with mitigation but would remain significant. Therefore, following mitigation, maximum off-site ambient pollutant concentrations associated with the combined construction and operation of the proposed Project would be significant and unavoidable under CEQA for NO_2 (federal 1-hour average) and PM_{10} (24-hour and annual average).

NEPA Impact Determination

Table 3.2-16 presents the maximum off-site ground level concentrations of NO_2, SO_2, and CO from construction with and without mitigation. Table 3.2-17 presents the maximum off-site ground level concentrations of PM_{10} and $PM_{2.5}$ from construction with and without mitigation. Table 3.2-18 presents maximum off-site ground level concentrations of NO_2, SO_2, and CO when peak construction activity would overlap with terminal operations with and without mitigation. Table 3.2-19 presents the maximum off-site ground level concentrations of PM_{10} and $PM_{2.5}$ when peak construction activity would overlap with terminal operations with and without mitigation. As seen before with emissions, where decrease in operation at the port in 2018 during construction resulted in a reduction of total emissions from construction and operations, lower concentrations were predicted for some pollutants when construction and operational sources were both modeled.

Table 3.2-16: Maximum Off-site Ambient NO_2, SO_2, and CO Concentrations (NEPA) — Proposed Project Construction

Pollutant	Averaging Time	Background Concentration (ppm)[c,d]	Maximum Unmitigated Modeled Project Concentration (ppm)[d]	Total Unmitigated Ground-Level Concentration (ppm)[d]	Maximum Mitigated Modeled Project Concentration (ppm)[d]	Total Mitigated Ground-Level Concentration (ppm)[d]	SCAQMD Threshold (ppm)	Unmitigated Concentration above Threshold?	Mitigated Concentration above Threshold?
NO_2	Federal 1-hour[a]	0.088	0.053	**0.141**	0.050	**0.138**	0.100	**Yes**	**Yes**
	State 1-hour	0.11	0.06	0.17	-	-	0.18	No	-
	Federal annual	0.017	0.001	0.018	-	-	0.053	No	-
	State annual	0.017	0.001	0.018	-	-	0.030	No	-
SO_2	Federal 1-hour[b]	0.038	0.0001	0.038	-	-	0.075	No	-
	State 1-hour	0.05	0.0001	0.05	-	-	0.25	No	-
	24-hour	0.01	0.00004	0.015	-	-	0.04	No	-
CO	1-hour	7	0.1	7	-	-	20 / 35	No	-
	8-hour	1.8	0.1	1.9	-	-	9.0	No	-

Notes:

[a] The federal 1-hour NO_2 modeled concentration represents the 98th percentile of the daily maximum 1-hour averages.

[b] The federal 1-hour SO_2 modeled concentration represents the 99th percentile of the daily maximum 1-hour averages.

[c] The background concentrations for NO_2, SO_2, and CO were obtained from the TITP station.

[d] Exceedances of the thresholds are indicated in **bold**.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

1

Table 3.2-17: Maximum Off-site Ambient PM_{10} and $PM_{2.5}$ Concentrations (NEPA) — Proposed Project Construction

Pollutant	Averaging Time	Maximum Modeled Concentration of NEPA Baseline ($\mu g/m^3$)	Maximum Unmitigated Modeled Concentration of Proposed Project ($\mu g/m^3$)	Maximum Mitigated Modeled Concentration of Proposed Project ($\mu g/m^3$)	Unmitigated Ground-Level Concentration NEPA Increment ($\mu g/m^3$)[a,b]	Mitigated Ground-Level Concentration NEPA Increment ($\mu g/m^3$)[a,b]	SCAQMD Threshold ($\mu g/m^3$)	Unmitigated NEPA Concentration above Threshold?	Mitigated NEPA Concentration above Threshold?
PM_{10}	24-hour	1.7	3.8	-	2.8	-	10.4	No	-
	Annual	0.3	0.8	-	0.5	-	1.0	No	-
$PM_{2.5}$	24-hour	0.4	3.2	-	2.9	-	10.4	No	-

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The NEPA increment represents the proposed Project minus NEPA baseline.

[c] The maximum modeled project concentration, maximum modeled baseline concentrations, and maximum concentration increments may occur at different receptors. Therefore, the modeled project and baseline concentrations in the table may not necessarily subtract to equal the increment.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

1

Table 3.2-18: Maximum Off-site Ambient NO_2, SO_2, and CO Concentrations (NEPA) — Proposed Project Combined Construction and Operation

Pollutant	Averaging Time	Background Concentration (ppm)[c,d]	Maximum Unmitigated Modeled Project Concentration Interval (ppm)[d]	Total Unmitigated Ground-Level Concentration (ppm)[d]	Maximum Mitigated Modeled Project Concentration (ppm)[d]	Total Mitigated Ground-Level Concentration (ppm)[d]	SCAQMD Threshold (ppm)	Unmitigated Concentration above Threshold?	Mitigated Concentration above Threshold?
NO_2	Federal 1-hour[a]	0.088	0.030	**0.118**	0.028	**0.116**	0.100	**Yes**	**Yes**
	State 1-hour	0.11	0.04	0.15	-	-	0.18	No	-
	Federal annual	0.017	0.002	0.019	-	-	0.053	No	-
	State annual	0.017	0.002	0.019	-	-	0.030	No	-
SO_2	Federal 1-hour[b]	0.038	0.0004	0.038	-	-	0.075	No	-
	State 1-hour	0.05	0.0004	0.05	-	-	0.25	No	-
	24-hour	0.01	0.0001	0.02	-	-	0.04	No	-
CO	1-hour	7	0.1	7	-	-	20 / 35	No	-
	8-hour	1.8	0.1	1.9	-	-	9.0	No	-

Notes:

[a] The federal 1-hour NO_2 modeled concentration represents the 98th percentile of the daily maximum 1-hour averages.

[b] The federal 1-hour SO_2 modeled concentration represents the 99th percentile of the daily maximum 1-hour averages.

[c] The background concentrations for NO_2, SO_2, and CO were obtained from the TITP station.

[d] The maximum modeled concentration increment represents proposed project construction plus operations minus 2013 CEQA baseline terminal operations.

[e] Exceedances of the thresholds are indicated in **bold.**

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

1

Table 3.2-19: Maximum Off-site Ambient PM_{10} and $PM_{2.5}$ Concentrations (NEPA) — Proposed Project Combined Construction and Operation

Pollutant	Averaging Time	Maximum Modeled Concentration of NEPA Baseline (µg/m^3)	Maximum Unmitigated Modeled Concentration of Proposed Project (µg/m^3)	Maximum Mitigated Modeled Concentration of Proposed Project (µg/m^3)	Unmitigated Ground-Level Concentration NEPA Increment (µg/m^3)[a,b]	Mitigated Ground-Level Concentration NEPA Increment (µg/m^3)[a,b]	SCAQMD Threshold (µg/m^3)	Unmitigated NEPA Concentration above Threshold?	Mitigated NEPA Concentration above Threshold?
PM_{10}	24-hour	24.8	24.0	-	2.6	-	10.4	No	-
	Annual	15.0	14.7	-	0.1	-	1.0	No	-
$PM_{2.5}$	24-hour	7.1	6.5	-	2.4	-	10.4	No	-

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The NEPA increment represents proposed Project minus NEPA baseline.

[c] The maximum modeled project concentration, maximum modeled baseline concentrations, and maximum concentration increments may occur at different receptors. Therefore, the modeled project and baseline concentrations in the table may not necessarily subtract to equal the increment.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

1

Table 3.2-16 shows that the maximum off-site NO_2 (federal 1-hour average) concentration from construction activities would exceed SCAQMD thresholds. Table 3.2-17 shows that the maximum off-site incremental PM_{10} and $PM_{2.5}$ concentrations from construction activities would not exceed SCAQMD thresholds for any averaging period. Therefore, without mitigation, maximum off-site ambient pollutant concentrations associated with the construction of the proposed Project would be significant under NEPA for NO_2 (federal 1-hour average).

Table 3.2-18 shows that the maximum off-site NO_2 (federal 1-hour average) concentration from overlapping construction and operational activities would exceed SCAQMD thresholds. Table 3.2-19 shows that the maximum off-site incremental PM_{10} and $PM_{2.5}$ concentrations from overlapping construction and operational activities would not exceed SCAQMD thresholds for any averaging period. Therefore, without mitigation, maximum off-site ambient pollutant concentrations associated with the combined construction and operation of the proposed Project would be significant under NEPA for NO_2 (federal 1-hour average).

Mitigation Measures

Table 3.2-16 presents the maximum off-site ground level concentration of federal 1-hour NO_2 from construction with mitigation (MM AQ-1 through MM AQ-5). Table 3.2-18 presents concentration of federal 1-hour NO_2 when peak construction activity would overlap with terminal operations with mitigation.

Residual Impacts

Table 3.2-16 shows that the maximum off-site federal 1-hour NO_2 concentration would be reduced with mitigation but would remain significant. Therefore, with mitigation, maximum off-site ambient pollutant concentrations associated with construction of the proposed Project would be significant and unavoidable under NEPA for NO_2 (federal 1-hour average).

Table 3.2-18 shows that the maximum off-site state 1-hour NO_2 concentration from overlapping construction and operational activities would be reduced with mitigation but would remain significant. Therefore, with mitigation, maximum off-site ambient pollutant concentrations associated with overlapping construction and operation of the proposed Project would be significant and unavoidable under NEPA for NO_2 (federal 1-hour average).

Impact AQ-3: The proposed Project would result in operational emissions that exceed an SCAQMD threshold of significance in Table 3.2-8.

Table 3.2-20 presents unmitigated peak daily criteria pollutant emissions associated with operation of the proposed Project. Emissions were estimated for proposed project operational study years: 2019, 2026, 2033, and 2038. Peak daily emissions represent upper-bound estimates of activity levels at the terminal and as such would occur infrequently. Comparisons to the CEQA and NEPA baseline emissions are presented to determine CEQA and NEPA significance, respectively. Proposed Project source characteristics, activity levels, fuel sulfur content, emission factors, and other parameters assumed in the operational emissions are discussed in detail in Appendix B1 Table 3.1-2 for container ships, Table 3.1-3 for CHE, Table 3.1-4 for trucks, and Table 3.1-5 for trains.

Table 3.2-20: Peak Daily Operational Emissions — Proposed Project (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Year 2019												
Ships: Main Propulsion Engines	127	119	7,113	146	834	480	111	105	6,068	118	779	460
Ships: Aux Engines and Boilers	42	40	1,695	101	154	61	35	33	1,345	90	123	49
AMP Electricity Use	1	1	10	4	5	0	2	2	17	7	8	0
Tugboats	2	2	63	0	134	10	2	2	63	0	134	10
Trucks	164	53	2,664	5	235	73	164	53	2,664	5	235	73
Line Haul Locomotives	27	25	1,099	1	284	44	27	25	1,099	1	284	44
Switch Locomotives	0	0	16	0	5	1	0	0	16	0	5	1
Cargo Handling Equipment	4	3	306	2	393	34	4	3	306	2	393	34
Worker Vehicles	17	5	8	0	88	3	17	5	8	0	88	3
Total Operational Year 2019	**383**	**247**	**12,976**	**260**	**2,131**	**706**	**361**	**227**	**11,586**	**224**	**2,049**	**675**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Project Minus CEQA Baseline	-81	-56	217	-822	163	-59	-102	-76	-1,172	-859	80	-91
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	**Yes**	No	No	No	No	No	No	No	No	No
NEPA Impacts												
NEPA Baseline Emissions	367	234	11,841	244	2,006	687	367	234	11,841	244	2,006	687
Project Minus NEPA Baseline	16	13	1,135	17	126	19	-6	-7	-254	-20	43	-12
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	**Yes**	No	No	No	No	No	No	No	No	No
Year 2026												
Ships: Main Propulsion Engines	132	124	7,148	150	876	506	117	110	5,576	122	822	487
Ships: Aux Engines and Boilers	50	47	1,942	117	185	73	43	41	1,487	107	154	61
AMP Electricity Use	2	2	23	10	11	1	3	3	29	12	14	1
Tugboats	2	1	60	0	143	10	2	1	60	0	143	10
Trucks	191	54	1,231	6	198	42	191	54	1,231	6	198	42
Line Haul Locomotives	26	24	1,191	2	459	45	26	24	1,191	2	459	45
Switch Locomotives	0	0	18	0	7	1	0	0	18	0	7	1
Cargo Handling Equipment	5	4	158	3	552	38	5	4	158	3	552	38
Worker Vehicles	20	6	5	0	68	3	20	6	5	0	68	3
Total Operational Year 2026	**427**	**263**	**11,777**	**288**	**2,500**	**719**	**406**	**243**	**9,756**	**252**	**2,418**	**688**
CEQA Impacts												

Table 3.2-20: Peak Daily Operational Emissions — Proposed Project (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Project Minus CEQA Baseline	-36	-40	-982	-794	531	-46	-58	-60	-3,002	-831	449	-77
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	No	No	No	No	No	No	No	No	No	No
NEPA Impacts												
NEPA Baseline Emissions	344	215	8,523	236	2,058	641	344	215	8,523	236	2,058	641
Project Minus NEPA Baseline	83	48	3,255	53	442	79	62	28	1,234	16	360	48
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**	No	No	No
Year 2033												
Ships: Main Propulsion Engines	190	178	10,544	226	1,216	692	156	146	4,915	162	1,095	649
Ships: Aux Engines and Boilers	46	43	1,854	102	176	69	43	41	1,093	100	162	64
AMP Electricity Use	1	1	12	5	6	0	2	2	17	7	8	0
Tugboats	2	2	85	0	204	15	2	2	85	0	204	15
Trucks	209	58	1,030	6	224	40	209	58	1,030	6	224	40
Line Haul Locomotives	58	53	3,125	8	1,935	115	58	53	3,125	8	1,935	115
Switch Locomotives	1	1	41	0	16	2	1	1	41	0	16	2
Cargo Handling Equipment	6	5	172	4	713	48	6	5	172	4	713	48
Worker Vehicles	24	7	4	0	64	3	24	7	4	0	64	3
Total Operational Year 2033	**537**	**349**	**16,869**	**351**	**4,554**	**985**	**500**	**315**	**10,483**	**288**	**4,421**	**936**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Project Minus CEQA Baseline	73	46	4,110	-731	2,585	220	37	12	-2,276	-795	2,452	171
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	**Yes**	No	**Yes**	**Yes**	No	No	No	No	**Yes**	**Yes**
NEPA Impacts												
NEPA Baseline Emissions	405	270	7,729	279	3,437	852	405	270	7,729	279	3,437	852
Project Minus NEPA Baseline	132	79	9,140	72	1,117	133	96	45	2,753	9	984	85
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	**Yes**	**Yes**	No	**Yes**	**Yes**	No	No	**Yes**	No	**Yes**	**Yes**
Year 2038												
Ships: Main Propulsion Engines	190	178	10,544	226	1,216	692	156	146	3,042	162	1,095	649

Table 3.2-20: Peak Daily Operational Emissions — Proposed Project (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Ships: Aux Engines and Boilers	46	43	1,854	102	176	69	43	41	745	100	162	64
AMP Electricity Use	1	1	12	5	6	0	2	2	17	7	8	0
Tugboats	2	2	77	0	176	13	2	2	77	0	176	13
Trucks	209	58	929	6	216	37	209	58	929	6	216	37
Line Haul Locomotives	36	33	2,253	8	1,935	84	36	33	2,253	8	1,935	84
Switch Locomotives	0	0	23	0	16	1	0	0	23	0	16	1
Cargo Handling Equipment	6	5	166	4	713	48	6	5	166	4	713	48
Worker Vehicles	24	7	4	0	56	3	24	7	4	0	56	3
Total Operational Year 2038	**514**	**328**	**15,862**	**351**	**4,511**	**948**	**477**	**294**	**7,255**	**288**	**4,377**	**899**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Project Minus CEQA Baseline	50	25	3,103	-732	2,542	183	14	-9	-5,504	-795	2,409	134
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	**Yes**	No	**Yes**	**Yes**	No	No	No	No	**Yes**	**Yes**
NEPA Impacts												
NEPA Baseline Emissions	390	257	4,524	279	3,397	827	390	257	4,524	279	3,397	827
Project Minus NEPA Baseline	124	71	11,338	72	1,114	121	87	37	2,731	9	980	72
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	**Yes**	**Yes**	No	**Yes**	**Yes**	No	No	**Yes**	No	**Yes**	**Yes**

Notes:

- Emissions assume the simultaneous occurrence of peak daily equipment activity levels. Such levels would rarely occur during day-to-day terminal operations.
- Truck, train, ship, and worker commute emissions include transport within the South Coast Air Basin.
- AMP electricity use reflects indirect emissions from regional power generation.
- NEPA baseline emissions reflect the NEPA baseline operational, presented in Table 3.2-5.
- Emissions might not precisely add due to rounding.

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

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Discussion of Project Emissions Trends without Mitigation

Emissions would vary over the life of the proposed Project due to several factors, such as regulatory requirements, activity levels, source (container ships, tugboats, trucks, locomotives, CHE, and worker vehicles) characteristics, and emission factors. The combination of these factors can result in emissions that do not always decrease or increase consistently over time.

For the proposed Project, terminal activity would increase in each study year. However, regulatory requirements described in detail in Appendix B1 would serve to decrease emission factors from most proposed project sources. In addition, as equipment ages, engine efficiency would decrease and emission factors would increase in comparison to brand-new equipment. The effect of equipment aging on emissions is built into the on-road and non-road emission factor models.

The main drivers of the operational emissions presented for the proposed Project under Impact AQ-3 are the following:

- Terminal throughput:
  - Terminal throughput would increase from a maximum of roughly 1,240,773 TEUs during the 2013 CEQA baseline to a maximum of roughly 2,379,525 TEUs in year 2033 and beyond.
- Container ships:
  - Container ship size would increase from a maximum of 8,000 TEUs during the 2013 CEQA baseline to a maximum of 16,000 TEUs by year 2033.
  - The annual number of container ship transits would increase from 166 during the 2013 baseline to 208 by year 2033. The peak day number of container ship transits and hoteling at berth would not increase from the 2013 baseline to by year 2033.
  - Sulfur fuel content would decrease from 0.5 percent in the baseline to 0.1 percent in future analysis years, in compliance with CARB's ATCM for Fuel Sulfur and Other Operational Requirements for Ocean-Going Vessels within California Waters and 24 Nautical Miles of the California Baseline and MARPOL Annex VI (DieselNet, 2011a; IMO, 2008; IMO, 2014). The reduction in fuel sulfur content would primarily serve to decrease PM_{10}, $PM_{2.5}$, and SO_X emissions.
  - The percentage of container ships complying with LAHD's VSRP requirements is assumed not to change in future analysis years.
  - The number of AMP berths would increase from 3 during the 2013 baseline to 8 by year 2038. AMP utilization would be 80 percent for all analysis years, in compliance with CARB's *Airborne Toxic Control Measure for Auxiliary Diesel Engines Operated on Ocean-Going Vessels At-Berth in a California Port* (CARB, 2007).
  - The number of vessels using AMP on a peak day (2 per day) would not change between the 2013 baseline and 2038 analysis year.

- Tugboats:
  - Tugboat activity would increase in proportion to the number of container ship visits.
  - Tugboat emission factors would decline in compliance with CARB's Regulation to Reduce Emissions from Diesel Engines on Commercial Harbor Craft Operated within California Waters and 24 nm of the California Baseline (CARB, 2010).
- CHE:
  - CHE activity would increase in proportion to terminal throughput.
  - CHE emission factors would decline in compliance with CARB's *Mobile CHE at Ports and Intermodal Rail Yards.* (CARB, 2012a).
- Trucks:
  - Truck activity would increase as terminal throughput increases.
  - Truck emission factors would remain close to 2013 levels because the Port's Clean Truck Program required all drayage trucks to meet 2007 EPA emission standards starting January 2012. The emission factors would increase slightly after 2013 as the truck fleet ages, followed by a gradual reduction back toward 2013 levels as the fleet begins to turn over and reach fleet age equilibrium. NO_X emission factors are predicted to decline below 2013 levels by 2026 in response to the CARB On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation, which requires that trucks meet EPA 2010 and newer standards.
- Locomotives:
  - Locomotive activity would increase as terminal throughput increases.
  - Line haul and switch locomotive emission factors would decline as older locomotives reach the end of their useful life and are replaced by newer, cleaner locomotives that meet EPA tiered emission standards, such as the Tier 4 standards that apply to new and remanufactured locomotives starting in 2015.

CEQA Impact Determination

Table 3.2-20 shows that unmitigated peak daily operational emissions would exceed the SCAQMD daily emission thresholds and would be significant for NO_X in 2019 and NO_X, CO, and VOC under CEQA in years 2033 and 2038.

The largest contributors to peak daily operational emissions in all analysis years would be emissions from container ship transit. Container ship hoteling, trucks, and locomotives would be key secondary contributors. Emissions for CO, VOC, PM_{10}, $PM_{2.5}$, and SO_X would increase between years 2019 and 2033 due to terminal throughput increase. Emissions would decline slightly for all pollutants from year 2033 to 2038 as regulatory requirements for trucks, locomotives, and CHE continue to reduce emission factors after the terminal reached its operating capacity in 2033.

Mitigation Measures

The following mitigation measures would reduce criteria pollutant emissions associated with proposed project operation. These mitigation measures would be

implemented by the responsible parties identified in Section 3.2.4.7. Table 3.2-20 presents the peak daily criteria pollutant emissions associated with operation of the proposed Project, after the application of MM AQ-6 and MM AQ-7.

MM AQ-6: Vessel Speed Reduction Program (VSRP). Starting January 1, 2019 and thereafter, 95 percent of Evergreen ships calling at the Everport Container Terminal shall be required to comply with the expanded VSRP at 12 knots between 40 nm from Point Fermin and the Precautionary Area. Starting January 1, 2026, 95 percent of all ships calling at the Everport Container Terminal will follow this requirement. Alternative Compliance Plans will be considered where a different speed that would result in fewer emissions compared to the current speed limits.

Any alternative compliance plan shall be submitted to LAHD at least 90 days in advance for approval and shall be supported by data that demonstrates the ability of the alternative compliance plan for the specific vessel and type to achieve emissions reductions comparable to or greater than those achievable by compliance with VSRP. The alternative compliance plan shall be implemented once written notice of approval is granted by the LAHD.

MM AQ-7: Alternative Maritime Power (AMP). By 2020 or upon substantial completion of construction, 85 percent of Evergreen ships calling at the Everport Terminal must use AMP. By 2026, 95 percent of all ship calls at the Everport Container Terminal must use AMP or approved equivalent under the CARB Shore-Power Regulation. The equivalent alternative technology must, at a minimum, meet the emissions reductions that would be achieved from AMP.

The following lease measures would also potentially reduce future emissions. These measures were not quantified in the analysis because the future technologies that may be implemented through the measure have not yet been identified.

LM AQ-1: Replacement of Equipment and Review of New Technology. When the tenant needs to replace or turnover equipment in its fleet, the tenant shall meet with the LAHD to determine if something is feasible or technologically available that may result in fewer emissions. If any kind of technology becomes available and is shown to be as good as or better than the existing measure in terms of emissions reduction performance, the technology could replace the requirements of other mitigation measures pending approval by LAHD.

LAHD shall require the tenant to review any new emissions-reduction technology for feasibility and report back to LAHD every five years beginning five years after lease agreement if no new purchase or equipment turnover occurs sooner as noted in the

abovementioned paragraph. If LAHD and tenant determine the technology is feasible in terms of cost and operations, the tenant shall work with LAHD to implement such technology.

LM AQ-2: Priority Access System. A priority access system shall be evaluated to identify one or more ways to provide preferential access to zero- and near-zero-emission trucks. The tenant shall provide a report to LAHD on preferential access system options by January 1, 2020.

Residual Impacts

Table 3.2-20 shows that emissions from operation of the proposed Project would be reduced with mitigation. Emissions of NO_X in 2019, 2033 and 2038 would be reduced to levels that are less than significant under CEQA. However, CO and VOC emissions in 2033 and 2038 would remain significant and unavoidable under CEQA.

Mitigation measures identified for the proposed Project activities would comply with source-specific performance standards in the San Pedro Bay Ports CAAP. Table 3.2-21 details how proposed Project mitigation measures compare to those identified in the San Pedro Bay Ports CAAP.

Table 3.2-21: Comparison between San Pedro Bay Ports 2010 CAAP Update Control Measures and Proposed Project Mitigation Measures

CAAP Measure #	CAAP Measure Name	CAAP Measure Description	EIS/EIR Mitigation Measure (MM)	Discussion
SPBP-HDV1	Performance Standards for On-Road Heavy-Duty Vehicles (HDVs)	This measure requires that all trucks servicing both ports comply with 2007 EPA heavy-duty on-road emissions standards, in addition to safety and security requirements, by January 1, 2012. Incentives, grants, and financing were provided to support the required fleet turnover. This comprehensive program maximized the associated emissions reductions and greatly reduced health risk concerns associated with trucks. The measure was being implemented through port tariffs and lease agreements.	No mitigation assumed.	The terminal operator is responsible for ensuring gate restrictions and tracking. HDV1 is treated as a project element in the air quality analysis. HDV1 is preempted by CARB requirements.
SPBP-HDV2	Alternative Fuel Infrastructure for Heavy-Duty Natural Gas Vehicles	In order to encourage use of alternative fueled trucks, the ports will support development of alternative-fuel infrastructure in the port complex.	No mitigation assumed.	This measure has been implemented by the ports. A public LNG/CNG facility is operational in Wilmington.
SPBP-OGV1	OGV Vessel Speed Reduction Program (VSRP)	OGVs that call at the SPB ports shall not exceed 12 knots within 20 and 40 nm of Point Fermin.	**MM AQ-6:** Starting January 1, 2019 and thereafter, 95 percent of Evergreen ships calling at the Everport Container Terminal will be required to comply with the expanded VSRP at 12 knots between 40 nm from Point Fermin and the Precautionary Area. Starting January 1, 2026, 95 percent of all ships calling at the Everport Container Terminal will follow this requirement. Alternative	**MM AQ-6** complies with OGV1, which targets a 95 percent compliance rate through lease provisions.

Table 3.2-21: Comparison between San Pedro Bay Ports 2010 CAAP Update Control Measures and Proposed Project Mitigation Measures

CAAP Measure #	CAAP Measure Name	CAAP Measure Description	EIS/EIR Mitigation Measure (MM)	Discussion
			Compliance Plans will be considered where a different speed that would result in fewer emissions compared to the current speed limits.	
SPBP-OGV2	Reduction of At-Berth OGV Emissions	The use of shore power to reduce hoteling emissions implemented at all container and cruise terminals and one liquid bulk terminal at the Port of Los Angeles	**MM AQ-7:** By 2019, 85 percent of Evergreen ships calling at the Everport Terminal must use AMP. By 2026, 95 percent of all ship calls at the Everport Container Terminal must use AMP or approved equivalent under the CARB Shore-Power Regulation. The equivalent alternative technology must, at a minimum, meet the emissions reductions that would be achieved from AMP.	**MM AQ-7** complies with CAAP OGV2. OGV2 is preempted by CARB regulation.
SPBP-OGV3	OGV Auxiliary Engine Fuel Standards	This measure reduces emissions from the auxiliary engines and auxiliary boilers of OGVs during their approach and departure from the ports, by switching to ≤0.2 percent sulfur distillate fuel (MGO or MDO) within 40 nm from Point Fermin. Compliance with the CARB rule limit of ≤0.1 percent sulfur distillate fuel (MGO or MDO) starts on January 1, 2012.	No mitigation assumed.	OGV3 is preempted by CARB and IMO ECA requirements.
SPBP-OGV4	OGV Main Engine Fuel Standards	This measure reduces emissions from main engines of OGVs during their approach and departure from the ports, by switching to ≤0.2 percent sulfur	No mitigation assumed.	OGV4 is preempted by CARB and IMO ECA requirements.

Table 3.2-21: Comparison between San Pedro Bay Ports 2010 CAAP Update Control Measures and Proposed Project Mitigation Measures

CAAP Measure #	CAAP Measure Name	CAAP Measure Description	EIS/EIR Mitigation Measure (MM)	Discussion
		distillate (MGO or MDO) fuel within 40 nm from Point Fermin. Compliance with the CARB rule limit of ≤0.1 percent sulfur distillate fuel (MGO or MDO) starts on January 1, 2012.		
SPBP-OGV5	Cleaner OGV Engines	Focuses on the early introduction and preferential deployment of vessels that comply with the Annex VI NO_X and SO_X standards for ECAs into the fleet that calls at the Ports of Long Beach and Los Angeles.	**LM AQ-1:** When the tenant needs to replace or turnover equipment in its fleet, the tenant will meet with the LAHD to determine if something is feasible or technologically available that may result in fewer emissions. If any kind of technology becomes available and is shown to be as good as or better than the existing measure in terms of emissions reduction performance, the technology could replace the requirements of other mitigation measures pending approval by LAHD.	**LM AQ-1** complies with OGV5.
SPBP-OGV6	OGV Engine Emission Reduction Technology Improvements	This measure seeks to encourage demonstration and deployment of cleaner OGV engine technologies that are validated through the Technology Advancement Program (TAP) or by the regulatory agencies. The goal of this measure is to reduce DPM and NO_X emissions of in-use vessels.	**LM AQ-1:** When the tenant needs to replace or turnover equipment in its fleet, the tenant will meet with the LAHD to determine if something is feasible or technologically available that may result in fewer emissions. If any kind of technology becomes available and is shown to be as good as or better than the existing measure in terms of emissions reduction performance, the technology could replace the	**LM AQ-1** complies with OGV6.

Table 3.2-21: Comparison between San Pedro Bay Ports 2010 CAAP Update Control Measures and Proposed Project Mitigation Measures

CAAP Measure #	CAAP Measure Name	CAAP Measure Description	EIS/EIR Mitigation Measure (MM)	Discussion
			requirements of other mitigation measures pending approval by LAHD.	
SPBP-CHE1	Performance Standards for CHE	By the end of 2010, all yard tractors will meet, at a minimum, the EPA 2007 on-road or Tier 4 off-road standards. By the end of 2012, all pre-2007 on-road or pre-2004 off-road top picks, forklifts, reach stackers, RTGs, and straddle carriers <= 750 hp will meet at a minimum the EPA 2007 on-road or Tier 4 off-road engine standards. By the end of 2015, all CHE with engines >750 hp will meet at a minimum the EPA Tier 4 off-road engine standards. Until equipment is replaced with Tier 4, all CHE with engines >750 hp will be equipped with the cleanest available VDECs.	No mitigation assumed.	CHE1 is preempted by CARB regulation, which is treated as a project element in the air quality analysis.
SPBP-HC1	Performance Standards for Harbor Craft	All harbor craft operating in the Ports of Long Beach and Los Angeles are required to comply with the CARB harbor craft regulation. In addition, by 2008 all harbor craft home-ported in the San Pedro Bay will meet EPA Tier 2 standards for harbor craft, or equivalent reductions. After Tier 3 engines become available between 2009 and 2014, within five years all harbor craft homebased in the San	No mitigation assumed.	This measure is a Port-wide measure. Terminal operators and shipping lines do not have a direct contractual relationship with tugboat operators and may be limited in providing the infrastructure necessary to implement HC-1. The Ports of Los Angeles and Long Beach will implement HC1 through a Port-wide Program as described in the CAAP.

Table 3.2-21: Comparison between San Pedro Bay Ports 2010 CAAP Update Control Measures and Proposed Project Mitigation Measures

CAAP Measure #	CAAP Measure Name	CAAP Measure Description	EIS/EIR Mitigation Measure (MM)	Discussion
		Pedro Bay will be repowered with the new engines. All tugs will use shore power while at their home port location.		The proposed project air quality analysis assumes that a portion of the Port tugboat fleet will be re-powered through the CARB Carl Moyer Program.
PBP-RL1	PHL Rail Switch Engine Modernization	This measure was implemented through the second amendment to the operating agreement between the Port of Los Angeles, Port of Long Beach, and Pacific Harbor Line (PHL). By 2008, all existing switch engines in the ports were replaced with at least Tier 2 engines and will use emulsified fuels as available or other equivalently clean alternative diesel fuels. Any new switch engine acquired after the initial replacement must meet EPA Tier 3 standards or a NO_X standard of 3 g/bhp-hr and a DPM standard of 0.0225 g/bhp-hr. All switch engines will have 15-minute idling limit devices installed and operational.	No mitigation assumed.	In 2011 all PHL engines were gensets and Tier 3-plus engines. RL1 was treated as a project element in the air quality analysis.
SPBP-RL2	Class 1 Line-haul and Switcher Fleet Modernization	Effects only existing Class 1 railroad operations on Port property. Lays out stringent goals for switcher, helper, and long haul locomotives operating on Port properties. By 2011, all	No mitigation assumed.	RL-2 affects only existing Class 1 railroads (Class I railroads are BNSF and UP). The implementation strategy is based on the 1998 and 2005 MOUs between CARB

Table 3.2-21: Comparison between San Pedro Bay Ports 2010 CAAP Update Control Measures and Proposed Project Mitigation Measures

CAAP Measure #	CAAP Measure Name	CAAP Measure Description	EIS/EIR Mitigation Measure (MM)	Discussion
		diesel-powered Class 1 switcher and helper locomotives entering Port facilities will be 90 percent controlled for PM and NO_X, will use 15-minute idle restrictors, and after January 1, 2007, the use of ultra-low sulfur diesel (ULSD) fuels. 15-minute idle restrictors. Specifically, by 2010, all Class I locomotives will meet emissions equivalent to Tier 2 standards. By 2023, all Class I locomotives will meet emissions equivalent to Tier 3 standards.		and the Class 1 railroads and the 2008 EPA locomotive engine standards. RL2 was treated as a project element in the air quality analysis.
SPBP-RL3	New and Redeveloped Near-Dock Railyards	New rail facilities, or modifications to existing rail facilities located on Port property, will incorporate the cleanest locomotive technologies, meet the requirements specified in CAAP-RL2, utilize “clean” CHE and HDV, and utilize available “green-container” transport systems.	No mitigation assumed.	LAHD is meeting with Class I rail yards to discuss implementation of the Port-wide Program under RL3.

NEPA Impact Determination

Table 3.2-20 shows that unmitigated peak daily operational emissions would exceed the SCAQMD daily threshold for NO_X in 2019, 2026, 2033, and 2038; VOC in 2026, 2033, and 2038; and $PM_{2.5}$ and CO in 2033 and 2038. Therefore, unmitigated proposed Project operational emissions would be significant under NEPA for $PM_{2.5}$, NO_X, CO, and VOC prior to mitigation.

Mitigation Measures

Table 3.2-20 presents the peak daily pollutant emissions associated with operation of the proposed Project, after the application of mitigation measures MM AQ-6 and MM AQ-7. LM AQ-1 and LM AQ-2 are lease measures that may reduce future emissions; however, these measures were not quantified in the analysis because the future technologies that may be implemented through these measures have not yet been identified.

Residual Impacts

Emissions from operation of the proposed Project would be reduced with mitigation. Emissions of NO_X in 2019, VOC in 2026, and $PM_{2.5}$ in 2033 and 2038 would be reduced to levels that are less than significant under NEPA. However, emissions of NO_X in 2026, 2033, and 2038 and CO and VOC in 2033 and 2038 would remain significant and unavoidable under NEPA.

Note that the CEQA and NEPA impacts are the proposed Project emissions minus the CEQA or NEPA baseline emissions, respectively. Therefore, the impacts are different under CEQA and NEPA, and may have values that are less than zero (0).

Impact AQ-4: Proposed project operations would result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.2-9.

Dispersion modeling of on-site and off-site proposed Project operational emissions was performed to assess the impact of the proposed Project on local ambient air concentrations. A summary of the dispersion modeling results is presented here; the complete dispersion modeling report is included in Appendix B2.

CEQA Impact Determination

Table 3.2-22 presents the maximum off-site concentrations of NO_2, SO_2, and CO from operational activities with and without mitigation. Table 3.2-23 presents the maximum off-site concentrations of PM_{10} and $PM_{2.5}$ from operational activities with and without mitigation.

Table 3.2-22: Maximum Off-site Ambient NO_2, SO_2, and CO Concentrations (CEQA) — Proposed Project Operation

Pollutant	Averaging Time	Background Concentration (ppm)[c,d]	Maximum Unmitigated Modeled Project Concentration Interval (ppm)[d]	Total Unmitigated Ground-Level Concentration (ppm)[d]	Maximum Mitigated Modeled Project Concentration (ppm)[d]	Total Mitigated Ground-Level Concentration (ppm)[d]	SCAQMD Threshold (ppm)	Unmitigated Concentration above Threshold?	Mitigated Concentration above Threshold?
NO_2	Federal 1-hour[a]	0.088	0.031	**0.119**	0.031	**0.119**	0.100	**Yes**	**Yes**
	State 1-hour	0.11	0.04	0.16	-	-	0.18	No	-
	Federal annual	0.017	0.010	0.028	-	-	0.053	No	-
	State annual	0.017	0.010	0.028	-	-	0.030	No	-
SO_2	Federal 1-hour[b]	0.038	0.0001	0.038	-	-	0.075	No	-
	State 1-hour	0.05	0.0002	0.05	-	-	0.25	No	-
	24-hour	0.01	0.00001	0.01	-	-	0.04	No	-
CO	1-hour	7	0.2	7	-	-	20 / 35	No	-
	8-hour	1.8	0.1	1.9	-	-	9.0	No	-

Notes:

[a] The federal 1-hour NO_2 modeled concentration represents the 98th percentile of the daily maximum 1-hour averages.

[b] The federal 1-hour SO_2 modeled concentration represents the 99th percentile of the daily maximum 1-hour averages.

[c] The background concentrations for NO_2, SO_2 and CO were obtained from the TITP station.

[d] The maximum modeled concentration increment represents proposed project operation minus 2013 terminal operations.

[e] Exceedances of the thresholds are indicated in **bold**.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-23: Maximum Off-site Ambient PM_{10} and $PM_{2.5}$ Concentrations (CEQA) — Proposed Project Operation

Pollutant	Averaging Time	Maximum Modeled Concentration of CEQA Baseline ($\mu g/m^3$)	Maximum Unmitigated Modeled Concentration of Proposed Project ($\mu g/m^3$)	Maximum Mitigated Modeled Concentration of Proposed Project ($\mu g/m^3$)	Unmitigated Ground-Level Concentration CEQA Increment ($\mu g/m^3$)[a,b]	Mitigated Ground-Level Concentration CEQA Increment ($\mu g/m^3$)[a,b]	SCAQMD Threshold ($\mu g/m^3$)	Unmitigated CEQA Concentration above Threshold?	Mitigated CEQA Concentration above Threshold?
PM_{10}	24-hour	8.2	33.8	33.8	**27.3**	**27.3**	2.5	**Yes**	**Yes**
	Annual	3.8	19.0	19.0	**16.6**	**16.6**	1.0	**Yes**	**Yes**
$PM_{2.5}$	24-hour	4.0	9.0	8.9	**6.1**	**6.1**	2.5	**Yes**	**Yes**

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The CEQA increment represents proposed Project minus CEQA baseline.

[c] The maximum modeled project concentration, maximum modeled baseline concentrations, and maximum concentration increments may occur at different receptors. Therefore, the modeled project and baseline concentrations in the table may not necessarily subtract to equal the increment.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-22 shows that the maximum off-site NO_2 (federal 1-hour average) concentration from operational activities would exceed SCAQMD thresholds. Table 3.2-23 shows that the maximum off-site incremental PM_{10} (24-hour and annual average) and $PM_{2.5}$ (24-hour average) concentrations from operational activities would exceed SCAQMD thresholds. Therefore, without mitigation, maximum off-site ambient pollutant concentrations associated with operation of the proposed Project would be significant under CEQA for NO_2 (federal 1-hour average), PM_{10} (24-hour and annual average), and $PM_{2.5}$ (24-hour average).

Mitigation Measures

To reduce the level of impact during construction, MM AQ-6 and MM AQ-7 would be applied. These mitigation measures would be implemented by the responsible parties identified in Section 3.2.4.7.

Table 3.2-22 presents the maximum off-site ground level concentrations of NO_2 with mitigation. Table 3.2-23 presents the maximum off-site ground level concentrations of PM_{10} and $PM_{2.5}$ with mitigation.

Residual Impacts

Table 3.2-22 shows that the maximum off-site NO_2 (federal 1-hour average) concentration would remain significant and unavoidable under CEQA after mitigation. Table 3.2-23 shows that the maximum off-site incremental PM_{10} (24-hour and annual average) and $PM_{2.5}$ (24-hour average) concentrations from operational activities would also not be substantially reduced with mitigation and would remain significant and unavoidable under CEQA.

NEPA Impact Determination

Table 3.2-24 shows that the maximum off-site concentrations of NO_2, SO_2, and CO from operational activities would not exceed the SCAQMD thresholds. Table 3.2-25 shows that that the maximum off-site incremental PM_{10} (24-hour and annual average) concentrations from operational activities would exceed SCAQMD thresholds. Therefore, without mitigation, maximum off-site ambient pollutant concentrations associated with operation of the proposed Project would be significant under NEPA for PM_{10} (24-hour and annual average).

Table 3.2-24: Maximum Off-site Ambient NO2, SO2, and CO Concentrations (NEPA) — Proposed Project Operation

Pollutant	Averaging Time	Background Concentration (ppm)[c,d]	Maximum Unmitigated Modeled Project Concentration Interval (ppm)[d]	Total Unmitigated Ground-Level Concentration (ppm)[d]	Maximum Mitigated Modeled Project Concentration (ppm)[d]	Total Mitigated Ground-Level Concentration (ppm)[d]	SCAQMD Threshold (ppm)	Unmitigated Concentration above Threshold?	Mitigated Concentration above Threshold?
NO_2	Federal 1-hour[a]	0.088	0.009	0.097	-	-	0.100	No	-
	State 1-hour	0.11	0.01	0.13	-	-	0.18	No	-
	Federal annual	0.017	0.005	0.022	-	-	0.053	No	-
	State annual	0.017	0.005	0.022	-	-	0.030	No	-
SO_2	Federal 1-hour[b]	0.038	0.0002	0.038	-	-	0.075	No	-
	State 1-hour	0.05	0.0002	0.05	-	-	0.25	No	-
	24-hour	0.01	0.0001	0.02	-	-	0.04	No	-
CO	1-hour	7	0.07	7	-	-	20 / 35	No	-
	8-hour	1.8	0.04	1.9	-	-	9.0	No	-

Notes:

[a] The federal 1-hour NO_2 modeled concentration represents the 98th percentile of the daily maximum 1-hour averages.

[b] The federal 1-hour SO_2 modeled concentration represents the 99th percentile of the daily maximum 1-hour averages.

[c] The background concentrations for NO_2, SO_2 and CO were obtained from the TITP station.

[d] The maximum modeled concentration increment represents proposed project operation minus NEPA baseline.

[e] Exceedances of the thresholds are indicated in **bold**.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-25: Maximum Off-site Ambient PM_{10} and $PM_{2.5}$ Concentrations (NEPA) — Proposed Project Operation

Pollutant	Averaging Time	Maximum Modeled Concentration of NEPA Baseline ($\mu g/m^3$)	Maximum Unmitigated Modeled Concentration of Proposed Project ($\mu g/m^3$)	Maximum Mitigated Modeled Concentration of Proposed Project ($\mu g/m^3$)	Unmitigated Ground-Level Concentration NEPA Increment ($\mu g/m^3$)[a,b]	Mitigated Ground-Level Concentration NEPA Increment ($\mu g/m^3$)[a,b]	SCAQMD Threshold ($\mu g/m^3$)	Unmitigated NEPA Concentration above Threshold?	Mitigated NEPA Concentration above Threshold?
PM_{10}	24-hour	25.2	33.8	33.8	**8.5**	**8.5**	2.5	**Yes**	**Yes**
	Annual	15.0	19.0	19.0	**5.2**	**5.1**	1.0	**Yes**	**Yes**
$PM_{2.5}$	24-hour	6.8	9.0	-	2.2	-	2.5	No	-

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The NEPA increment represents proposed Project minus NEPA baseline.

[c] The maximum modeled project concentration, maximum modeled baseline concentrations, and maximum concentration increments may occur at different receptors. Therefore, the modeled project and baseline concentrations in the table may not necessarily subtract to equal the increment.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Mitigation Measures

To reduce the level of impact during operation, MM AQ-6 and MM AQ-7 would be applied. These mitigation measures would be implemented by the responsible parties identified in Section 3.2.4.7. Table 3.2-25 presents the maximum off-site ground level concentrations of PM_{10} with mitigation.

Residual Impacts

Table 3.2-25 shows that the maximum off-site incremental PM_{10} (24-hour and annual average) concentration from operational activities would not be substantially reduced with mitigation and would remain significant and unavoidable under NEPA.

Impact AQ-5: The proposed Project would not generate on-road traffic that would contribute to an exceedance of the 1-hour or 8-hour CO standards.

Proposed project-generated truck and automobile trips would affect intersections predicted to operate at a poor LOS (i.e., below LOS C) in future years in future years. During periods of near-calm winds, heavily congested intersections can produce elevated levels of CO in their immediate vicinity. The dispersion modeling completed for this analysis included a traffic analysis of major roadways within the study area. The level of detail was based on the traffic links developed during the traffic demand modeling and adequately analyzes CO impacts. Therefore, if the dispersion modeling shows that concentrations would be less than the CAAQS or NAAQS, then impacts would be less than significant.

CEQA Impact Determination

Tables 3.2-12, 3.2-14, and 3.2-22 show that CO standards would not be exceeded. CO impacts would therefore not be significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Tables 3.2-16, 3.2-18, and 3.2-24 show that CO standards would not be exceeded. CO impacts would therefore not be significant under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AQ-6: The proposed Project would not create an objectionable odor at the nearest sensitive receptor.

Operation of the proposed Project would increase air pollutants primarily due to the combustion of diesel fuel. Some individuals might find diesel combustion emissions to be objectionable in nature, although quantifying the odorous impacts of these emissions to the public is difficult due to the complex mixture of chemicals in diesel exhaust, the differing odor thresholds of these constituent species, and the difficulty quantifying the potential for changes in perceived odors even when air contaminant concentrations are known. Their mobile nature would serve to disperse most proposed project emissions. Additionally, the distance between proposed project emission sources and the nearest residents is expected to be far enough to allow for adequate dispersion of these emissions to below objectionable odor levels. Furthermore, the existing industrial setting of the proposed Project represents an already complex odor environment. For example, existing nearby container terminals include freight and goods movement activities that use diesel trucks and diesel cargo-handling equipment that generate similar diesel exhaust odors as would the proposed Project. Within this context, the proposed Project would not likely result in changes to the overall odor environment in the vicinity.

CEQA Impact Determination

The potential is low for the proposed Project to produce objectionable odors that would affect a sensitive receptor. Significant odor impacts under CEQA, therefore, are not anticipated.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Given the above analysis, the potential is low for the proposed Project to produce objectionable odors that would affect a sensitive receptor. Significant odor impacts under NEPA, therefore, are not anticipated.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AQ-7: The proposed Project would expose receptors to significant levels of TACs.

Proposed project activities would emit TACs that could affect public health. An HRA was conducted to address potential public health effects from TACs generated by the proposed Project. The results of the HRA are summarized below, with impacts shown relative to the CEQA baseline, future CEQA baseline (for cancer risk), and NEPA baseline. The rationale for a CEQA analysis based on both the CEQA baseline and future

CEQA baseline is discussed in detail in Section 3.2.4.1, Methodology. Details of the analysis, including TAC emissions, the dispersion modeling approach, and the risk calculation approach, are presented in Appendix B3.

CEQA Impact Determination

Table 3.2-26 presents the maximum predicted CEQA health impacts associated with the proposed Project with and without mitigation. The table includes estimates of individual cancer risk, chronic noncancer hazard index, and acute noncancer hazard index at the maximally exposed residential, occupational, and sensitive receptors. Results are presented for the proposed Project (before subtracting baseline), the two CEQA baselines, the CEQA increment (proposed Project minus CEQA baseline), and future CEQA increment (proposed Project minus future CEQA baseline). The table also presents the CEQA increment and future CEQA increment for the population cancer burden. Significance findings are made by comparing the increments to the significance thresholds.

Table 3.2-26 shows that the unmitigated proposed Project would produce the following health risk impacts under CEQA:

- Individual Cancer Risk

In relation to the CEQA baseline, the maximum incremental cancer risk is predicted to be less than the significance threshold at all receptors. Therefore, the proposed Project would result in a less-than-significant cancer risk impact. Moreover, the negative values for the CEQA increment indicate that the cancer risk from the proposed Project would be less than the cancer risk from the CEQA baseline at all modeled receptors, due in large part to the beneficial effect of existing air quality rules and regulations on future emissions.

In relation to the future CEQA baseline, the maximum cancer risk is predicted to be less than the significance threshold at all receptors. Therefore, the proposed Project would result in a less-than-significant cancer risk impact.

Figure 3.2-1 shows individual cancer risk contours of the future CEQA increment for the unmitigated proposed Project, assuming residential (30-year) exposure parameters. The future CEQA increment is shown in the figure instead of the CEQA increment because the former shows higher predicted risks. As shown in the figure, the maximum residential receptor for individual cancer risk is located outside of the 10 in a million contour line, indicating a less than significant impact.

- Population Cancer Burden

In relation to the CEQA baseline, the cancer burden increment would be zero because the individual cancer risk associated with the proposed Project would be less than the CEQA baseline at all modeled receptors. Therefore, the proposed Project would result in a less-than-significant cancer burden impact.

In relation to the Future CEQA baseline, the cancer burden increment is predicted to be less than the significance threshold. Therefore, the proposed Project would result in a less-than-significant cancer burden impact.

Table 3.2-26: Maximum CEQA Health Impacts Estimated for Construction and Operation of the Proposed Project

Health Impact	Receptor Type	Unmitigated CEQA Increment[a,c]	Mitigated CEQA Increment[a,c]	Unmitigated Future CEQA Increment[b]	Mitigated Future CEQA Increment[b]	Significance Threshold	Unmitigated Significant?[d]	Mitigated Significant?[d]
Cancer Risk	Residential	< 0	n/a [g]	1.3 × 10-6 1.3 in a million	n/a	10×10^{-6} 10 in a million	No	n/a
	Occupational	< 0	n/a	5.8 × 10-6 5.8 in a million	n/a		No	n/a
	Sensitive	< 0	n/a	0.8 × 10-6 0.8 in a million	n/a		No	n/a
Chronic Hazard Index	Residential	0.07	n/a	n/a [e]	n/a	1.0	No	n/a
	Occupational	0.16	n/a	n/a	n/a		No	n/a
	Sensitive	0.12	n/a	n/a	n/a		No	n/a
Acute Hazard Index	Residential	0.06	n/a	n/a	n/a	1.0	No	n/a
	Occupational	0.20	n/a	n/a	n/a		No	n/a
	Sensitive	0.10	n/a	n/a	n/a		No	n/a
Population Cancer Burden		0.0	n/a	0.1	n/a	0.5	No	n/a

Notes:
[a]The CEQA Increment column represents the maximum difference of the Proposed Project minus the CEQA baseline.
[b]The Future CEQA Increment column represents the maximum difference of the Proposed Project minus the Future CEQA baseline.
[c]A CEQA Increment less than zero means that the Proposed Project health values would be less than the CEQA Baseline health values at all modeled receptors.
[d]Exceedances of the thresholds are indicated in **bold**. An impact is marked significant if either the CEQA Increment or Future CEQA Increment exceeds the threshold.
[e]The Future CEQA baseline and Future CEQA increment are applicable only to cancer risk because cancer risk has a uniquely long exposure period (30 years for residential and sensitive exposure, and 70 years for population cancer burden).
[f]Each positive result shown in the table for cancer risk, chronic hazard index, and acute hazard index represents the modeled receptor location with the maximum increment. The increments at all other receptors would be less than the values in the table.
[g] Mitigated health risks were not evaluated because unmitigated impacts would be less than significant.

1

- Chronic and Acute Hazard Indices

Because chronic and acute hazard indices are based on annual and peak hour emissions instead of multiple-year emissions like cancer risk, they are determined by comparing impacts only to the CEQA baseline, which is the baseline at the time of the NOP.

The maximum chronic hazard index increment is predicted to be less than the significance threshold for all receptor types. Therefore, the proposed Project would result in a less-than-significant chronic noncancer impact.

The maximum acute hazard index increment is predicted to be less than the significance threshold for all receptor types. Therefore, the proposed Project would result in a less-than-significant acute noncancer impact.

Appendix B3 includes figures showing the locations of the maximally-impacted receptors under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

NEPA Impact Determination

Table 3.2-27 presents the maximum predicted NEPA health impacts associated with the proposed Project with and without mitigation. The table includes estimates of individual cancer risk, chronic noncancer hazard index, and acute noncancer hazard index at the maximally exposed residential, occupational, and sensitive receptors. Results are presented for the proposed Project (before subtracting baseline), the NEPA baseline, and the NEPA increment (proposed Project minus NEPA baseline). The table also presents the NEPA increment for the population cancer burden. Significance findings are made by comparing the increments to the significance thresholds.

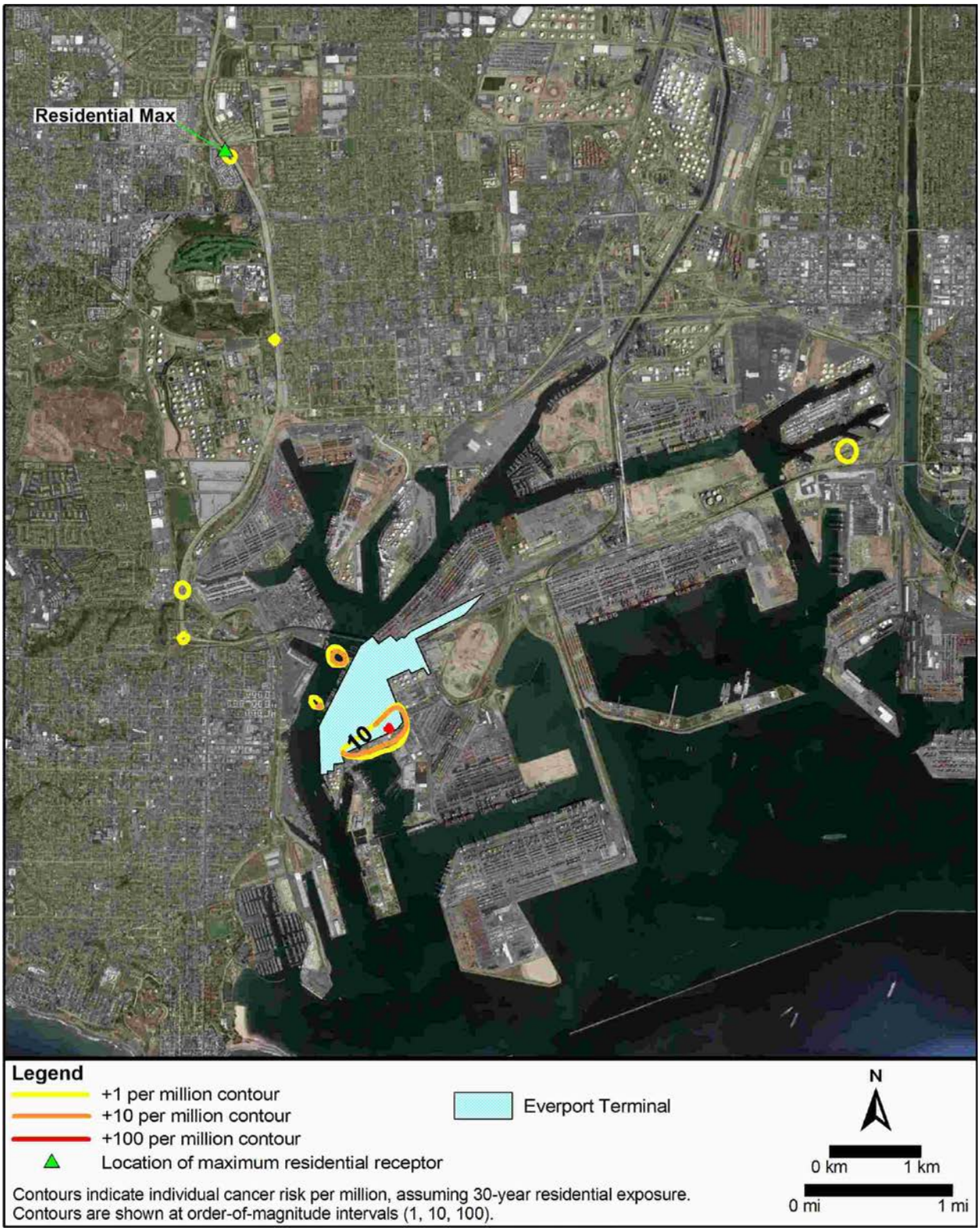

Figure 3.2-1: Isopleths of Residential Cancer Risk – Unmitigated Proposed Project – Future CEQA Increment

Table 3.2-27: Maximum NEPA Health Impacts Estimated for Construction and Operation of the Proposed Project

Health Impact	Receptor Type	Unmitigated NEPA Increment[a]	Mitigated NEPA Increment[a]	Significance Threshold	Unmitigated Significant?[b]	Mitigated Significant?[b]
Cancer Risk	Residential	**16.1 × 10-6 16.1 in a million**	9.0 × 10-6 9.0 in a million	10×10^{-6} 10 in a million	**Yes**	No
	Occupational	4.6 × 10-6 4.6 in a million	4.3 × 10-6 4.3 in a million		No	No
	Sensitive	**11.7 × 10-6 11.7 in a million**	7.0 × 10-6 7.0 in a million		**Yes**	No
Chronic Hazard Index	Residential	0.05	0.05	1.0	No	No
	Occupational	0.13	0.10		No	No
	Sensitive	0.11	0.10		No	No
Acute Hazard Index	Residential	0.06	0.05	1.0	No	No
	Occupational	0.09	0.09		No	No
	Sensitive	0.09	0.09		No	No
Population Cancer Burden		**0.6**	0.3	0.5	**Yes**	No

Notes:
[a]The NEPA Increment column represents the maximum difference of the Proposed Project minus the NEPA baseline.
[b]Exceedances of the thresholds are indicated in **bold**.
[c]Each positive result shown in the table for cancer risk, chronic hazard index, and acute hazard index represents the modeled receptor location with the maximum increment. The increments at all other receptors would be less than the values in the table.

1

Table 3.2-27 shows that the unmitigated proposed Project would produce the following health risk impacts under NEPA:

- Individual Cancer Risk

In relation to the NEPA baseline, the maximum incremental cancer risk is predicted to be greater than the significance threshold at the maximally impacted residential and sensitive receptors. Therefore, the proposed Project would result in a significant cancer risk impact. The cancer risk impact would be less than significant at occupational receptors.

Figure 3.2-2 shows individual cancer risk contours of the NEPA increment for the unmitigated proposed Project, assuming residential (30-year) exposure parameters. The location of the maximum residential receptor for cancer risk is also indicated in the figure.

- Population Cancer Burden

In relation to the NEPA baseline, the cancer burden increment is predicted to be greater than the significance threshold. Therefore, the proposed Project would result in a significant cancer burden impact.

- Chronic and Acute Hazard Indices

The maximum chronic hazard index increment is predicted to be less than the significance threshold for all receptor types. Therefore, the proposed Project would result in a less-than-significant chronic noncancer impact.

The maximum acute hazard index impact is predicted to be less than the significance threshold for all receptor types. Therefore, the proposed Project would result in a less-than-significant acute noncancer impact.

Appendix B3 includes figures showing the locations of the maximally-impacted receptors under NEPA.

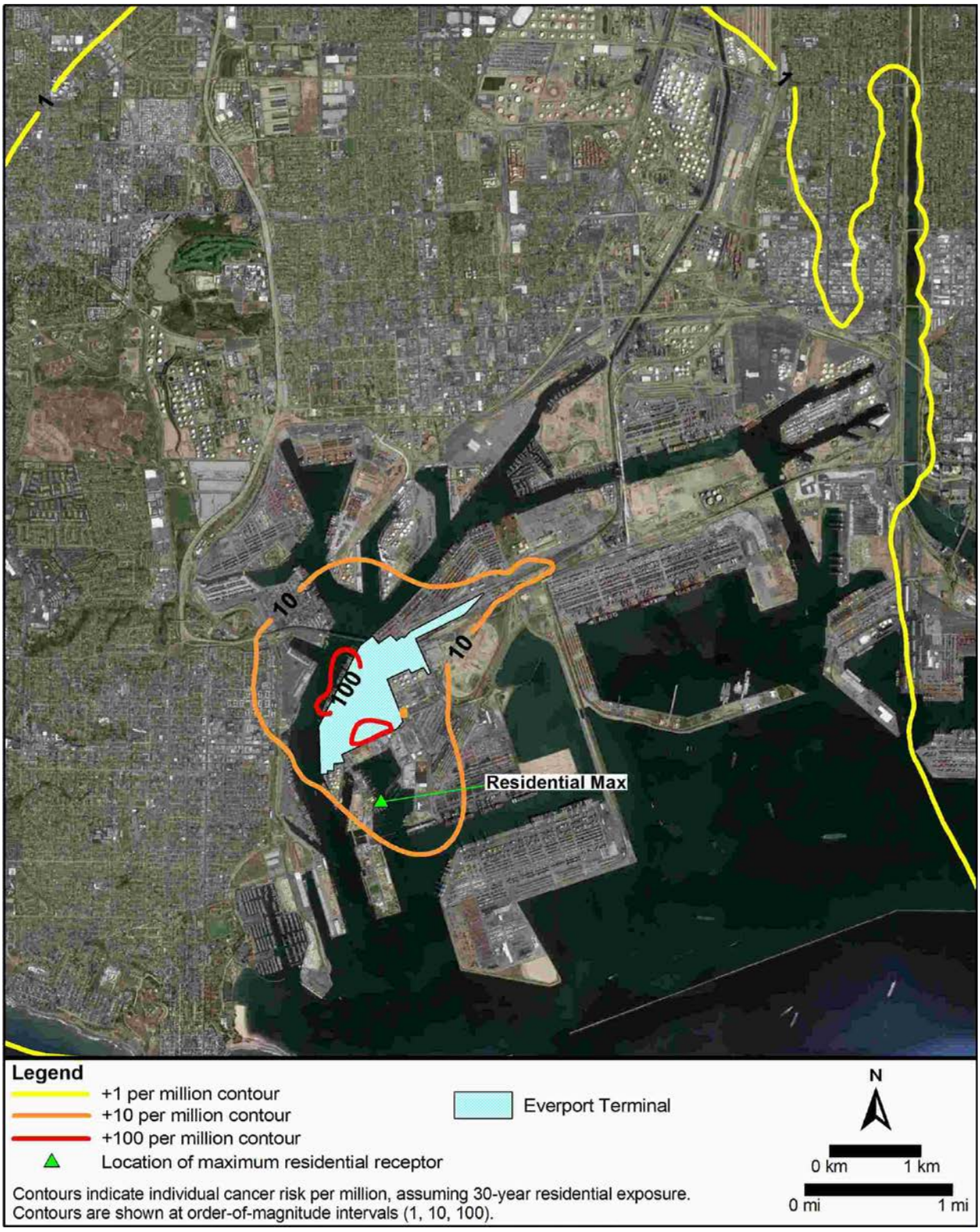

Figure 3.2-2: Isopleths of Residential Cancer Risk – Unmitigated Proposed Project – NEPA Increment

Mitigation Measures

To reduce health risks associated with the proposed Project, MM AQ-1 through MM AQ-5 would be applied during construction, and MM AQ-6 and MM AQ-7 would be applied during operation. These mitigation measures would be implemented by the responsible parties identified in Section 3.2.4.7. LM AQ-1 and LM AQ-2 are lease measures that may reduce future emissions; however, these lease measures were not quantified in the analysis because the future technologies that may be implemented through these measures have not yet been identified.

Table 3.2-27 presents the maximum predicted NEPA health impacts associated with the proposed Project with mitigation.

Residual Impacts

Table 3.2-27 shows that, with mitigation, the maximum incremental cancer risk at residential and sensitive receptors would be reduced to a less-than-significant impact. The population cancer burden would also be reduced to a less-than-significant impact. All other health risk values would remain less than significant.

Figure 3.2-3 shows individual cancer risk contours of the NEPA increment for the mitigated proposed Project, assuming residential (30-year) exposure parameters. As shown in the figure, the maximum residential receptor for individual cancer risk is located outside the 10 in a million contour line, indicating a less than significant impact.

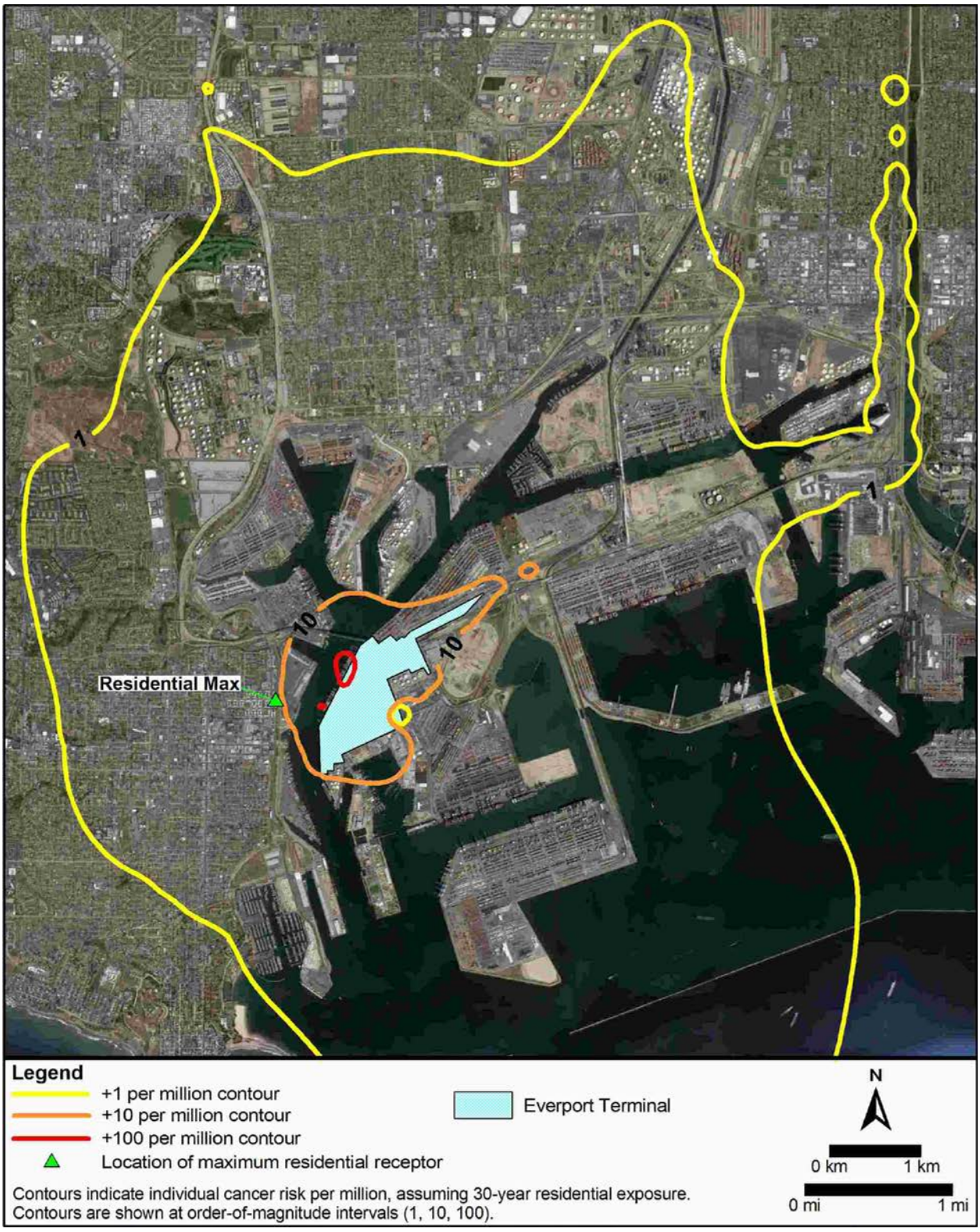

Figure 3.2-3: Isopleths of Residential Cancer Risk – Mitigated Proposed Project – NEPA Increment

Additional Analysis for Informational Purposes—Particulates: Morbidity and Mortality

Impact AQ-4 indicates that operation of the proposed Project would result in a maximum off-site 24-hour $PM_{2.5}$ concentration increment that would exceed the SCAQMD significance threshold of 2.5 µg/m^3 (see Table 3.2-23). However, because the operational $PM_{2.5}$ concentrations would be less than significant for all areas where resident populations are greater than zero, it would not exceed LAHD's criterion for calculating morbidity and mortality attributable to PM, potential mortality and morbidity effects were not quantified for the proposed Project. Isopleths (concentration curves) showing areas where $PM_{2.5}$ concentrations would exceed the SCAQMD significance threshold of 2.5 ug/m^3 are presented in Appendix B2.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AQ-8: The proposed Project would not conflict with or obstruct implementation of an applicable AQMP.

Project operations would produce emissions of nonattainment pollutants primarily in the form of diesel exhaust. The SCAQMD prepared AQMPs in 1997, 2003, 2007, and 2012. The most recent update (the Final 2016 AQMP) was approved by CARB on March 24, 2017. Each iteration of the AQMP is an update of the previous AQMP.

The 2007 and 2012 AQMP propose emission reduction measures that are designed to bring the SCAB into attainment of the state and national ambient air quality standards (SCAQMD, 2007 and 2013). The attainment strategies in these plans include more stringent standards for new engines and cleanup of existing fleets, including new measures for port trucks, statewide truck fleets, ships traveling in port, locomotives, and harbor craft that are enforced at the state and federal level on engine manufacturers and petroleum refiners and retailers; as a result, proposed project operation would comply with these control measures. The SCAQMD also adopts AQMP control measures into the SCAQMD rules and regulations, which are then used to regulate sources of air pollution in the SCAB. The Final 2016 AQMP, as well as the CARB Mobile Source Strategy, contains key control measures related to ports, which include the following: Emission Reductions at Commercial Marine Ports, Tier 4 Vessel Standards, At-Berth Regulation Amendments, Emission Reductions at Rail Yards and Internodal Facilities and More Stringent National Locomotive Emission Standards, Accelerated Retirement of Older On-Road Heavy-Duty Vehicles, and Emission Reductions From Incentive Programs. Therefore, compliance with these requirements would ensure that the proposed Project would not conflict with or obstruct implementation of the AQMP.

In addition, LAHD regularly provides SCAG with its Port-wide cargo forecasts for development of the AQMP. Therefore, the attainment demonstrations included in each AQMP account for the emissions generated by projected future growth at the Port. The proposed Project increases cargo throughput at the Port, and the emissions are included in the General Conformity budgets established in the Final 2012 AQMP (SCAQMD, 2016).

Furthermore, LAHD, in conjunction with the Port of Long Beach, implements the 2010 CAAP Update, which sets goals and implementation strategies that reduce air emissions and health risks from Port operations. In some cases, CAAP measures have produced emission reductions from emission sources identified in the CAAP that are greater than those forecasted in the 2012 AQMP. Operational activities associated with the proposed Project would comply with the source-specific performance standards identified in the CAAP and therefore would be consistent with emission reduction goals in the 2012 AQMP. The next CAAP update would be consistent with emission reduction goals in the Final 2016 AQMP.

CEQA Impact Determination

The proposed Project would not conflict with or obstruct implementation of the AQMP. Therefore, significant impacts under CEQA are not anticipated.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

The proposed Project would not conflict with or obstruct implementation of the AQMP. Therefore, significant impacts under NEPA are not anticipated.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Alternatives

Construction and operational impacts associated with the proposed project alternatives were evaluated for Alternatives 1 through 5.

To assist in comparing the alternatives to one another, Table 3.2-28 provides a summary of the air quality significance determinations for the proposed Project and each alternative. The table shows the results by type of impact and pollutant, both before and after mitigation. The discussions of the impacts for each alternative are provided in the following sections.

Table 3.2-28: Comparison of Air Quality Impacts Associated with Proposed Project and Alternatives

Air Quality Impact[a]	Without Mitigation						With Mitigation					
	PP	Alt 1[c]	Alt 2[d]	Alt 3	Alt 4	Alt 5	PP	Alt 1[c]	Alt 2[d]	Alt 3	Alt 4	Alt 5
CEQA Impacts												
AQ-1 Construction Emissions [b]												
VOC	S	-	NA	S	S	S	S	-	NA	S	S	S
CO	-	-	NA	-	-	-	-	-	NA	-	-	-
NO_X	S	S	NA	S	S	S	S	-	NA	S	S	S
SO_X	-	-	NA	-	-	-	-	-	NA	-	-	-
PM_{10}	-	-	NA	-	-	-	-	-	NA	-	-	-
$PM_{2.5}$	-	-	NA	-	-	-	-	-	NA	-	-	-
AQ-2 Construction Concentrations												
CO	-	-	NA	-	-	-	-	-	NA	-	-	-
NO_2	S	S	NA	S	S	S	S	S	NA	S	S	S
PM_{10}	S	S	NA	S	S	S	S	S	NA	S	S	S
$PM_{2.5}$[4]	-	-	NA	-	-	-	-	-	NA	-	-	-
AQ-3 Operational Emissions												
VOC	S	S	S	S	-	S	S	S	S	S	-	S
CO	S	S	S	S	S	S	S	S	S	S	S	S
NO_X	S	S	S	S	S	S	-	-	S	-	-	-
SO_X	-	-	-	-	-	-	-	-	-	-	-	-
PM_{10}	-	-	-	-	-	-	-	-	-	-	-	-
$PM_{2.5}$	-	-	-	-	-	-	-	-	-	-	-	-
AQ-4 Operational Concentrations												
CO	-	-	-	-	-	-	-	-	-	-	-	-
NO_2	S	S	-	S	-	S	S	S	-	S	-	S
PM_{10}	S	S	S	S	S	S	S	S	S	S	S	S
$PM_{2,5}$	S	S	-	S	-	S	S	S	-	S	-	S
AQ-5 CO Hot Spots [e]												
	-	-	-	-	-	-	-	-	-	-	-	-
AQ-6 Odors												

Table 3.2-28: Comparison of Air Quality Impacts Associated with Proposed Project and Alternatives

Air Quality Impact[a]	Without Mitigation						With Mitigation					
	PP	Alt 1[c]	Alt 2[d]	Alt 3	Alt 4	Alt 5	PP	Alt 1[c]	Alt 2[d]	Alt 3	Alt 4	Alt 5
	-	-	-	-	-	-	-	-	-	-	-	-
AQ-7 Toxic Air Contaminants												
Cancer Risk—Residential or Occupational (CEQA Increment)	-	-	-	-	7-	-	-	-	NA	-	-	-
Cancer Risk—Residential or Occupational (Future CEQA Increment)	-	-	-	-	-	-	-	-	NA	-	-	-
Cancer Burden (CEQA Increment)	-	-	-	-	-	-	-	-	NA	-	-	-
Cancer Burden (Future CEQA Increment)	-	-	-	-	-	-	-	-	NA	-	-	-
Chronic Hazard Index—All Receptors	-	-	-	-	-	-	-	-	NA	-	-	-
Acute Hazard Index—Residential or Occupational	-	-	-	-	-	-	-	-	NA	-	-	-
AQ-8 AQMP Consistency												
	-	-	-	-			-	-	-	-		
NEPA Impacts												
AQ-1 Construction Emissions												
VOC	S	-	NA	S	S	S	S	-	NA	S	S	S
CO	-	-	NA	-	-	-	-	-	NA	-	-	-
NO_X	S	-	NA	S	S	S	S	-	NA	S	S	S
SO_X	-	-	NA	-	-	-	-	-	NA	-	-	-
PM_{10}	-	-	NA	-	-	-	-	-	NA	-	-	-
$PM_{2.5}$	S	-	NA	-	-	-	-	-	NA	-	-	-
AQ-2 Construction Concentrations												
CO	-	-	NA	-	-	-	-	-	NA	-	-	-
NO_2	S	-	NA	S	S	S	S	-	NA	S	S	S
PM_{10}	-	-	NA	-	-	-	-	-	NA	-	-	-
$PM_{2.5}$	-	-	NA	-	-	-	-	-	NA	-	-	-
AQ-3 Operational Emissions												

Table 3.2-28: Comparison of Air Quality Impacts Associated with Proposed Project and Alternatives

Air Quality Impact[a]	Without Mitigation						With Mitigation					
	PP	Alt 1[c]	Alt 2[d]	Alt 3	Alt 4	Alt 5	PP	Alt 1[c]	Alt 2[d]	Alt 3	Alt 4	Alt 5
VOC	S	-	NA	S	-	S	S	-	NA	-	-	S
CO	S	-	NA	S	-	S	S	-	NA	S	-	S
NO_X	S	-	NA	S	S	S	S	-	NA	S	S	S
SO_X	-	-	NA	-	-	-	-	-	NA	-	-	-
PM_{10}	-	-	NA	-	-	-	-	-	NA	-	-	-
$PM_{2.5}$	S	-	NA	S	-	S	-	-	NA	-	-	-
AQ-4 Operational Concentrations												
CO	-	-	NA	-	-	-	-	-	NA	-	-	-
NO_2	-	-	NA	-	S	-	-	-	NA	-	S	-
PM_{10}	S	-	NA	S	S	S	S	-	NA	S	S	S
$PM_{2.5}$	-	-	NA	-	-	-	-	-	NA	-	-	-
AQ-5 CO Hot Spots [e]												
	-	-	NA	-	-	-	-	-	NA	-	-	-
AQ-6 Odors												
	-	-	NA	-	-	-	-	-	NA	-	-	-
AQ-7 Toxic Air Contaminants												
Cancer Risk—All Receptors	S	-	NA	S	-	S	-	-	NA	-	-	-
Cancer Burden	S	-	NA	-	-	S	-	-	NA	-	-	-
Chronic Hazard Index—All Receptors	-	-	NA	-	-	-	-	-	NA	-	-	-
Acute Hazard Index—Residential or Occupational	-	-	NA	-	-	-	-	-	NA	-	-	-
AQ-8 AQMP Consistency												
	-	-	NA	-	-	-	-	-	NA	-	-	-

Notes:
S = Significant impact
- = Less than significant impact
NA = Not Applicable

PP = Proposed Project
Alt 1 = Alternative 1, No Federal Action Alternative
Alt 2 = Alternative 2, No Project Alternative
Alt 3 = Alternative 3, Reduced Project Alternative: Reduced Wharf Improvements
Alt 4 = Alternative 4, Reduced Project Alternative: No Backland Improvements

Table 3.2-28: Comparison of Air Quality Impacts Associated with Proposed Project and Alternatives

Air Quality Impact[a]	Without Mitigation						With Mitigation					
	PP	Alt 1[c]	Alt 2[d]	Alt 3	Alt 4	Alt 5	PP	Alt 1[c]	Alt 2[d]	Alt 3	Alt 4	Alt 5
	Alt 5 = Alternative 5, Expanded On-Dock Railyard: Wharf and Backland Improvements with an Expanded TICTF											

[a] For all impacts, significance determinations may vary in each analysis year. An impact is designated significant if it is significant for any year, even if it is less than significant for some years.

[b] AQ-1 construction emissions represent the maximum impacts between: (1) construction impacts and (2) combined construction/operations impacts during construction.

[c] Alternative 1, the No Federal Action Alternative:

- Requires no Federal Action
- Has the same actions and impacts as the NEPA baseline
- Has no mitigation under NEPA
- Has mitigation under CEQA because minor backland improvements would still occur without the Federal Action and would be mitigated under CEQA

[d] Alternative 2, the No Project Alternative:

- Has no discretionary action under CEQA or NEPA
- Has no construction
- Has no applicable mitigation
- Requires no Federal Action and is not assessed under NEPA

[e] The level of detail for dispersion modeling was based on traffic demand modeling and adequately analyzes CO impacts. For Alternatives such that CO impacts would be much less than CAAQS and NAAQS thresholds, CO Hot Spots were determined less than significant without additional modeling.

Alternative 1 – No Federal Action

Alternative 1 is a NEPA-required no action alternative. This alternative (which represents the NEPA baseline) includes the activities that would occur absent a USACE (Department of the Army – DA) permit but could include improvements that require a local permit. Absent a DA permit, no dredging, dredged material disposal, in-water pile installation, or raising existing cranes and new crane installation would occur. The existing terminal is berth-constrained, and its ability to handle larger ships (compared to current terminal constraints) would be facilitated by activities that require a DA permit (dredging, in-water pile driving, and new cranes). The No Federal Action Alternative includes 23.5 acres of additional backlands to improve efficiency. The additional backland area would not change the capacity of the existing terminal.

The site would continue to operate as an approximately 229-acre container terminal where cargo containers are loaded to/from vessels, temporarily stored on backlands, and transferred to/from trucks or on-dock rail. In addition, the No Federal Action alternative would include a lease extension to 2038, which would require a local action, but not a federal action. Based on the throughput projections, the Everport Container Terminal is expected to operate at its capacity of approximately 1,818,000 TEUs by 2038. AMP facilities have been installed and are currently in use at Berths 227 (two AMP vaults) and 230 (one AMP vault). Five additional AMP vaults would also be included at the wharf under the No Federal Action Alternative.

Impact AQ-1: Alternative 1 would not result in construction-related emissions that exceed an SCAQMD threshold of significance in Table 3.2-6.

Table 3.2-29 presents the peak day criteria pollutantemissions associated with construction activities of Alternative 1, with and without mitigation. Construction activities would be only those that would occur in the absence of federal action and would consist of minor upland improvements.

The Everport Container Terminal would continue to operate during construction of Alternative 1; construction and operational activities would overlap during this time. Total proposed project emissions from overlapping construction and operational activities are presented to show the overall impacts of the proposed project. Table 3.2-30 presents overlapping construction and operational emissions of Alternative 1 during 2018 and 2019, with and without mitigation.

Table 3.2-29: Peak Daily Construction Emissions — Alternative 1, No Federal Action (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Construction Year 2018												
Off-road Construction Equipment Exhaust	3	4	77	<1	42	8	<1	<1	35	<1	65	11
Marine Source Exhaust	0	0	0	0	0	0	0	0	0	0	0	0
On-Road Construction Vehicles	4	<1	33	<1	1	<1	4	1	39	<1	1	<1
Worker Vehicles	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	1	<1
Fugitive Emissions	1	<1	<1	<1	0	<1	1	<1	<1	<1	<1	<1
Construction Year 2018 Total	**9**	**4**	**110**	**<1**	**44**	**8**	**6**	**2**	**74**	**<1**	**67**	**11**
CEQA Impacts												
CEQA Baseline Emissions	0	0	0	0	0	0	0	0	0	0	0	0
Alternative Minus CEQA Baseline	9	4	110	<1	44	8	6	1	74	<1	68	11
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	No	No	No	No	No	No	No
Construction Year 2019												
Off-road Construction Equipment Exhaust	1	2	47	0	26	4	0	0	22	0	34	6
Marine Source Exhaust	0	0	0	0	0	0	0	0	0	0	0	0
On-Road Construction Vehicles	4	<1	7	<1	1	<1	4	<1	9	<1	1	<1
Worker Vehicles	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	1	<1
Fugitive Emissions	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	0	<1
Construction Year 2019 Total	**5**	**2**	**55**	**<1**	**27**	**4**	**4**	**0**	**30**	**<1**	**35**	**6**
CEQA Impacts												
CEQA Baseline Emissions	0	0	0	0	0	0	0	0	0	0	0	0
Alternative Minus CEQA Baseline	5	2	55	<1	27	4	4	<1	30	<1	35	6
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	No	No	No	No	No	No	No	No	No	No

Table 3.2-29: Peak Daily Construction Emissions — Alternative 1, No Federal Action (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**

Notes:

- Emissions of PM_{10} and $PM_{2.5}$ assume that fugitive dust is controlled in accordance with SCAQMD Rule 403 by watering disturbed areas 3 times per day.
- On-road Construction Vehicle emissions include exhaust, road dust, tire wear, and brake wear emissions from haul trucks, material delivery trucks, and worker vehicles.
- Fugitive emissions include construction dust and asphalt off-gassing.
- Incremental NEPA impacts are zero because NEPA baseline is the same as the No Federal Action for this EIS/EIR.
- Emissions might not add precisely due to rounding.

The emission estimates presented in this table were calculated using the latest available data, assumptions, and emission factors at the time this document was prepared.

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Table 3.2-30: Peak Daily Combined Construction and Operational Emissions — Alternative 1, No Federal Action (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Construction 2018												
Construction Emissions	9	4	110	<1	44	8	6	2	74	<1	67	11
Operation 2018												
Ships: Main Propulsion Engines	129	122	7,276	150	849	488	129	122	7,276	150	849	488
Ships: Aux Engines and Boilers	43	40	1,670	107	152	61	43	40	1,670	107	152	61
AMP Electricity Use	2	2	17	7	8	<1	2	2	17	7	8	<1
Tugboats	2	2	62	<1	131	9	2	2	62	<1	131	9
Trucks	139	46	2,383	4	216	71	139	46	2,383	4	216	71
Line Haul Locomotives	27	25	1,080	1	266	44	27	25	1,080	1	266	44
Switch Locomotives	<1	<1	16	<1	5	1	<1	<1	16	<1	5	1
Cargo Handling Equipment	3	3	270	2	311	27	3	3	270	2	311	27
Worker Vehicles	17	5	10	<1	109	4	17	5	10	<1	109	4
Total Construction and Operation 2018	**370**	**248**	**12,895**	**271**	**2,092**	**713**	**367**	**245**	**12,858**	**271**	**2,115**	**717**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Alternative Minus CEQA Baseline	-93	-55	136	-811	123	-52	-96	-58	99	-811	147	-49
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	No	No	No	No	No	No	No
Construction 2019												
Construction Emissions	5	2	55	<1	27	4	4	0	30	<1	35	6
Operation 2019												
Ships: Main Propulsion Engines	131	123	7,359	151	859	494	113	106	6,121	118	794	471
Ships: Aux Engines and Boilers	43	41	1,689	108	154	61	44	41	1,687	110	154	61
AMP Electricity Use	2	2	17	7	8	<1	2	2	18	8	9	<1
Tugboats	2	2	63	<1	134	10	2	2	63	<1	134	10
Trucks	162	52	2,646	5	234	73	162	52	2,646	5	234	73
Line Haul Locomotives	25	23	1,046	1	270	42	25	23	1,046	1	270	42
Switch Locomotives	<1	<1	16	<1	5	1	<1	<1	16	<1	5	1
Cargo Handling Equipment	3	3	236	2	318	26	3	3	236	2	318	26
Worker Vehicles	17	5	8	<1	87	3	17	5	8	<1	87	3
Total Construction and Operation 2019	**390**	**253**	**13,134**	**275**	**2,097**	**714**	**371**	**234**	**11,871**	**244**	**2,041**	**693**

Table 3.2-30: Peak Daily Combined Construction and Operational Emissions — Alternative 1, No Federal Action (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Alternative Minus CEQA Baseline	-74	-50	375	-808	128	-52	-93	-69	-888	-839	72	-73
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	No	No	No	No	No	No	No

Notes:

- Emissions assume the simultaneous occurrence of maximum daily emissions for each source category. Such levels would rarely occur during day-to-day terminal operations.
- Truck, train, ship, and worker commute emissions include transport within the South Coast Air Basin.
- AMP electricity use reflects indirect emissions from regional power generation.
- Mitigation is not required for NEPA under the No Federal Action Alternative.
- Emissions might not precisely add due to rounding.

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

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CEQA Impact Determination

Table 3.2-29 shows that unmitigated peak daily construction emissions would exceed the SCAQMD daily emission thresholds for NO_X under CEQA in 2018. Therefore, unmitigated Alternative 1 construction emissions would be significant under CEQA for NO_X prior to mitigation. The largest contributors to peak daily construction emissions are off-road construction equipment and haul and material delivery trucks used for hauling of soil, concrete/base material/asphalt delivery.

Table 3.2-30 shows that overlapping construction and operational emissions during 2018 and 2019 would exceed the SCAQMD daily emission thresholds for construction for NO_X. Therefore, NO_X emissions would be significant for the construction and operational overlap under CEQA.

Mitigation Measures

To reduce the level of impact during construction, MM AQ-2 through MM AQ-5 would be applied. These mitigation measures would be implemented by the responsible parties identified in Section 3.2.4.7. Table 3.2-29 presents the peak daily construction emissions of Alternative 1, after the application of MM AQ-2 through MM AQ-5. Because mitigated Alternative 1 is the same as the NEPA baseline, construction emissions are the same as those presented for the NEPA baseline in Section 3.2.4.3, Table 3.2-4.

Table 3.2-30 presents the peak daily combined construction and operational emissions after the application of MM AQ-2 through MM AQ-5. Because mitigated Alternative 1 is the same as the NEPA baseline, operational emissions are the same as those presented for the NEPA operations baseline in Section 3.2.4.3, Table 3.2-5.

Residual Impacts

Emissions from construction of Alternative 1 would be reduced with mitigation, and NO_X emissions 2018 would be reduced to levels that are less than significant under CEQA. Also, NO_X emissions of overlapping construction and operation in 2018 and 2019 would be reduced to levels that are less than significant.

NEPA Impact Determination

Alternative 1 would include upland improvements. No construction of in-water or over-water features would occur under Alternative 1. The No Federal Action Alternative would involve the same construction activities as would occur under the NEPA baseline. Therefore, there would be no incremental difference between Alternative 1 and the NEPA baseline. As a consequence, Alternative 1 would result in no incremental impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact AQ-2: Alternative 1 would result in construction-related off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.2-7.

Dispersion modeling of on-site Alternative 1 construction emissions was performed to assess the impact of Alternative 1 on local ambient air concentrations. A summary of the dispersion modeling results is presented here; the complete dispersion modeling report is included in Appendix B2.

CEQA Impact Determination

Table 3.2-31 presents the maximum off-site ground level concentrations of NO_2, SO_2, and CO from construction. Table 3.2-32 presents the maximum off-site ground level concentrations of PM_{10}, and $PM_{2.5}$ from construction. Table 3.2-33 presents maximum off-site ground level concentrations of NO_2, SO_2, and CO when peak construction activity would overlap with terminal operations. Table 3.2-34 presents maximum off-site ground level concentrations of PM_{10} and $PM_{2.5}$ when peak construction activity would overlap with terminal operations. Decrease in operation at the port in 2018 during construction resulted in lower concentrations for some pollutants when construction and operational sources were both modeled.

Table 3.2-31: Maximum Off-site Ambient NO_2, SO_2, and CO Concentrations (CEQA)—Alternative 1 Construction

Pollutant	Averaging Time	Background Concentration (ppm)[c]	Maximum Unmitigated Modeled Alternative 1 Concentration (ppm)	Maximum Mitigated Modeled Alternative 1 Concentration (ppm)	Total Unmitigated Ground-Level Concentration (ppm)[d]	Total Mitigated Ground-Level Concentration (ppm)[d]	SCAQMD Threshold (ppm)	Unmitigated Concentration above threshold?	Mitigated Concentration above threshold?
NO_2	Federal 1-hour[a]	0.088	0.041	0.026	**0.129**	**0.114**	0.100	**Yes**	**Yes**
	State 1-hour	0.11	0.05	-	0.16	-	0.18	No	-
	Federal annual	0.017	0.003	-	0.020	-	0.053	No	-
	State annual	0.017	0.003	-	0.020	-	0.030	No	-
SO_2	Federal 1-hour[b]	0.038	0.0001	-	0.038	-	0.075	No	-
	State 1-hour	0.05	0.0001	-	0.05	-	0.25	No	-
	24-hour	0.01	0.00004	-	0.02	-	0.04	No	-
CO	1-hour	7	0.1	-	7	-	20 / 35	No	-
	8-hour	1.8	0.1	-	1.9	-	9.0	No	-

Notes:

[a] The federal 1-hour NO_2 modeled concentration represents the 98th percentile of the daily maximum 1-hour averages.

[b] The federal 1-hour SO_2 modeled concentration represents the 99th percentile of the daily maximum 1-hour averages.

[c] The background concentrations for NO_2, SO_2 and CO were obtained from the TITP station.

[d] Exceedances of the thresholds are indicated in **bold**.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-32: Maximum Off-site Ambient PM_{10} and $PM_{2.5}$ Concentrations (CEQA)—Alternative 1 Construction

Pollutant	Averaging Time	Maximum Unmitigated Modeled Concentration of Alternative 1 (µg/m^3)	Maximum Mitigated Modeled Concentration of Alternative 1 (µg/m^3)	Unmitigated Ground-Level Concentration CEQA Increment (µg/m^3)[a,b]	Mitigated Ground-Level Concentration CEQA Increment (µg/m^3)[a,b]	SCAQMD Threshold (µg/m^3)	Unmitigated CEQA Concentration above threshold?	Mitigated CEQA Concentration above threshold?
PM_{10}	24-hour	4.0	-	4.0	-	10.4	No	-
	Annual	0.7	-	0.7	-	1.0	No	-
$PM_{2.5}$	24-hour	2.6	-	2.6	-	10.4	No	-

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The CEQA increment represents Alternative 1 minus CEQA baseline. Because the CEQA baseline for construction is zero, the CEQA increment equals the maximum modeled concentration.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-33: Maximum Off-site Ambient NO_2, SO_2, and CO Concentrations (CEQA)—Alternative 1 Construction and Operation

Pollutant	Averaging Time	Background Concentration (ppm)[c]	Maximum Unmitigated Modeled Alternative 1 Concentration Increment (ppm)[d,e]	Maximum Mitigated Modeled Alternative 1 Concentration Increment (ppm)[d,e]	Total Unmitigated Ground-Level Concentration (ppm)[f]	Total Mitigated Ground-Level Concentration (ppm)[f]	SCAQMD Threshold (ppm)	Unmitigated Concentration above threshold?	Mitigated Concentration above threshold?
NO_2	Federal 1-hour[a]	0.088	-0.001	-	0.087	-	0.100	No	-
	State 1-hour	0.11	-0.001	-	0.11	-	0.18	No	-
	Federal annual	0.017	0.0004	-	0.018	-	0.053	No	-
	State annual	0.017	0.0004	-	0.018	-	0.030	No	-
SO_2	Federal 1-hour[b]	0.038	-0.0002	-	0.037	-	0.075	No	-
	State 1-hour	0.05	-0.0002	-	0.05	-	0.25	No	-
	24-hour	0.01	-0.00001	-	0.01	-	0.04	No	-
CO	1-hour	7	0.04	-	7	-	20 / 35	No	-
	8-hour	1.8	0.03	-	1.8	-	9.0	No	-

Notes:

[a] The federal 1-hour NO_2 modeled concentration represents the 98th percentile of the daily maximum 1-hour averages.

[b] The federal 1-hour SO_2 modeled concentration represents the 99th percentile of the daily maximum 1-hour averages.

[c] The background concentrations for NO_2, SO_2, and CO were obtained from the TITP station.

[d] The maximum modeled concentration increment represents Alternative 1 construction plus operation minus 2013 terminal operations.

[e] Hourly NO_2 concentrations were lower for Alternative 1 in 2018 than those in 2013 existing conditions due to substantially cleaner cargo handling equipment on the project site which lowered impacts at all locations; and SO_2 emisisons were lower for all sources in 2018.

[f] Exceedances of the thresholds are indicated in **bold**.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-34: Maximum Off-site Ambient PM_{10} and $PM_{2.5}$ Concentrations (CEQA)—Alternative 1 Construction and Operation

Pollutant	Averaging Time	Maximum Modeled Concentration of CEQA Baseline (µg/m^3)	Maximum Unmitigated Modeled Concentration of Alternative 1 (µg/m^3)	Maximum Mitigated Modeled Concentration of Alternative 1 (µg/m^3)	Unmitigated Ground-Level Concentration CEQA Increment (µg/m^3)[a,b]	Mitigated Ground-Level Concentration CEQA Increment (µg/m^3)[a,b]	SCAQMD Threshold (µg/m^3)	Unmitigated CEQA Concentration above threshold?	Mitigated CEQA Concentration above threshold?
PM_{10}	24-hour	8.2	11.0	-	3.4	-	10.4	No	-
	Annual	3.8	5.5	5.5	**1.7**	**1.7**	1.0	**Yes**	**Yes**
$PM_{2.5}$	24-hour	4.0	3.9	-	1.7	-	10.4	No	-

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The CEQA increment represents Alternative 1 minus CEQA baseline.

[c] The maximum modeled Alternative 1 concentration, maximum modeled baseline concentrations, and maximum concentration increments may occur at different receptors. Therefore, the modeled Alternative 1 and baseline concentrations in the table may not necessarily subtract to equal the increment.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-31 shows that the maximum off-site NO_2 (federal 1-hour average) concentration from construction activities would exceed SCAQMD thresholds. Table 3.2-32 shows that the maximum off-site incremental PM_{10} and $PM_{2.5}$ concentrations would not exceed the SCAQMD threshold for any averaging period. Therefore, without mitigation, maximum off-site ambient pollutant concentrations associated with construction of the Alternative 1 would be significant under CEQA for NO_2 (federal 1-hour average).

Table 3.2-33 shows that the maximum off-site NO_2 SO_2, and CO concentrations from overlapping construction and operational activities would not exceed the SCAQMD thresholds for any averaging period. Table 3.2-34 shows that the maximum off-site incremental PM_{10} (annual average) concentration from overlapping construction and operational activities would exceed the SCAQMD threshold. Therefore, without mitigation, maximum off-site ambient pollutant concentrations associated with the combined construction and operation of Alternative 1 would be significant under CEQA for PM_{10} (annual average).

Mitigation Measures

To reduce the level of impact during construction, MM AQ-1 through MM AQ-5 would be applied. These mitigation measures would be implemented by the responsible parties identified in Section 3.2.4.7.

Table 3.2-31 presents the maximum off-site ground level concentration of NO_2 during construction with mitigation. Table 3.2-34 presents the maximum off-site ground level concentration of PM_{10} when peak construction activity would overlap with terminal operations with mitigation.

Residual Impacts

Table 3.2-31 shows that the maximum off-site NO_2 (federal 1-hour average) concentration from construction activities would be reduced with mitigation but would remain significant. Therefore, following mitigation, maximum off-site ambient pollutant concentrations associated with the construction of Alternative 1 would be significant and unavoidable under CEQA for NO_2 (federal 1-hour average).

Table 3.2-34 shows that the maximum off-site incremental PM_{10} (annual average) concentration from overlapping construction and operational activities would be reduced with mitigation but would remain significant. Therefore, following mitigation, maximum off-site ambient pollutant concentrations associated with the combined construction and operation of Alternative 1 would be significant and unavoidable under CEQA for PM_{10} (annual average).

NEPA Impact Determination

Alternative 1 would include only minor upland improvements. No construction of in-water or over-water features would occur under Alternative 1. The No Federal Action Alternative would involve the same construction activities as would occur under the NEPA baseline. Therefore, there would be no incremental difference between

Alternative 1 and the NEPA baseline. As a consequence, Alternative 1 would result in no incremental impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact AQ-3: Alternative 1 would result in operational emissions that exceed an SCAQMD threshold of significance in Table 3.2-8.

Table 3.2-35 presents unmitigated peak daily criteria pollutant emissions associated with operation of Alternative 1. Comparisons to the CEQA baseline emissions are presented to determine CEQA significance.

Alternative 1 source characteristics, activity levels, sulfur fuel content, emission factors, and other parameters assumed in the operational emissions are discussed in detail in Appendix B1: Table 3.1-2 for container ships, Table 3.1-3 for CHE, Table 3.1-4 for trucks, and Table 3.1-5 for trains. The following summarizes terminal activity under Alternative 1:

- Annual throughput of 1,818,000 TEUs by 2033;
- 208 annual container ship calls by 2033;
- Largest container ship would be 8,000 TEUs;
- 4 peak day container ship transits by 2033;
- 4 peak day container ships berthing by 2033;
- 7 AMP-capable berths in all analysis years;
- 1,189,000 annual truck trips by 2033;
- 4,815 peak day truck trips by 2033;
- 1,149 annual on-dock trains and 229 annual near- and off-dock trains by 2033; and
- 3.5 peak day on-dock trains and 0.7 peak day near- and off-dock trains by 2033.

Table 3.2-35: Peak Daily Operational Emissions—Alternative 1 (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Year 2019												
Ships: Main Propulsion Engines	131	123	7,359	151	859	494	113	106	6,121	118	794	471
Ships: Aux Engines and Boilers	43	41	1,689	108	154	61	44	41	1,687	110	154	61
AMP Electricity Use	2	2	17	7	8	0	2	2	18	8	9	0
Tugboats	2	2	63	0	134	10	2	2	63	0	134	10
Trucks	162	52	2,646	5	234	73	162	52	2,646	5	234	73
Line Haul Locomotives	25	23	1,046	1	270	42	25	23	1,046	1	270	42
Switch Locomotives	0	0	16	0	5	1	0	0	16	0	5	1
Cargo Handling Equipment	3	3	236	2	318	26	3	3	236	2	318	26
Worker Vehicles	17	5	8	0	87	3	17	5	8	0	87	3
Total Operational Year 2019	**385**	**250**	**13,079**	**275**	**2,070**	**710**	**367**	**234**	**11,841**	**244**	**2,006**	**687**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Alternative Minus CEQA Baseline	-79	-53	321	-808	101	-56	-97	-69	-918	-839	37	-79
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	**Yes**	No	No	No	No	No	No	No	No	No
Year 2026												
Ships: Main Propulsion Engines	134	126	7,508	154	876	504	115	108	5,262	120	811	481
Ships: Aux Engines and Boilers	47	44	1,896	112	173	68	39	37	1,300	100	138	55
AMP Electricity Use	1	1	10	4	5	0	2	2	17	7	8	0
Tugboats	2	1	60	0	143	10	2	1	60	0	143	10
Trucks	148	42	959	4	154	32	148	42	959	4	154	32
Line Haul Locomotives	17	16	785	1	303	30	17	16	785	1	303	30
Switch Locomotives	0	0	14	0	6	1	0	0	14	0	6	1
Cargo Handling Equipment	4	3	121	3	437	29	4	3	121	3	437	29
Worker Vehicles	17	5	5	0	58	2	17	5	5	0	58	2
Total Operational Year 2026	**370**	**239**	**11,357**	**279**	**2,154**	**677**	**344**	**215**	**8,523**	**236**	**2,058**	**641**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Alternative Minus CEQA Baseline	-94	-64	-1,402	-803	185	-88	-119	-88	-4,236	-847	89	-125
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55

Table 3.2-35: Peak Daily Operational Emissions—Alternative 1 (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Significant?	No	No	No	No	No	No	No	No	No	No	No	No
Year 2033												
Ships: Main Propulsion Engines	189	178	10,812	228	1,206	684	153	144	3,938	159	1,076	638
Ships: Aux Engines and Boilers	53	50	2,226	119	202	79	41	38	843	100	147	58
AMP Electricity Use	0	0	4	2	2	0	2	2	16	7	8	0
Tugboats	2	2	85	0	204	15	2	2	85	0	204	15
Trucks	146	41	718	4	157	28	146	41	718	4	157	28
Line Haul Locomotives	37	34	1,964	5	1,216	72	37	34	1,964	5	1,216	72
Switch Locomotives	0	0	27	0	12	2	0	0	27	0	12	2
Cargo Handling Equipment	5	4	133	3	563	36	5	4	133	3	563	36
Worker Vehicles	20	6	4	0	54	2	20	6	4	0	54	2
Total Operational Year 2033	**452**	**315**	**15,975**	**362**	**3,617**	**919**	**405**	**270**	**7,729**	**279**	**3,437**	**852**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Alternative Minus CEQA Baseline	-11	12	3,216	-721	1,649	154	-59	-33	-5,029	-804	1,468	86
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	**Yes**	No	**Yes**	**Yes**	No	No	No	No	**Yes**	**Yes**
Year 2038												
Ships: Main Propulsion Engines	189	178	10,812	228	1,206	684	153	144	1,765	159	1,076	638
Ships: Aux Engines and Boilers	53	50	2,226	119	202	79	41	38	459	100	147	58
AMP Electricity Use	0	0	4	2	2	0	2	2	16	7	8	0
Tugboats	2	2	77	0	176	13	2	2	77	0	176	13
Trucks	145	40	646	4	152	26	145	40	646	4	152	26
Line Haul Locomotives	23	21	1,416	5	1,216	53	23	21	1,416	5	1,216	53
Switch Locomotives	0	0	13	0	12	1	0	0	13	0	12	1
Cargo Handling Equipment	5	4	129	3	563	36	5	4	129	3	563	36
Worker Vehicles	20	6	3	0	47	2	20	6	3	0	47	2
Total Operational Year 2038	**438**	**302**	**15,327**	**362**	**3,577**	**895**	**390**	**257**	**4,524**	**279**	**3,397**	**827**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Alternative Minus CEQA Baseline	-26	-1	2,569	-721	1,609	129	-74	-46	-8,234	-804	1,429	62

Table 3.2-35: Peak Daily Operational Emissions—Alternative 1 (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	**Yes**	No	**Yes**	**Yes**	No	No	No	No	**Yes**	**Yes**

Notes:

- Emissions assume the simultaneous occurrence of peak daily equipment activity levels. Such levels would rarely occur during day-to-day terminal operations.
- Truck, train, ship, and worker commute emissions include transport within the South Coast Air Basin.
- AMP electricity use reflects indirect emissions from regional power generation.
- NEPA does not require analysis of the No Project Alternative.
- Emissions might not precisely add due to rounding.

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

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Discussion of Emissions Trends and Comparison to Proposed Project

Emissions would vary due to several factors, such as regulatory requirements, activity, source (container ships, tugboats, trucks, locomotives, CHE, and worker vehicles) characteristics, and emission factors. The combination of these factors can result in emissions that do not always decrease or increase consistently over time.

Under Alternative 1, terminal activity would increase in each study year, although it would not reach the level of activity of the proposed Project. Regulatory requirements described in detail in Appendix B1 would serve to decrease emission factors from emission sources. In addition, as equipment ages, engine efficiency would decrease and emission factors would increase in comparison to brand-new equipment. Furthermore, although the annual and peak daily number of container ships would be the same as under the proposed Project, the ship size would be smaller because berths would not be dredged to accommodate larger vessels.

CEQA Impact Determination

Table 3.2-35 shows that peak daily operational emissions would exceed the SCAQMD daily emission thresholds and would be significant under CEQA for NO_X in 2019, 2033, and 2038 and CO and VOC in 2033 and 2038. Therefore, emissions of NO_X, CO, and VOC associated with the operation of Alternative 1 would be significant under CEQA before mitigation.

Mitigation Measures

Table 3.2-35 presents the peak daily operational emissions of Alternative 1, after the application of MM AQ-6 and MM AQ-7.

Residual Impacts

Table 3.2-35 shows that emissions from operation of Alternative 1 would be reduced with mitigation. Emissions for NO_X in 2019, 2033, and 2038 would be reduced to levels that are less than significant under CEQA. However, CO and VOC emissions in 2033 and 2038 would remain significant and unavoidable under CEQA.

NEPA Impact Determination

The No Federal Action Alternative would involve the same operational activities, at the same activity levels, as would occur under the NEPA baseline. Therefore, there would be no incremental difference between Alternative 1 and the NEPA baseline. As a consequence, Alternative 1 would result in no incremental impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact AQ-4: Alternative 1 operations would result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.2-9.

Dispersion modeling of on- and off-site Alternative 1 operational emissions was performed to assess the impact of the Alternative on local ambient air concentrations. A summary of the dispersion modeling results is presented here; the complete dispersion modeling report is included in Appendix B2.

CEQA Impact Determination

Tables 3.2-36 and 3.2-37 present the maximum off-site ground level concentrations of NO_2, SO_2, CO, PM_{10}, and $PM_{2.5}$ from operation without mitigation.

Table 3.2-36: Maximum Off-site NO_2, SO_2, and CO Concentrations (CEQA)—Alternative 1 Operation

Pollutant	Averaging Time	Background Concentration (ppm)[c]	Maximum Unmitigated Modeled Alternative 1 Concentration Increment (ppm)[d]	Maximum Mitigated Modeled Alternative 1 Concentration Increment (ppm)[d]	Total Unmitigated Ground-Level Concentration (ppm)[e]	Total Mitigated Ground-Level Concentration (ppm)[e]	SCAQMD Threshold (ppm)	Unmitigated Concentration above threshold?	Mitigated Concentration above threshold?
NO_2	Federal 1-hour[a]	0.088	0.029	0.029	**0.117**	**0.117**	0.100	**Yes**	**Yes**
	State 1-hour	0.11	0.04	-	0.15	-	0.18	No	-
	Federal annual	0.017	0.012	-	0.029	-	0.053	No	-
	State annual	0.017	0.012	-	0.029	-	0.030	No	-
SO_2	Federal 1-hour[b]	0.038	-0.00002	-	0.038	-	0.075	No	-
	State 1-hour	0.05	0.00001	-	0.05	-	0.25	No	-
	24-hour	0.01	-0.00001	-	0.01	-	0.04	No	-
CO	1-hour	7	0.1	-	7	-	20 / 35	No	-
	8-hour	1.8	0.1	-	1.9	-	9.0	No	-

Notes:

[a] The federal 1-hour NO_2 modeled concentration represents the 98th percentile of the daily maximum 1-hour averages.

[b] The federal 1-hour SO_2 modeled concentration represents the 99^{th} percentile of the daily maximum 1-hour averages.

[c] The background concentrations for NO_2, SO_2 and CO were obtained from the TITP station.

[d] The maximum modeled concentration increment represents Alternative 1 operation minus 2013 terminal operations.

[e] Exceedances of the thresholds are indicated in **bold**.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-37: Maximum Off-site PM_{10} and $PM_{2.5}$ Concentrations (CEQA)—Alternative 1 Operation

Pollutant	Averaging Time	Maximum Modeled Concentration of CEQA Baseline ($\mu g/m^3$)	Maximum Unmitigated Modeled Concentration of Alternative 1 ($\mu g/m^3$)	Maximum Mitigated Modeled Concentration of Alternative 1 ($\mu g/m^3$)	Unmitigated Ground-Level Concentration CEQA Increment ($\mu g/m^3$)[a,b]	Mitigated Ground-Level Concentration CEQA Increment ($\mu g/m^3$)[a,b]	SCAQMD Threshold ($\mu g/m^3$)	Unmitigated CEQA Concentration above threshold?	Mitigated CEQA Concentration above threshold?
PM_{10}	24-hour	8.2	25.3	25.2	**18.8**	**18.7**	2.5	**Yes**	**Yes**
	Annual	3.8	15.0	15.0	**12.6**	**12.6**	1.0	**Yes**	**Yes**
$PM_{2.5}$	24-hour	4.0	6.8	6.8	**4.0**	**4.0**	2.5	**Yes**	**Yes**

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The CEQA increment represents Alternative 1 minus the CEQA baseline.

[c] The maximum modeled Alternative 1 concentration, maximum modeled baseline concentrations, and maximum concentration increments may occur at different receptors. Therefore, the modeled Alternative 1 and baseline concentrations in the table may not necessarily subtract to equal the increment.

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Table 3.2-36 shows that the maximum off-site NO_2 (federal 1-hour average) concentration from operational activities would exceed SCAQMD thresholds. Table 3.2-37 shows that the maximum off-site incremental PM_{10} (24-hour and annual average) and $PM_{2.5}$ concentrations from operational activities would exceed SCAQMD thresholds. Therefore, maximum off-site ambient pollutant concentrations associated with the operation of Alternative 1 would be significant under CEQA for NO_2 (federal 1-hour average), PM_{10} (24-hour and annual average), and $PM_{2.5}$.

Mitigation Measures

Table 3.2-36 presents the maximum off-site ground level concentration of NO_2 after the application of MM AQ-6 and MM AQ-7. Table 3.2-37 presents the maximum off-site ground level concentrations of PM_{10} and $PM_{2.5}$ after the application of the same mitigation measures. These mitigation measures would be implemented by the responsible parties identified in Section 3.2.4.7.

Residual Impacts

Table 3.2-36 shows that the maximum off-site NO_2 (federal 1-hour average) concentration from operational activities would be reduced with mitigation but would remain significant. Table 3.2-37 shows that the maximum off-site incremental PM_{10} (24-hour and annual average) and $PM_{2.5}$ concentrations from operational activities would be reduced with mitigation but would remain significant. Therefore, following mitigation, maximum off-site ambient pollutant concentrations associated with operation of Alternative 1 would be significant and unavoidable under CEQA for NO_2 (federal 1-hour average), PM_{10} (24-hour and annual average), and $PM_{2.5}$.

NEPA Impact Determination

The No Federal Action Alternative would involve the same operational activities, at the same activity levels, as would occur under the NEPA baseline. Therefore, there would be no incremental difference between Alternative 1 and the NEPA baseline. As a consequence, Alternative 1 would result in no incremental impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact AQ-5: Alternative 1 would not generate on-road traffic that would contribute to an exceedance of the 1-hour or 8-hour CO standards.

Alternative 1 would not generate a greater number of truck trips or have a greater impact on intersection LOS than the analysis done for the proposed Project in Section 3.2.4.5, Impact AQ-5. Because the proposed project analysis would not exceed CO standards at any intersection, traffic-related impacts for Alternative 1 would also not exceed CO concentration standards at any intersection.

CEQA Impact Determination

CO standards would not be exceeded in the immediate vicinity of heavily congested intersections. CO impacts would therefore be less than significant under CEQA.

Mitigation Measures

No Mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

The No Federal Action Alternative would involve the same operational activities, at the same activity levels, as would occur under the NEPA baseline. Therefore, there would be no incremental difference between Alternative 1 and the NEPA baseline. As a consequence, Alternative 1 would result in no incremental impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact AQ-6: Alternative 1 would not create an objectionable odor at the nearest sensitive receptor.

Similar to the proposed Project, the mobile nature of the emission sources associated with Alternative 1 would serve to disperse emissions. Additionally, the distance between Alternative 1 emission sources and the nearest residents would be far enough to allow for adequate dispersion of these emissions to below objectionable odor levels.

CEQA Impact Determination

The potential is low for the Alternative 1 to produce objectionable odors that would affect a sensitive receptor, and significant odor impacts under CEQA, therefore, are not anticipated.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

The No Federal Action Alternative would involve the same operational activities, at the same activity levels, as would occur under the NEPA baseline. Therefore, there would be no incremental difference between Alternative 1 and the NEPA baseline. As a consequence, Alternative 1 would result in no incremental impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Impact AQ-7: Alternative 1 would not expose receptors to significant levels of TACs.

An HRA was conducted to address potential public health effects from TACs generated by Alternative 1. The results of the HRA are summarized below, with impacts shown relative to the CEQA baseline and future CEQA baseline (for cancer risk). The rationale for a CEQA analysis based on both the CEQA baseline and future CEQA baseline is discussed in detail in Section 3.2.4.1, Methodology. Details of the analysis, including TAC emissions, the dispersion modeling approach, and the risk calculation approach, are presented in Appendix B3.

CEQA Impact Determination

Table 3.2-38 presents the maximum predicted CEQA health impacts associated with Alternative 1 with and without mitigation. The table includes estimates of individual cancer risk, chronic noncancer hazard index, and acute noncancer hazard index at the maximally exposed residential, occupational, and sensitive receptors. Results are presented for Alternative 1 (before subtracting baseline), the two CEQA baselines, the CEQA increment (Alternative 1 minus CEQA baseline), and future CEQA increment (Alternative 1 minus future CEQA baseline). The table also presents the CEQA increment and future CEQA increment for the population cancer burden. Significance findings are made by comparing the increments to the significance thresholds.

Table 3.2-38: Maximum CEQA Health Impacts Estimated for Construction and Operation of Alternative 1

Health Impact	Receptor Type	Unmitigated CEQA Increment[a,c]	Mitigated CEQA Increment[a,c]	Unmitigated Future CEQA Increment[b]	Mitigated Future CEQA Increment[b]	Significance Threshold	Unmitigated Significant?[d]	Mitigated Significant?[d]
Cancer Risk	Residential	< 0	n/a[g]	< 0	n/a	10×10^{-6} 10 in a million	No	n/a
	Occupational	< 0	n/a	4.4 × 10-6 4.4 in a million	n/a		No	n/a
	Sensitive	< 0	n/a	< 0	n/a		No	n/a
Chronic Hazard Index	Residential	0.02	n/a	n/a[e]	n/a	1.0	No	n/a
	Occupational	0.13	n/a	n/a	n/a		No	n/a
	Sensitive	0.02	n/a	n/a	n/a		No	n/a
Acute Hazard Index	Residential	0.01	n/a	n/a	n/a	1.0	No	n/a
	Occupational	0.18	n/a	n/a	n/a		No	n/a
	Sensitive	0.02	n/a	n/a	n/a		No	n/a
Population Cancer Burden		0.0	n/a	0.1	n/a	0.5	No	n/a

Notes:
[a]The CEQA Increment column represents the maximum difference of Alternative 1 minus the CEQA baseline.
[b]The Future CEQA Increment column represents the maximum difference of Alternative 1 minus the Future CEQA baseline.
[c]A CEQA Increment less than zero means that Alternative 1 health values would be less than the CEQA Baseline health values at all modeled receptors.
[d]Exceedances of the thresholds are indicated in **bold**. An impact is marked significant if either the CEQA Increment or Future CEQA Increment exceeds the threshold.
[e]The Future CEQA baseline and Future CEQA increment are applicable only to cancer risk because cancer risk has a uniquely long exposure period (30 years for residential and sensitive exposure, and 70 years for population cancer burden).
[f]Each positive result shown in the table for cancer risk, chronic hazard index, and acute hazard index represents the modeled receptor location with the maximum increment. The increments at all other receptors would be less than the values in the table.
[g] Mitigated health risks were not evaluated because unmitigated impacts would be less than significant.

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Table 3.2-38 shows that unmitigated Alternative 1 would produce the following health risk impacts under CEQA:

- Individual Cancer Risk

In relation to the CEQA baseline, the maximum incremental cancer risk is predicted to be less than the significance threshold at all receptors. Therefore, Alternative 1 would result in a less-than-significant cancer risk impact. Moreover, the negative values for the CEQA increment indicate that the cancer risk from Alternative 1 would be less than the cancer risk from the CEQA baseline at all modeled receptors, due in large part to the beneficial effect of existing air quality rules and regulations on future emissions.

In relation to the future CEQA baseline, the maximum incremental cancer risk is predicted to be less than the significance threshold at all receptors. Therefore, Alternative 1 would result in a less-than-significant cancer risk impact. Moreover, the negative values for the future CEQA increment at residential and sensitive receptors indicate that the cancer risk from Alternative 1 would be less than the cancer risk from the future CEQA baseline at all modeled residential and sensitive receptors, due in large part to the beneficial effect of existing air quality rules and regulations on future emissions.

Residential cancer risk contours are not shown because, as stated in the previous paragraphs, the increments are predicted to be less than zero at all modeled residential receptors.

- Population Cancer Burden

In relation to the CEQA baseline, the cancer burden increment would be zero because the individual cancer risk associated with Alternative 1 would be less than the CEQA baseline at all modeled receptors. Therefore, Alternative 1 would result in a less-than-significant cancer burden impact.

In relation to the Future CEQA baseline, the cancer burden increment is predicted to be less than the significance threshold. Therefore, Alternative 1 would result in a less-than-significant cancer burden impact.

- Chronic and Acute Hazard Indices

Because chronic and acute hazard indices are based on annual and peak hour emissions instead of multiple-year emissions like cancer risk, they are determined by comparing impacts only to the CEQA baseline, which is the baseline at the time of the NOP.

The maximum chronic hazard index increment is predicted to be less than the significance threshold for all receptor types. Therefore, Alternative 1 would result in a less-than-significant chronic noncancer impact.

The maximum acute hazard index increment is predicted to be less than the significance threshold for all receptor types. Therefore, Alternative 1 would result in a less-than-significant acute noncancer impact.

Appendix B3 includes figures showing the locations of the maximally-impacted receptors under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

The No Federal Action Alternative would involve the same operational activities, at the same activity levels, as would occur under the NEPA baseline. Therefore, there would be no incremental difference between Alternative 1 and the NEPA baseline. As a consequence, Alternative 1 would result in no incremental impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Additional Analysis for Informational Purposes—Particulates: Morbidity and Mortality

Impact AQ-4 indicates that operation of Alternative 1 would result in a maximum off-site 24-hour $PM_{2.5}$ concentration increment that would exceed the SCAQMD significance threshold of 2.5 $\mu g/m^3$ (see Table 3.2-37). However, because the operational $PM_{2.5}$ concentrations would be less than significant for all areas where resident populations are greater than zero, it would not exceed LAHD's criterion for calculating morbidity and mortality attributable to PM, potential mortality and morbidity effects were not quantified for Alternative 1. Isopleths (concentration curves) showing areas where $PM_{2.5}$ concentrations would exceed the SCAQMD significance threshold of 2.5 ug/m^3 are presented in Appendix B2.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AQ-8: Alternative 1 would not conflict with or obstruct implementation of an applicable AQMP.

This alternative would comply with SCAQMD rules and regulations and would be consistent with SCAG regional employment and population growth forecasts. Thus, this alternative would not conflict with or obstruct implementation of the AQMP.

CEQA Impact Determination

Alternative 1 would not conflict with or obstruct implementation of the AQMP. Therefore, significant impacts under CEQA are not anticipated.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

The No Federal Action Alternative would involve the same operational activities, at the same activity levels, as would occur under the NEPA baseline. Therefore, there would be no incremental difference between Alternative 1 and the NEPA baseline. As a consequence, Alternative 1 would result in no incremental impact under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

No impacts would occur.

Alternative 2 – No Project

Alternative 2 is a CEQA-only alternative. The No Project Alternative is not evaluated under NEPA because NEPA requires an evaluation of the No Federal Action Alternative (see Section 2.9.1.2).

Under Alternative 2, none of the proposed construction activities would occur in water or in water-side or backland areas. Terminal improvements or increases in backland acreage would not be implemented. No raising of existing cranes nd no new cranes would be added and no dredging would occur. The current lease that expires in 2028 has an option for a ten-year extension, which would mean the existing terminal could operate through 2038.

Under the No Project Alternative, the existing Everport Container Terminal would continue to operate as an approximately 205-acre container terminal. Based on the throughput projections for the Port, the Everport Container Terminal is expected to operate at its existing capacity of approximately 1,818,000 TEUs in 2038. AMP facilities have been installed and are currently in use at Berths 227 (two existing AMP vaults) and 230 (one existing AMP vault).

Any future legally enacted Port-wide environmental program, such as tariff change to support the CAAP measure, would be applied to the No Project Alternative, although generally applicable tariff changes that conflict with the terms of an individual operating lease would not apply. In addition, any adopted rules or regulations, such as from SCAQMD or other regulatory agencies, would be applied to the No Project Alternative.

Impact AQ-1: Alternative 2 would not result in construction-related emissions that exceed an SCAQMD threshold of significance in Table 3.2-6.

CEQA Impact Determination

Alternative 2 would not generate construction emissions; therefore, Alternative 2 would not create a significant impact under CEQA.

Mitigation Measures

Not applicable.

Residual Impacts

Not applicable.

NEPA Impact Determination

NEPA does not require analysis of the No Project Alternative. NEPA requires the analysis of a No Federal Action Alternative (see Alternative 1 in this document).

Mitigation Measures

Not applicable.

Residual Impacts

Not applicable.

Impact AQ-2: Alternative 2 construction would not result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.2-7.

CEQA Impact Determination

Alternative 2 would not generate construction emissions; therefore, Alternative 2 would not create a significant impact under CEQA.

Mitigation Measures

Not applicable.

Residual Impacts

Not applicable.

NEPA Impact Determination

NEPA does not require analysis of the No Project Alternative. NEPA requires the analysis of a No Federal Action Alternative (see Alternative 1 in this document).

Mitigation Measures

Not applicable.

Residual Impacts

Not applicable.

Impact AQ-3: Alternative 2 would result in operational emissions that exceed an SCAQMD threshold of significance in Table 3.2-8.

Alternative 2 source characteristics, activity levels, sulfur fuel content, emission factors, and other parameters assumed in the operational emissions are discussed in detail in Appendix B1: Table 3.1-2 for container ships, Table 3.1-3 for CHE, Table 3.1-4 for trucks, and Table 3.1-5 for trains. Terminal activity under Alternative 2 would be the same as activity under Alternative 1.

Alternative 2 would have the same operational activities as Alternative 1. Therefore, Table 3.2-35, presented under Alternative 1, also represents the emissions of NO_X, SO_2, CO, VOC, PM_{10}, and $PM_{2.5}$ from operation of Alternative 2 with and without mitigation.

Discussion of Emissions Trends and Comparison to Proposed Project

Emissions would vary due to several factors, such as regulatory requirements, activity, source (container ships, tugboats, trucks, locomotives, CHE, and worker vehicles) characteristics, and emission factors. The combination of these factors can result in emissions that do not always decrease or increase consistently over time.

Under Alternative 2, terminal activity would increase in each study year, although it would not reach the level of activity of the proposed Project. Regulatory requirements described in detail in Appendix B1 would serve to decrease emission factors from emission sources. In addition, as equipment ages, engine efficiency would decrease and emission factors would increase in comparison to brand-new equipment. Furthermore, although the annual and peak daily number of container ships would be the same as under the proposed Project, the ship size would be smaller because berths would not be dredged to accommodate larger vessels.

CEQA Impact Determination

Table 3.2-35, presented under Alternative 1, shows that peak daily operational emissions from Alternative 2 would exceed the SCAQMD daily emission thresholds and would be significant under CEQA for NO_X in 2019, 2033, and 2038 and CO and VOC in 2033 and 2038. Therefore, emissions of NO_X, CO, and VOC associated with the operation of Alternative 2 would be significant under CEQA.

Mitigation Measures

There are no project components or discretionary actions under this alternative, therefore, no mitigation is applicable or required.

Residual Impacts

Impacts would be significant and unavoidable.

NEPA Impact Determination

NEPA does not require analysis of the No Project Alternative. NEPA requires the analysis of a No Federal Action Alternative (see Alternative 1 in this document).

Mitigation Measures

Not applicable.

Residual Impacts

Not applicable.

Impact AQ-4: Alternative 2 operations would result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.2-9.

Dispersion modeling of on- and off-site operational emissions was performed to assess the impact of Alternative 2 on local ambient air concentrations. A summary of the dispersion modeling results is presented here; the complete dispersion modeling report is included in Appendix B2.

CEQA Impact Determination

Alternative 2 would have the same operational activities as Alternative 1; however, under Alternative 1, the gate location would change and therefore, would have some effects on the offsite concentrations and locations of the peak concentrations for Alternative 1. Peak concentrations occur along the fenceline near the new gate for the Proposed Project and alternatives with gate relocations (Alternatives 1, 3, and 5) but for Alternative 2, peak concentrations are predicted occur near the rail spurs and Vincent Thomas Bridge. Tables 3.2-39 and 3.2-40 present the maximum off-site ground level concentrations of NO_2, SO_2, CO, PM_{10}, and $PM_{2.5}$ from operation of Alternative 2 with and without mitigation.

Table 3.2-39: Maximum Off-site NO_2, SO_2, and CO Concentrations (CEQA)—Alternative 2 Operation

Pollutant	Averaging Time	Background Concentration (ppm)[c]	Maximum Unmitigated Modeled Alternative 1 Concentration Increment (ppm)[d]	Maximum Mitigated Modeled Alternative 1 Concentration Increment (ppm)[d]	Total Unmitigated Ground-Level Concentration (ppm)[e]	Total Mitigated Ground-Level Concentration (ppm)[e]	SCAQMD Threshold (ppm)	Unmitigated Concentration above threshold?	Mitigated Concentration above threshold?
NO_2	Federal 1-hour[a]	0.088	-0.001	n/a	0.087	n/a	0.100	No	n/a
	State 1-hour	0.11	-0.001	n/a	0.11	n/a	0.18	No	n/a
	Federal annual	0.017	0.004	n/a	0.021	n/a	0.053	No	n/a
	State annual	0.017	0.004	n/a	0.021	n/a	0.030	No	n/a
SO_2	Federal 1-hour[b]	0.038	-0.0001	n/a	0.037	n/a	0.075	No	n/a
	State 1-hour	0.05	-0.0002	n/a	0.05	n/a	0.25	No	n/a
	24-hour	0.01	-0.00001	n/a	0.01	n/a	0.04	No	n/a
CO	1-hour	7	0.1	n/a	7	n/a	20 / 35	No	n/a
	8-hour	1.8	0.1	n/a	1.9	n/a	9.0	No	n/a

Notes:

[a] The federal 1-hour NO_2 modeled concentration represents the 98th percentile of the daily maximum 1-hour averages.

[b] The federal 1-hour SO_2 modeled concentration represents the 99^{th} percentile of the daily maximum 1-hour averages.

[c] The background concentrations for NO_2, SO_2 and CO were obtained from the TITP station.

[d] The maximum modeled concentration increment represents Alternative 2 operation minus 2013 terminal operations.

[e] Exceedances of the thresholds are indicated in **bold**.

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Table 3.2-40: Maximum Off-site PM_{10} and $PM_{2.5}$ Concentrations (CEQA)—Alternative 2 Operation

Pollutant	Averaging Time	Maximum Modeled Concentration of CEQA Baseline ($\mu g/m^3$)	Maximum Unmitigated Modeled Concentration of Alternative 1 ($\mu g/m^3$)	Maximum Mitigated Modeled Concentration of Alternative 1 ($\mu g/m^3$)	Unmitigated Ground-Level Concentration CEQA Increment ($\mu g/m^3$)[a,b]	Mitigated Ground-Level Concentration CEQA Increment ($\mu g/m^3$)[a,b]	SCAQMD Threshold ($\mu g/m^3$)	Unmitigated CEQA Concentration above threshold?	Mitigated CEQA Concentration above threshold?
PM_{10}	24-hour	8.2	13.4	n/a	**5.2**	n/a	2.5	**Yes**	n/a
	Annual	3.8	6.5	n/a	**2.7**	n/a	1.0	**Yes**	n/a
$PM_{2.5}$	24-hour	4.0	4.0	n/a	0.5	n/a	2.5	No	n/a

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The CEQA increment represents Alternative 2 minus the CEQA baseline.

[c] The maximum modeled Alternative 2 concentration, maximum modeled baseline concentrations, and maximum concentration increments may occur at different receptors. Therefore, the modeled Alternative 2 and baseline concentrations in the table may not necessarily subtract to equal the increment.

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Table 3.2-39 shows that the maximum off-site NO_2, SO_2, and CO concentration from operational activities would not exceed SCAQMD thresholds. Table 3.2-40 shows that the maximum off-site incremental PM_{10} (24-hour and annual average) concentrations from operational activities would exceed SCAQMD thresholds. Therefore, maximum off-site ambient pollutant concentrations associated with the operation of Alternative 2 would be significant under CEQA for PM_{10} (24-hour and annual average).

Mitigation Measures

There are no project components or discretionary actions under this alternative, therefore, no mitigation is applicable or required.

Residual Impacts

Impacts would be significant and unavoidable.

NEPA Impact Determination

NEPA does not require analysis of the No Project Alternative. NEPA requires the analysis of a No Federal Action Alternative (see Alternative 1 in this document).

Mitigation Measures

Not applicable.

Residual Impacts

Not applicable.

Impact AQ-5: Alternative 2 would not generate on-road traffic that would contribute to an exceedance of the 1-hour or 8-hour CO standards.

Alternative 2 would not generate a greater number of truck trips or have a greater impact on intersection LOS than the analysis done for the proposed Project in Section 3.2.4.5, Impact AQ-5. Because the proposed project analysis would not exceed CO standards at any intersection, traffic-related impacts for Alternative 2 would also not exceed CO concentration standards at any intersection.

CEQA Impact Determination

CO standards would not be exceeded in the immediate vicinity of heavily congested intersections. CO impacts would therefore not be significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

NEPA does not require analysis of the No Project Alternative. NEPA requires the analysis of a No Federal Action Alternative (see Alternative 1 in this document).

Mitigation Measures

Not applicable.

Residual Impacts

Not applicable.

Impact AQ-6: Alternative 2 would not create an objectionable odor at the nearest sensitive receptor.

Similar to the proposed Project, the mobile nature of the emission sources associated with Alternative 2 would serve to disperse emissions. Additionally, the distance between Alternative 2 emission sources and the nearest residents would be far enough to allow for adequate dispersion of these emissions to below objectionable odor levels.

CEQA Impact Determination

The potential is low for the Alternative 2 to produce objectionable odors that would affect a sensitive receptor; and significant odor impacts under CEQA, therefore, are not anticipated.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

NEPA does not require analysis of the No Project Alternative. NEPA requires the analysis of a No Federal Action Alternative (see Alternative 1 in this document).

Mitigation Measures

Not applicable.

Residual Impacts

Not applicable.

Impact AQ-7: Alternative 2 would not expose receptors to significant levels of TACs.

An HRA was conducted to address potential public health effects from TACs generated by Alternative 2. The results of the HRA are summarized below, with impacts shown relative to the CEQA baseline and future CEQA baseline (for cancer risk). The rationale for a CEQA analysis based on both the CEQA baseline and future CEQA baseline is discussed in detail in Section 3.2.4.1, Methodology. Details of the analysis, including

TAC emissions, the dispersion modeling approach, and the risk calculation approach, are presented in Appendix B3.

CEQA Impact Determination

Table 3.2-41 presents the maximum predicted CEQA health impacts associated with Alternative 2. The table includes estimates of individual cancer risk, chronic noncancer hazard index, and acute noncancer hazard index at the maximally exposed residential, occupational, and sensitive receptors. Results are presented for Alternative 2 (before subtracting baseline), the two CEQA baselines, the CEQA increment (Alternative 2 minus CEQA baseline), and future CEQA increment (Alternative 2 minus future CEQA baseline). The table also presents the CEQA increment and future CEQA increment for the population cancer burden. Significance findings are made by comparing the increments to the significance thresholds.

Table 3.2-41 shows that Alternative 2 would produce the following health risk impacts under CEQA:

- Individual Cancer Risk

In relation to the CEQA baseline, the maximum incremental cancer risk is predicted to be less than the significance threshold at all receptors. Therefore, Alternative 2 would result in a less-than-significant cancer risk impact. Moreover, the negative values for the CEQA increment indicate that the cancer risk from Alternative 2 would be less than the cancer risk from the CEQA baseline at all modeled receptors, due in large part to the beneficial effect of existing air quality rules and regulations on future emissions.

In relation to the future CEQA baseline, the maximum incremental cancer risk is predicted to be less than the significance threshold at all receptors. Therefore, Alternative 2 would result in a less-than-significant cancer risk impact. Moreover, the negative values for the future CEQA increment at residential and sensitive receptors indicate that the cancer risk from Alternative 2 would be less than the cancer risk from the future CEQA baseline at all modeled residential and sensitive receptors, due in large part to the beneficial effect of existing air quality rules and regulations on future emissions.

Residential cancer risk contours are not shown because, as stated in the previous paragraphs, the increments are predicted to be less than zero at all modeled residential receptors.

Table 3.2-41: Maximum CEQA Health Impacts Estimated for Operation of Alternative 2

Health Impact	Receptor Type	Unmitigated CEQA Increment[a,c]	Mitigated CEQA Increment[a,c]	Unmitigated Future CEQA Increment[b]	Mitigated Future CEQA Increment[b]	Significance Threshold	Unmitigated Significant?[d]	Mitigated Significant?[d]
Cancer Risk	Residential	< 0	n/a [g]	< 0	n/a	10×10^{-6} 10 in a million	No	n/a
	Occupational	< 0	n/a	0.8 × 10-6 0.8 in a million	n/a		No	n/a
	Sensitive	< 0	n/a	< 0	n/a		No	n/a
Chronic Hazard Index	Residential	0.02	n/a	n/a [e]	n/a	1.0	No	n/a
	Occupational	0.02	n/a	n/a	n/a		No	n/a
	Sensitive	0.02	n/a	n/a	n/a		No	n/a
Acute Hazard Index	Residential	0.006	n/a	n/a	n/a	1.0	No	n/a
	Occupational	0.01	n/a	n/a	n/a		No	n/a
	Sensitive	0.005	n/a	n/a	n/a		No	n/a
Population Cancer Burden		0.0	n/a	0.1	n/a	0.5	No	n/a

Notes:
[a]The CEQA Increment column represents the maximum difference of Alternative 2 minus the CEQA baseline.
[b]The Future CEQA Increment column represents the maximum difference of Alternative 2 minus the Future CEQA baseline.
[c]A CEQA Increment less than zero means that Alternative 2 health values would be less than the CEQA Baseline health values at all modeled receptors.
[d]Exceedances of the thresholds are indicated in **bold**. An impact is marked significant if either the CEQA Increment or Future CEQA Increment exceeds the threshold.
[e]The Future CEQA baseline and Future CEQA increment are applicable only to cancer risk because cancer risk has a uniquely long exposure period (30 years for residential and sensitive exposure, and 70 years for population cancer burden).
[f]Each positive result shown in the table for cancer risk, chronic hazard index, and acute hazard index represents the modeled receptor location with the maximum increment. The increments at all other receptors would be less than the values in the table.
[g] Mitigated health risks were not evaluated because unmitigated impacts would be less than significant.

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- Population Cancer Burden

In relation to the CEQA baseline, the cancer burden increment would be zero because the individual cancer risk associated with Alternative 2 would be less than the CEQA baseline at all modeled receptors. Therefore, Alternative 2 would result in a less-than-significant cancer burden impact.

In relation to the Future CEQA baseline, the cancer burden increment is predicted to be less than the significance threshold. Therefore, Alternative 2 would result in a less-than-significant cancer burden impact.

- Chronic and Acute Hazard Indices

Because chronic and acute hazard indices are based on annual and peak hour emissions instead of multiple-year emissions like cancer risk, they are determined by comparing impacts only to the CEQA baseline, which is the baseline at the time of the NOP.

The maximum chronic hazard index increment is predicted to be less than the significance threshold for all receptor types. Therefore, Alternative 2 would result in a less-than-significant chronic noncancer impact.

The maximum acute hazard index increment is predicted to be less than the significance threshold for all receptor types. Therefore, Alternative 2 would result in a less-than-significant acute noncancer impact.

Appendix B3 includes figures showing the locations of the maximally-impacted receptors under CEQA.

Mitigation Measures

There are no project components or discretionary actions under this alternative; therefore, no mitigation is applicable or required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

NEPA does not require analysis of the No Project Alternative. NEPA requires the analysis of a No Federal Action Alternative (see Alternative 1 in this document).

Mitigation Measures

Not applicable.

Residual Impacts

Not applicable.

Additional Analysis for Informational Purposes—Particulates: Morbidity and Mortality

Impact AQ-4 indicates that operation of Alternative 2 would result in a maximum off-site 24-hour $PM_{2.5}$ concentration increment that would not exceed the SCAQMD significance threshold of 2.5 $\mu g/m^3$ for any analysis year (see Table 3.2-40). Because the operational $PM_{2.5}$ concentrations would be less than significant and would not exceed LAHD's

criterion for calculating morbidity and mortality attributable to PM, potential mortality and morbidity effects were not quantified for Alternative 2.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AQ-8: Alternative 2 would not conflict with or obstruct implementation of an applicable AQMP.

This alternative would comply with SCAQMD rules and regulations and would be consistent with SCAG regional employment and population growth forecasts. Thus, this alternative would not conflict with or obstruct implementation of the AQMP.

CEQA Impact Determination

Alternative 2 would not conflict with or obstruct implementation of the AQMP; therefore, impacts under CEQA are not anticipated.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

NEPA does not require analysis of the No Project Alternative. NEPA requires the analysis of a No Federal Action Alternative (see Alternative 1 in this document).

Mitigation Measures

Not applicable.

Residual Impacts

Not applicable.

Alternative 3 – Reduced Project: Reduced Wharf Improvements

Under Alternative 3, there would be two operating berths after construction, similar to the proposed Project; but Berths 230-232 would remain at the existing depth (-45 feet plus two feet of overdepth), which would eliminate the need for sheet pile placement at this operating berth. Under this alternative, dredging along Berths 226-229 would occur as described for the proposed Project. This alternative would require less dredging (by approximately 8,000 cubic yards for a total of about 30,000 cubic yards) and less sheet pile driving and a slightly shorter construction period than the proposed Project. Based on the throughput projections, this alternative is expected to operate at its capacity of approximately 2,225,000 TEUs by 2038, similar to the proposed Project. However, while the terminal could handle similar levels of cargo, the reduced project alternative

would not achieve the same level of efficient operations as achieved by the proposed Project. This alternative would include the raising of up to five existing cranes and adding five new cranes. Berths 226-229 would accommodate the largest vessels (16,000 TEUs). The existing design depth that would remain at Berths 230-232 would only be capable of handling vessels up to 8,000 TEUs. Other proposed Project elements, such as installation of AMP and backland improvements would be implemented under this alternative. Under this alternative, 208 vessels would call on the terminal by 2038, which is the same number or annual vessel calls as the proposed Project.

Impact AQ-1: Alternative 3 would result in construction-related emissions that exceed an SCAQMD threshold of significance in Table 3.2-6.

Table 3.2-42A presents the peak day criteria pollutant emissions associated with construction of Alternative 3, with and without mitigation, including disposal of dredged material at a permitted ocean disposal site. Table 3.2-42B presents the peak daily criteria pollutant emissions associated with construction of Alternative 3, with and without mitigation, including disposal of dredged material at an upland (inland) permitted disposal site. Maximum emissions for each construction phase were determined by adding the daily emissions from those construction activities that overlap in the construction schedule (Table 2-4 in Chapter 2). The peak day in 2018 is driven by heavy construction equipment for dredging and tug boats and/or trucks for disposal. The peak day in 2019 occurs when the cargo ship for new crane delivery is operating within the analysis area.

The Everport Container Terminal would continue to operate during construction of Alternative 3; construction and operational activities would overlap during this time. Total proposed project emissions from overlapping construction and operational activities are presented to show the overall impacts of the proposed project. Table 3.2-43 presents the overlap of construction and operations during 2018 and 2019, with and without mitigation. Decrease in operation at the port in 2018 during construction results in a reduction of operational emissions. The reduction is high enough to offset the increase in emissions due to construction activities, resulting in a less than significant peak day emissions in 2018.

Table 3.2-42A: Peak Daily Construction Emissions — Alternative 3 – Ocean Disposal (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Construction Year 2018 - Ocean Disposal												
Off-road Construction Equipment Exhaust	6	6	169	<1	83	23	5	5	162	<1	86	24
Marine Source Exhaust	10	9	263	<1	179	14	5	5	212	<1	179	12
On-Road Construction Vehicles	3	1	27	<1	2	1	3	1	32	<1	0	1
Worker Vehicles	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	1	<1
Fugitive Emissions	1	<1	0	0	0	<1	1	<1	0	0	0	<1
Construction Year 2018 Total	**20**	**15**	**460**	**1**	**265**	**38**	**15**	**11**	**405**	**1**	**266**	**36**
CEQA Impacts												
CEQA Baseline Emissions	0	0	0	0	0	0	0	0	0	0	0	0
Project Minus CEQA Baseline	20	15	460	1	265	38	15	11	405	1	266	36
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	No	No	No	**Yes**	No	No	No
NEPA Impacts												
NEPA Baseline Emissions	6	2	74	0	67	11	6	2	74	0	67	11
Project Minus NEPA Baseline	15	14	386	<1	197	27	9	9	331	<1	198	25
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	No	No	No	**Yes**	No	No	No
Construction Year 2019 – Ocean Disposal												
Off-road Construction Equipment Exhaust	1	1	30	0	10	1	0	0	13	0	20	2
Marine Source Exhaust	54	50	3,324	89	285	126	54	50	3,321	89	285	125
On-Road Construction Vehicles	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	1
Worker Vehicles	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1
Fugitive Emissions	<1	<1	0	0	0	<1	<1	<1	0	0	0	<1
Construction Year 2019 Total	**56**	**51**	**3,354**	**89**	**296**	**128**	**54**	**50**	**3,334**	**89**	**305**	**129**
CEQA Impacts												

Table 3.2-42A: Peak Daily Construction Emissions — Alternative 3 – Ocean Disposal (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
CEQA Baseline Emissions	0	0	0	0	0	0	0	0	0	0	0	0
Project Minus CEQA Baseline	56	51	3,354	89	296	128	54	50	3,334	89	305	129
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**
NEPA Impacts												
NEPA Baseline Emissions	4	<1	30	<1	35	6	4	<1	30	<1	35	6
Project Minus NEPA Baseline	52	51	3,323	89	261	122	50	50	3,304	89	271	123
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**

Notes:

- On-road Construction Vehicle emissions include exhaust, road dust, tire wear, and brake wear emissions from haul trucks and material delivery trucks.
- Worker Vehicle emissions include exhaust, road dust, tire wear, and brake wear emissions from construction worker commute.
- Fugitive emissions include construction dust and asphalt off-gassing.
- Emissions of PM_{10} and $PM_{2.5}$ assume that fugitive dust is controlled in accordance with SCAQMD Rule 403 by watering disturbed areas 3 times per day, for a control efficiency of 61 percent from uncontrolled levels.
- NEPA baseline emissions are emissions presented in Peak Daily Construction Emissions—NEPA Baseline, Table 3.2-4.
- Emissions might not add precisely due to rounding.

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

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Table 3.2-42B: Peak Daily Construction Emissions — Alternative 3 – Upland Disposal (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Construction Year 2018 - Upland Disposal												
Off-road Construction Equipment Exhaust	5	5	154	<1	76	20	5	4	145	<1	82	22
Marine Source Exhaust	2	2	54	<1	36	3	1	1	43	<1	36	2
On-Road Construction Vehicles	13	4	110	<1	8	3	12	3	131	<1	7	3
Worker Vehicles	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	1	<1
Fugitive Emissions	1	<1	0	0	0	<1	1	<1	0	0	0	<1
Construction Year 2018 Total	**21**	**11**	**318**	**1**	**122**	**26**	**19**	**9**	**318**	**1**	**126**	**27**
CEQA Impacts												
CEQA Baseline Emissions	0	0	0	0	0	0	0	0	0	0	0	0
Project Minus CEQA Baseline	21	11	318	1	122	26	19	9	318	1	126	27
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	No	No	No	**Yes**	No	No	No
NEPA Impacts												
NEPA Baseline Emissions	6	2	74	<1	67	11	6	2	74	<1	67	11
Project Minus NEPA Baseline	15	9	245	<1	54	15	13	7	245	<1	59	16
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	No	No	No	**Yes**	No	No	No
Construction Year 2019 – Upland Disposal												
Off-road Construction Equipment Exhaust	1	1	30	<1	10	1	<1	<1	13	<1	20	2
Marine Source Exhaust	54	50	3,324	89	285	126	54	50	3,321	89	285	125
On-Road Construction Vehicles	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	1
Worker Vehicles	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1
Fugitive Emissions	<1	<1	0	0	0	<1	<1	<1	0	0	0	<1
Construction Year 2019 Total	**56**	**51**	**3,354**	**89**	**296**	**128**	**54**	**50**	**3,334**	**89**	**305**	**129**
CEQA Impacts												

Table 3.2-42B: Peak Daily Construction Emissions — Alternative 3 – Upland Disposal (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
CEQA Baseline Emissions	0	0	0	0	0	0	0	0	0	0	0	0
Project Minus CEQA Baseline	56	51	3,354	89	296	128	54	50	3,334	89	305	129
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**
NEPA Impacts												
NEPA Baseline Emissions	4	<1	30	<1	35	6	4	<1	30	<1	35	6
Project Minus NEPA Baseline	52	51	3,323	89	261	122	50	50	3,304	89	271	123
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**

Notes:

- On-road Construction Vehicle emissions include exhaust, road dust, tire wear, and brake wear emissions from haul trucks and material delivery trucks.
- Worker Vehicle emissions include exhaust, road dust, tire wear, and brake wear emissions from construction worker commute.
- Fugitive emissions include construction dust and asphalt off-gassing.
- Emissions of PM_{10} and $PM_{2.5}$ assume that fugitive dust is controlled in accordance with SCAQMD Rule 403 by watering disturbed areas 3 times per day, for a control efficiency of 61 percent from uncontrolled levels.
- NEPA baseline emissions are emissions presented in Peak Daily Construction Emissions—NEPA Baseline, Table 3.2-4.
- Emissions might not add precisely due to rounding.

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

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Table 3.2-43: Peak Daily Combined Construction and Operational Emissions – Alternative 3 (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Construction 2018												
Ocean Disposal	20	15	460	1	265	38	15	11	405	1	266	36
Upland Disposal	21	11	318	1	122	26	19	9	318	1	126	27
Operation 2018												
Ships: Main Propulsion Engines	124	117	6,975	143	814	468	124	117	6,975	143	814	468
Ships: Aux Engines and Boilers	41	39	1,601	102	146	58	41	39	1,601	102	146	58
AMP Electricity Use	2	2	16	7	8	<1	2	2	16	7	8	<1
Tugboats	2	1	60	<1	127	9	2	1	60	<1	127	9
Trucks	139	46	2,383	4	216	71	139	46	2,383	4	216	71
Line Haul Locomotives	26	24	1,022	1	252	42	26	24	1,022	1	252	42
Switch Locomotives	<1	<1	15	<1	5	1	<1	<1	15	<1	5	1
Cargo Handling Equipment	3	3	262	2	302	26	3	3	262	2	302	26
Worker Vehicles	17	5	10	<1	109	4	17	5	10	<1	109	4
Total Construction (Ocean Disposal) and Operation Year 2018	**373**	**251**	**12,804**	**261**	**2,243**	**718**	**368**	**246**	**12,750**	**261**	**2,244**	**716**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Project Minus CEQA Baseline	-91	-52	46	-822	274	-48	-96	-57	-9	-822	275	-50
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	No	No	No	No	No	No	No	No	No	No
NEPA Impacts												
NEPA Baseline Emissions	367	245	12,858	271	2,115	717	367	245	12,858	271	2,115	717
Project Minus NEPA Baseline	6	6	-54	-11	128	1	0	1	-108	-11	129	-1
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	No	No	No	No	No	No	No	No	No	No
Total Construction (Upland Disposal) and Operation Year 2018	**374**	**246**	**12,663**	**261**	**2,100**	**705**	**372**	**244**	**12,663**	**261**	**2,104**	**707**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765

Table 3.2-43: Peak Daily Combined Construction and Operational Emissions – Alternative 3 (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Project Minus CEQA Baseline	-90	-57	-96	-822	131	-60	-92	-59	-96	-822	136	-59
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	No	No	No	No	No	No	No	No	No	No
NEPA Impacts												
NEPA Baseline Emissions	367	245	12,858	271	2,115	717	367	245	12,858	271	2,115	717
Project Minus NEPA Baseline	7	1	-195	-11	-15	-11	5	-1	-195	-11	-11	-10
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	No	No	No	No	No	No	No	No	No	No
Construction 2019												
Ocean/Upland Disposal	56	51	3,354	89	296	128	54	50	3,334	89	305	129

Table 3.2-43: Peak Daily Combined Construction and Operational Emissions – Alternative 3 (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Operation 2019												
Ships: Main Propulsion Engines	124	117	6,978	142	823	475	109	103	5,932	114	769	455
Ships: Aux Engines and Boilers	30	28	1,220	68	111	44	27	26	1,102	66	100	40
AMP Electricity Use	1	1	5	2	3	<1	1	1	8	4	4	<1
Tugboats	2	2	63	<1	134	10	2	2	63	<1	134	10
Trucks	159	51	2,592	5	229	71	159	51	2,592	5	229	71
Line Haul Locomotives	23	22	966	1	250	39	23	22	966	1	250	39
Switch Locomotives	<1	<1	16	<1	5	1	<1	<1	16	<1	5	1
Cargo Handling Equipment	4	3	286	2	371	32	4	3	286	2	371	32
Worker Vehicles	17	5	8	<1	86	3	17	5	8	<1	86	3
Total Construction and Operation Year 2019	**415**	**280**	**15,487**	**311**	**2,307**	**802**	**397**	**262**	**14,308**	**281**	**2,253**	**780**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Project Minus CEQA Baseline	-48	-23	2,728	-772	338	37	-67	-41	1,549	-801	284	14
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	No	No	No	**Yes**	No	No	No
NEPA Impacts												
NEPA Baseline Emissions	371	234	11,871	244	2,041	693	371	234	11,871	244	2,041	693
Project Minus NEPA Baseline	44	45	3,616	67	266	110	26	28	2,437	38	212	87
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**

Notes:

- Emissions assume the simultaneous occurrence of maximum daily emissions for each source category. Such levels would rarely occur during day-to-day terminal operations.
- Truck, train, ship, and worker commute emissions include transport within the SCAB.
- AMP electricity use reflects indirect emissions from regional power generation.
- Emissions reflect the maximum of upland and marine emissions associated with the disposal of dredged materials (see Appendix B1, Methodology).
- NEPA baseline emissions include the NEPA baseline construction emissions plus the NEPA baseline operational emissions, presented in Table 3.2-4 and Table 3.2-5.
- Emissions might not precisely add due to rounding.

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

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CEQA Impact Determination

Tables 3.2-42A and 3.2-42B show that unmitigated peak daily construction emissions would exceed the SCAQMD daily emission thresholds for NO_X under CEQA during 2018 and 2019. Construction emissions would also exceed the SCAQMD daily emission thresholds for VOC during the 2019 construction year. Therefore, Alternative 3 construction emissions would be significant under CEQA for NO_X and VOC prior to mitigation. The largest contributors to peak day construction emissions are marine sources (including ships used to deliver new cranes and tugboats used to assist dredging barges, and dive boats), off-road construction equipment (including dredging equipment), and haul trucks.

Table 3.2-43 shows that overlapping construction and operational emissions in 2018 would not exceed the SCAQMD daily emission thresholds for construction. However, construction and operational emissions in 2019 exceed the SCAQMD daily emission thresholds for construction for NO_X. Therefore, impacts would be significant during the construction and operational overlap in 2019 under CEQA.

Mitigation Measures

To reduce the level of impact during construction, MM AQ-1 through MM AQ-5 would be applied. These mitigation measures would be implemented by the responsible parties identified in Section 3.2.4.7. Tables 3.2-42A and 3.2-42B present the peak daily criteria pollutant emissions associated with the construction of Alternative 3, after the application of MM AQ-1 through MM AQ-5. Table 3.2-43 presents the peak daily combined construction and operational emissions after the application of the same mitigation measures.

Residual Impacts

Emissions from construction of Alternative 3 would be reduced with mitigation but would remain significant and unavoidable under CEQA for NO_X in 2018 and 2019 and VOC in 2019. In addition, although emissions from overlapping construction and operation would be reduced with mitigation, they would remain significant and unavoidable under CEQA for NO_X in 2019.

NEPA Impact Determination

Tables 3.2-42A and 3.2-42B show that unmitigated peak daily construction emissions would exceed the SCAQMD daily thresholds for NO_X under NEPA in 2018 and 2019 and for VOC in 2019. Therefore, unmitigated Alternative 3 construction emissions would be significant under NEPA for NO_X and VOC prior to mitigation.

Table 3.2-43 shows that overlapping construction and operational emissions in 2019 would exceed the SCAQMD daily emission thresholds for construction for NO_X and VOC. Therefore, impacts would be significant in 2019 under NEPA.

Mitigation Measures

Tables 3.2-42A and 3.2-42B present the peak daily criteria pollutant emissions associated with construction of Alternative 3, after the application of MM AQ-1 through MM AQ-5. Table 3.2-43 presents the peak daily combined construction and operational emissions after the application of the same mitigation measures.

Residual Impacts

Emissions from construction of Alternative 3 would be reduced with mitigation but would remain significant and unavoidable under NEPA for NO_X in 2018 and 2019 and for VOC in 2019. Although NO_X and VOC emissions from overlapping construction and operation would be reduced, impacts would remain significant and unavoidable under NEPA in 2019.

Impact AQ-2: Alternative 3 construction would result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.2-7.

Dispersion modeling of on-site construction emissions was performed to assess the impact of Alternative 3 on local ambient air concentrations. A summary of the dispersion modeling results is presented here; the complete dispersion modeling report is included in Appendix B2.

CEQA Impact Determination

Table 3.2-44 presents the maximum off-site ground level concentrations of NO_2, SO_2, and CO from construction. Table 3.2-45 presents the maximum off-site ground level concentrations of PM_{10} and $PM_{2.5}$ from construction. Table 3.2-46 presents maximum off-site ground level concentrations of NO_2, SO_2, and CO when construction activity would overlap with terminal operations. Table 3.2-47 presents the maximum off-site ground level concentrations of PM_{10} and $PM_{2.5}$ when construction activity would overlap with terminal operations. As seen before with emissions, where decrease in operation at the port in 2018 during construction resulted in a reduction of total emissions from construction and operations, lower concentrations were predicted for some pollutants when construction and operational sources were both modeled.

Table 3.2-44: Maximum Off-site Ambient NO_2, SO_2, and CO Concentrations (CEQA) — Alternative 3 Construction

Pollutant	Averaging Time	Background Concentration (ppm)[c]	Maximum Unmitigated Modeled Alternative 3 Concentration Increment (ppm)	Maximum Mitigated Modeled Alternative 3 Concentration Increment (ppm)	Total Unmitigated Ground-Level Concentration (ppm)[d]	Total Mitigated Ground-Level Concentration (ppm)[d]	SCAQMD Threshold (ppm)	Unmitigated Concentration above threshold?	Mitigated Concentration above threshold?
NO_2	Federal 1-hour[a]	0.088	0.058	0.054	**0.146**	**0.142**	0.100	**Yes**	**Yes**
	State 1-hour	0.11	0.06	-	0.18	-	0.18	No	-
	Federal annual	0.017	0.004	-	0.021	-	0.053	No	-
	State annual	0.017	0.004	-	0.021	-	0.030	No	-
SO_2	Federal 1-hour[b]	0.038	0.0002	-	0.038	-	0.075	No	-
	State 1-hour	0.05	0.0002	-	0.05	-	0.25	No	-
	24-hour	0.01	0.00003	-	0.01	-	0.04	No	-
CO	1-hour	7	0.2	-	7	-	20 / 35	No	-
	8-hour	1.8	0.1	-	1.9	-	9.0	No	-

Notes:

[a] The federal 1-hour NO_2 modeled concentration represents the 98th percentile of the daily maximum 1-hour averages.

[b] The federal 1-hour SO_2 modeled concentration represents the 99th percentile of the daily maximum 1-hour averages.

[c] The background concentrations for NO_2, SO_2, and CO were obtained from the TITP station.

[d] Exceedances of the thresholds are indicated in **bold**.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-45: Maximum Off-site Ambient PM_{10} and $PM_{2.5}$ Concentrations (CEQA) — Alternative 3 Construction

Pollutant	Averaging Time	Maximum Modeled Concentration of CEQA Baseline (µg/m³)	Maximum Unmitigated Modeled Concentration of Alternative 3 (µg/m³)	Maximum Mitigated Modeled Concentration of Alternative 3 (µg/m³)	Unmitigated Ground-Level Concentration CEQA Increment (µg/m³)[a,b]	Mitigated Ground-Level Concentration CEQA Increment (µg/m³)[a,b]	SCAQMD Threshold (µg/m³)	Unmitigated CEQA Concentration above Threshold?	Mitigated CEQA Concentration above Threshold?
PM_{10}	24-hour	0.0	3.1	-	3.1	-	10.4	No	-
	Annual	0.0	0.7	-	0.7	-	1.0	No	-
$PM_{2.5}$	24-hour	0.0	2.1	-	2.1	-	10.4	No	-

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The CEQA increment represents Alternative 3 minus CEQA baseline. Because the CEQA baseline for construction is zero, the CEQA increment equals the maximum modeled concentration.

[c] The maximum modeled Alternative 3 concentration, maximum modeled baseline concentrations, and maximum concentration increments may occur at different receptors. Therefore, the modeled Alternative 3 and baseline concentrations in the table may not necessarily subtract to equal the increment.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-46: Maximum Off-site Ambient NO_2, SO_2, and CO Concentrations (CEQA)—Alternative 3 Construction and Operation

Pollutant	Averaging Time	Background Concentration (ppm)[c]	Maximum Unmitigated Modeled Alternative 3 Concentration Increment (ppm)[d]	Maximum Mitigated Modeled Alternative 3 Concentration Increment (ppm)[d]	Total Unmitigated Ground-Level Concentration (ppm)[e]	Total Mitigated Ground-Level Concentration (ppm)[e]	SCAQMD Threshold (ppm)	Unmitigated Concentration above threshold?	Mitigated Concentration above threshold?
NO_2	Federal 1-hour[a]	0.088	0.042	-	0.130	-	0.100	No	-
	State 1-hour	0.11	0.06	-	0.17	-	0.18	No	-
	Federal annual	0.017	0.010	-	0.027	-	0.053	No	-
	State annual	0.017	0.010	-	0.027	-	0.030	No	-
SO_2	Federal 1-hour[b]	0.038	0.0001	-	0.038	-	0.075	No	-
	State 1-hour	0.05	0.0002	-	0.05	-	0.25	No	-
	24-hour	0.01	0.0001	-	0.01	-	0.04	No	-
CO	1-hour	7	0.1	-	7	-	20 / 35	No	-
	8-hour	1.8	0.05	-	1.9	-	9.0	No	-

Notes:

[a] The federal 1-hour NO_2 modeled concentration represents the 98th percentile of the daily maximum 1-hour averages.

[b] The federal 1-hour SO_2 modeled concentration represents the 99th percentile of the daily maximum 1-hour averages.

[c] The background concentrations for NO_2, SO_2, and CO were obtained from the TITP station.

[d] The maximum modeled concentration increment represents Alternative 3 construction plus operation minus 2013 terminal operations.

[e] Exceedances of the thresholds are indicated in **bold**.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

Table 3.2-47: Maximum Off-site Ambient PM_{10} and $PM_{2.5}$ Concentrations (CEQA)—Alternative 3 Construction and Operation

Pollutant	Averaging Time	Maximum Modeled Concentration of CEQA Baseline ($\mu g/m^3$)	Maximum Unmitigated Modeled Concentration of Alternative 3 ($\mu g/m^3$)	Maximum Mitigated Modeled Concentration of Alternative 3 ($\mu g/m^3$)	Unmitigated Ground-Level Concentration CEQA Increment ($\mu g/m^3$)[a,b]	Mitigated Ground-Level Concentration CEQA Increment ($\mu g/m^3$)[a,b]	SCAQMD Threshold ($\mu g/m^3$)	Unmitigated CEQA Concentration above Threshold?	Mitigated CEQA Concentration above Threshold?
PM_{10}	24-hour	8.2	23.8	23.8	**17.4**	**17.4**	10.4	**Yes**	**Yes**
	Annual	3.8	14.3	14.3	**12.0**	**12.0**	1.0	**Yes**	**Yes**
$PM_{2.5}$	24-hour	4.0	6.6	-	3.5	-	10.4	No	-

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The CEQA increment represents Alternative 3 minus CEQA baseline.

[c] The maximum modeled Alternative 3 concentration, maximum modeled baseline concentrations, and maximum concentration increments may occur at different receptors. Therefore, the modeled Alternative 3 and baseline concentrations in the table may not necessarily subtract to equal the increment.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-44 shows that the maximum off-site NO_2 (federal 1-hour average) concentration from construction activities would exceed SCAQMD thresholds. Table 3.2-45 shows that the maximum off-site incremental PM_{10} (24-hour and annual average) and $PM_{2.5}$ (24-hour) concentrations from construction activities would not exceed SCAQMD thresholds. Therefore, without mitigation, maximum off-site ambient pollutant concentrations associated with the construction of Alternative 3 would be significant under CEQA for NO_2 (federal 1-hour average).

Table 3.2-46 shows that the maximum off-site NO_2, SO_2, and CO concentrations from overlapping construction and operational activities would not exceed SCAQMD thresholds. Table 3.2-47 shows that the maximum off-site incremental PM_{10} (24-hour and annual average) concentration from overlapping construction and operational activities would exceed SCAQMD thresholds. Therefore, without mitigation, maximum off-site ambient pollutant concentrations associated with the combined construction and operation of Alternative 3 would be significant under CEQA for PM_{10} (24-hour and annual average).

Mitigation Measures

To reduce the level of impact during construction, MM AQ-1 through MM AQ-5 would be applied. These mitigation measures would be implemented by the responsible parties identified in Section 3.2.4.7.

Table 3.2-44 presents the maximum off-site ground level concentrations of NO_2 from construction with mitigation. Table 3.2-47 presents the maximum off-site ground level concentration of PM_{10} when peak construction activity would overlap with terminal operations with construction mitigation.

Residual Impacts

Table 3.2-44 shows that the maximum off-site NO_2 (federal 1-hour average) concentration from construction activities would be reduced with mitigation but would remain significant. Therefore, with mitigation, maximum off-site ambient pollutant concentrations associated with the construction of Alternative 3 would be significant and unavoidable under CEQA for NO_2 (federal 1-hour average).

Table 3.2-47 shows that the maximum off-site incremental PM_{10} (24-hour and annual average) concentration from overlapping construction and operational activities would be reduced with mitigation but would remain significant. Therefore, following mitigation, maximum off-site ambient pollutant concentrations associated with the combined construction and operation of Alternative 3 would be significant and unavoidable under CEQA for PM_{10} (24-hour and annual average).

NEPA Impact Determination

Table 3.2-48 shows that the maximum off-site NO_2 (federal 1-hour average) concentration from construction activities would exceed SCAQMD thresholds. Table 3.2-49 shows that the maximum off-site incremental PM_{10} (24-hour and annual average) and $PM_{2.5}$ (24-hour average) concentrations from construction activities would not exceed the SCAQMD thresholds. Therefore, without mitigation, maximum off-site ambient pollutant concentrations associated with the construction of Alternative 3 would be significant under NEPA for NO_2 (federal 1-hour average).

Table 3.2-48: Maximum Off-site Ambient NO_2, SO_2, and CO Concentrations (NEPA)—Alternative 3 Construction

Pollutant	Averaging Time	Background Concentration (ppm)[c]	Maximum Unmitigated Modeled Alternative 3 Concentration Increment (ppm)[d]	Maximum Mitigated Modeled Alternative 3 Concentration Increment (ppm)[d]	Total Unmitigated Ground-Level Concentration (ppm)[e]	Total Mitigated Ground-Level Concentration (ppm)[e]	SCAQMD Threshold (ppm)	Unmitigated Concentration above threshold?	Mitigated Concentration above threshold?
NO_2	Federal 1-hour[a]	0.088	0.056	0.051	**0.144**	**0.139**	0.100	**Yes**	**Yes**
	State 1-hour	0.11	0.06	-	0.17	-	0.18	No	-
	Federal annual	0.017	0.002	-	0.019	-	0.053	No	-
	State annual	0.017	0.002	-	0.019	-	0.030	No	-
SO_2	Federal 1-hour[b]	0.038	0.0001	-	0.038	-	0.075	No	-
	State 1-hour	0.05	0.0002	-	0.05	-	0.25	No	-
	24-hour	0.01	0.00003	-	0.01	-	0.04	No	-
CO	1-hour	7	0.2	-	7	-	20 / 35	No	-
	8-hour	1.8	0.1	-	1.9	-	9.0	No	-

Notes:

[a] The federal 1-hour NO_2 modeled concentration represents the 98th percentile of the daily maximum 1-hour averages.

[b] The federal 1-hour SO_2 modeled concentration represents the 99th percentile of the daily maximum 1-hour averages.

[c] The background concentrations for NO_2, SO_2, and CO were obtained from the TITP station.

[d] The maximum modeled concentration increment represents Alternative 3 construction minus NEPA baseline.

[e] Exceedances of the thresholds are indicated in **bold**.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-49: Maximum Off-site Ambient PM_{10} and $PM_{2.5}$ Concentrations (NEPA) — Alternative 3 Construction

Pollutant	Averaging Time	Maximum Modeled Concentration of NEPA Baseline (µg/m³)	Maximum Unmitigated Modeled Concentration of Alternative 3 (µg/m³)	Maximum Mitigated Modeled Concentration of Alternative 3 (µg/m³)	Unmitigated Ground-Level Concentration NEPA Increment (µg/m³)[a,b]	Mitigated Ground-Level Concentration NEPA Increment (µg/m³)[a,b]	SCAQMD Threshold (µg/m³)	Unmitigated NEPA Concentration above Threshold?	Mitigated NEPA Concentration above Threshold?
PM_{10}	24-hour	1.7	3.1	-	1.7	-	10.4	No	-
	Annual	0.3	0.7	-	0.4	-	1.0	No	-
$PM_{2.5}$	24-hour	0.4	2.1	-	1.7	-	10.4	No	-

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The NEPA increment represents Alternative 3 minus NEPA baseline.

[c] The maximum modeled Alternative 3 concentration, maximum modeled baseline concentrations, and maximum concentration increments may occur at different receptors. Therefore, the modeled Alternative 3 and baseline concentrations in the table may not necessarily subtract to equal the increment.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-50: Maximum Off-site Ambient NO_2, SO_2, and CO Concentrations (NEPA) — Alternative 3 Construction and Operation

Pollutant	Averaging Time	Background Concentration (ppm)[c]	Maximum Unmitigated Modeled Alternative 3 Concentration Increment (ppm)[d]	Maximum Mitigated Modeled Alternative 3 Concentration Increment (ppm)[d]	Total Unmitigated Ground-Level Concentration (ppm)[e]	Total Mitigated Ground-Level Concentration (ppm)[e]	SCAQMD Threshold (ppm)	Unmitigated Concentration above threshold?	Mitigated Concentration above threshold?
NO_2	Federal 1-hour[a]	0.088	0.042	0.026	**0.130**	**0.114**	0.100	**Yes**	**Yes**
	State 1-hour	0.11	0.06	-	0.17	-	0.18	No	-
	Federal annual	0.017	0.010	-	0.027	-	0.053	No	-
	State annual	0.017	0.010	-	0.027	-	0.030	No	-
SO_2	Federal 1-hour[b]	0.038	0.0001	-	0.038	-	0.075	No	-
	State 1-hour	0.05	0.0002	-	0.05	-	0.25	No	-
	24-hour	0.01	0.0001	-	0.02	-	0.04	No	-
CO	1-hour	7	0.1	-	7	-	20 / 35	No	-
	8-hour	1.8	0.05	-	1.9	-	9.0	No	-

Notes:

[a] The federal 1-hour NO_2 modeled concentration represents the 98th percentile of the daily maximum 1-hour averages.

[b] The federal 1-hour SO_2 modeled concentration represents the 99th percentile of the daily maximum 1-hour averages.

[c] The background concentrations for NO_2, SO_2, and CO were obtained from the TITP station.

[d] The maximum modeled concentration increment represents Alternative 3 construction plus operation minus NEPA baseline operations.

[e] Exceedances of the thresholds are indicated in **bold**.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-51: Maximum Off-site Ambient PM_{10} and $PM_{2.5}$ Concentrations (NEPA)—Alternative 3 Construction and Operation

Pollutant	Averaging Time	Maximum Modeled Concentration of NEPA Baseline ($\mu g/m^3$)	Maximum Unmitigated Modeled Concentration of Alternative 3 ($\mu g/m^3$)	Maximum Mitigated Modeled Concentration of Alternative 3 ($\mu g/m^3$)	Unmitigated Ground-Level Concentration NEPA Increment ($\mu g/m^3$)[a,b]	Mitigated Ground-Level Concentration NEPA Increment ($\mu g/m^3$)[a,b]	SCAQMD Threshold ($\mu g/m^3$)	Unmitigated NEPA Concentration above Threshold?	Mitigated NEPA Concentration above Threshold?
PM_{10}	24-hour	24.8	23.8	-	1.4	-	10.4	No	-
	Annual	15.0	14.3	-	0.1	-	1.0	No	-
$PM_{2.5}$	24-hour	7.1	6.6	-	1.3	-	10.4	No	-

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The NEPA increment represents Alternative 3 minus NEPA baseline.

[c] The maximum modeled Alternative 3 concentration, maximum modeled baseline concentrations, and maximum concentration increments may occur at different receptors. Therefore, the modeled Alternative 3 and baseline concentrations in the table may not necessarily subtract to equal the increment.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-50 above shows that the maximum off-site NO_2 (federal 1-hour average) concentration from overlapping construction and operational activities would exceed SCAQMD thresholds. Table 3.2-51 above shows that the maximum off-site incremental PM_{10} (24-hour an annual average) and $PM_{2.5}$ (24-hour average) concentration from overlapping construction and operational activities would not exceed SCAQMD thresholds. Therefore, without mitigation, maximum offsite ambient pollutant concentrations associated with the combined construction and operation of Alternative 3 would be significant under NEPA for NO_2 (federal 1-hour average).

Mitigation Measures

To reduce the level of impact during construction, mitigation measures MM AQ-1 through MM AQ-5 would be applied. These mitigation measures would be implemented by the responsible parties identified in Section 3.2.4.7.

Table 3.2-48 presents the maximum off-site ground level concentration of NO_2 from construction with mitigation. Table 3.2-50 presents concentration of NO_2 when peak construction activity would overlap with terminal operations with construction mitigation.

Residual Impacts

Table 3.2-48 shows that the maximum off-site NO_2 (federal 1-hour average) concentration from construction activities would be reduced with mitigation but would remain significant. Therefore, with mitigation, maximum off-site ambient pollutant concentrations associated with the construction of Alternative 3 would be significant and unavoidable under NEPA for NO_2 (federal 1-hour average).

Table 3.2-50 shows that the maximum off-site NO_2 (federal 1-hour average) concentration from overlapping construction and operational activities would be reduced with mitigation but would remain significant. Therefore, following mitigation, maximum off-site ambient pollutant concentrations associated with the combined construction and operation of Alternative 3 would be significant and unavoidable under NEPA for NO_2 (federal 1-hour average).

Impact AQ-3: Alternative 3 would result in operational emissions that exceed an SCAQMD threshold of significance in Table 3.2-8.

Table 3.2-52 presents unmitigated peak daily criteria pollutant emissions associated with operation of Alternative 3. Comparisons to the CEQA and NEPA baseline emissions are presented to determine CEQA and NEPA significance, respectively.

Alternative 3 source characteristics, activity levels, sulfur fuel content, emission factors, and other parameters assumed in the operational emissions are discussed in detail in Appendix B1: Table 3.1-2 for container ships, Table 3.1-3 for CHE, Table 3.1-4 for trucks, and Table 3.1-5 for trains. The following is a summary of terminal activity under Alternative 3:

- Annual throughput of 2,250,000 TEUs by 2033;
- 208 annual container ship calls by 2033;
- Largest container ship would be 16,000 TEUs;

- 4 peak day container ship transits by 2033;
- 7 AMP-capable berths by 2033;
- 1,609,228 annual truck trips by 2033;
- 6,516 peak day truck trips by 2033;
- 1,149 annual on-dock trains and 557 near- and off-dock trains by 2033; and
- 3.5 peak day on-dock trains and 1.7 near- and off-dock trains by 2033.

Table 3.2-52: Peak Daily Operational Emissions — Alternative 3 (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Year 2019												
Ships: Main Propulsion Engines	124	117	6,978	142	823	475	109	103	5,932	114	769	455
Ships: Aux Engines and Boilers	30	28	1,220	68	111	44	27	26	1,102	66	100	40
AMP Electricity Use	1	1	5	2	3	0	1	1	8	4	4	0
Tugboats	2	2	63	0	134	10	2	2	63	0	134	10
Trucks	159	51	2,592	5	229	71	159	51	2,592	5	229	71
Line Haul Locomotives	23	22	966	1	250	39	23	22	966	1	250	39
Switch Locomotives	0	0	16	0	5	1	0	0	16	0	5	1
Cargo Handling Equipment	4	3	286	2	371	32	4	3	286	2	371	32
Worker Vehicles	17	5	8	0	86	3	17	5	8	0	86	3
Total Operational Year 2019	**360**	**228**	**12,134**	**221**	**2,011**	**674**	**342**	**212**	**10,974**	**192**	**1,947**	**650**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Project Minus CEQA Baseline	-104	-75	-625	-861	42	-91	-121	-91	-1,785	-891	-21	-115
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	No	No	No	No	No	No	No	No	No	No
NEPA Impacts												
NEPA Baseline Emissions	367	234	11,841	244	2,006	687	367	234	11,841	244	2,006	687
Project Minus NEPA Baseline	-7	-6	293	-22	5	-13	-24	-22	-867	-52	-59	-36
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	**Yes**	No	No	No	No	No	No	No	No	No
Year 2026												
Ships: Main Propulsion Engines	129	121	6,968	147	853	493	113	107	5,065	118	799	474
Ships: Aux Engines and Boilers	44	42	1,691	107	162	64	40	38	1,289	100	142	57
AMP Electricity Use	3	3	26	11	13	1	3	3	31	13	15	1
Tugboats	2	1	60	0	143	10	2	1	60	0	143	10
Trucks	181	51	1,168	5	188	40	181	51	1,168	5	188	40
Line Haul Locomotives	24	22	1,104	2	426	42	24	22	1,104	2	426	42
Switch Locomotives	0	0	17	0	7	1	0	0	17	0	7	1
Cargo Handling Equipment	4	4	147	3	519	36	4	4	147	3	519	36
Worker Vehicles	20	6	5	0	66	3	20	6	5	0	66	3
Total Operational Year 2026	**406**	**250**	**11,186**	**275**	**2,377**	**689**	**387**	**232**	**8,887**	**242**	**2,304**	**662**
CEQA Impacts												

Table 3.2-52: Peak Daily Operational Emissions — Alternative 3 (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Project Minus CEQA Baseline	-57	-53	-1,573	-808	408	-76	-76	-71	-3,872	-840	336	-104
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	No	No	No	No	No	No	No	No	No	No
NEPA Impacts												
NEPA Baseline Emissions	344	215	8,523	236	2,058	641	344	215	8,523	236	2,058	641
Project Minus NEPA Baseline	62	35	2,664	39	319	48	43	17	364	7	247	21
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	**Yes**	No	No	No	No	No	**Yes**	No	No	No
Year 2033												
Ships: Main Propulsion Engines	187	176	10,432	225	1,195	679	153	144	4,382	161	1,074	635
Ships: Aux Engines and Boilers	47	44	1,926	105	182	71	42	39	975	98	155	61
AMP Electricity Use	1	1	9	4	5	0	2	2	16	7	8	0
Tugboats	2	2	85	0	204	15	2	2	85	0	204	15
Trucks	194	54	957	5	208	37	194	54	957	5	208	37
Line Haul Locomotives	53	49	2,836	7	1,756	104	53	49	2,836	7	1,756	104
Switch Locomotives	1	1	38	0	15	2	1	1	38	0	15	2
Cargo Handling Equipment	6	5	161	4	670	45	6	5	161	4	670	45
Worker Vehicles	23	7	4	0	62	3	23	7	4	0	62	3
Total Operational Year 2033	**514**	**339**	**16,448**	**350**	**4,298**	**957**	**475**	**302**	**9,455**	**282**	**4,153**	**903**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Project Minus CEQA Baseline	51	36	3,689	-733	2,330	191	12	-1	-3,303	-800	2,184	138
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	**Yes**	No	**Yes**	**Yes**	No	No	No	No	**Yes**	**Yes**
NEPA Impacts												
NEPA Baseline Emissions	405	270	7,729	279	3,437	852	405	270	7,729	279	3,437	852
Project Minus NEPA Baseline	109	68	8,719	71	861	105	70	32	1,726	3	716	52
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	**Yes**	**Yes**	No	**Yes**	**Yes**	No	No	**Yes**	No	**Yes**	No
Year 2038												
Ships: Main Propulsion Engines	187	176	10,432	225	1,195	679	153	144	2,539	161	1,074	635

Table 3.2-52: Peak Daily Operational Emissions — Alternative 3 (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Ships: Aux Engines and Boilers	47	44	1,926	105	182	71	42	39	648	98	155	61
AMP Electricity Use	1	1	9	4	5	0	2	2	16	7	8	0
Tugboats	2	2	77	0	176	13	2	2	77	0	176	13
Trucks	194	54	862	5	201	35	194	54	862	5	201	35
Line Haul Locomotives	33	30	2,045	7	1,756	76	33	30	2,045	7	1,756	76
Switch Locomotives	0	0	20	0	15	1	0	0	20	0	15	1
Cargo Handling Equipment	6	5	155	4	670	44	6	5	155	4	670	44
Worker Vehicles	23	7	4	0	54	2	23	7	4	0	54	2
Total Operational Year 2038	**493**	**319**	**15,530**	**350**	**4,256**	**923**	**454**	**283**	**6,367**	**282**	**4,110**	**869**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Project Minus CEQA Baseline	30	16	2,772	-733	2,287	158	-9	-20	-6,392	-800	2,142	104
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	**Yes**	No	**Yes**	**Yes**	No	No	No	No	**Yes**	**Yes**
NEPA Impacts												
NEPA Baseline Emissions	390	257	4,524	279	3,397	827	390	257	4,524	279	3,397	827
Project Minus NEPA Baseline	103	62	11,006	71	859	96	64	26	1,843	3	713	42
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	**Yes**	**Yes**	No	**Yes**	**Yes**	No	No	**Yes**	No	**Yes**	No

Notes:

- Emissions assume the simultaneous occurrence of peak daily equipment activity levels. Such levels would rarely occur during day-to-day terminal operations.
- Truck, train, ship, and worker commute emissions include transport within the South Coast Air Basin.
- AMP electricity use reflects indirect emissions from regional power generation.
- Emissions might not precisely add due to rounding.

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

1

Discussion of Emissions Trends and Comparison to Proposed Project

Emissions would vary due to several factors, such as regulatory requirements, activity levels, source (container ships, tugboats, trucks, locomotives, CHE, and worker vehicles) characteristics, and emission factors. The combination of these factors can result in emissions that do not always decrease or increase consistently over time.

Under Alternative 3, terminal activity would increase in each study year but would always have less activity than the proposed Project. Regulatory requirements described in detail in Appendix B1 would serve to decrease emission factors from most emission sources. In addition, as equipment ages, engine efficiency would decrease and emission factors would increase in comparison to brand-new equipment.

Alternative 3 would not achieve the same level of efficient operations as would be achieved by the proposed Project, and the same number of annual container ship calls would be required as the proposed Project for less throughput. The maximum peak day ship calls (over a 24-hour period) would also be the as for the proposed Project.

CEQA Impact Determination

Table 3.2-52 shows that peak daily operational emissions would exceed the SCAQMD daily emission thresholds and would be significant under CEQA for NO_X, CO, and VOC in 2033 and 2038.

Mitigation Measures

Table 3.2-52 presents peak daily operational emissions associated with Alternative 3, following the application of MM AQ-6 and MM AQ-7.

Residual Impacts

Table 3.2-52 shows that emissions from operation of Alternative 3 would be reduced with mitigation. Emissions of NO_X in 2033 and 2038 would be reduced to levels that are less than significant under CEQA. However, emissions of CO and VOC in 2033 and 2038 would remain significant and unavoidable under CEQA.

NEPA Impact Determination

Table 3.2-52 shows that unmitigated peak daily operational emissions would exceed the SCAQMD daily thresholds for NO_X in all analysis years and $PM_{2.5}$, CO, and VOC in 2033 and 2038. Therefore, unmitigated Alternative 3 operational emissions would be significant under NEPA for NO_X, $PM_{2.5}$, CO, and VOC prior to mitigation.

Mitigation Measures

Table 3.2-52 presents the peak daily pollutant emissions associated with operation of Alternative 3, after the application of MM AQ-6 and MM AQ-7. LM AQ-1 and LM AQ-2 are lease measures that may reduce future emissions; however, because implementation may change over the life of the leases, these measures were not included in emissions calculations.

Residual Impacts

Table 3.2-52 shows that emissions of NO_X in 2019 and $PM_{2.5}$ and VOC in 2033 and 2038 from operation of Alternative 3 would be reduced to levels that are less than significant under NEPA. However, operational emissions of NO_X in 2026, 2033, and 2038 and CO in 2033 and 2038 would remain significant and unavoidable under NEPA.

Impact AQ-4: Alternative 3 operations would result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.2-9.

Dispersion modeling of on- and off-site Alternative 3 operational emissions was performed to assess the impact of Alternative 3 on local ambient air concentrations. A summary of the dispersion modeling results is presented here; the complete dispersion modeling report is included in Appendix B2.

CEQA Impact Determination

Table 3.2-53 presents the maximum off-site concentrations of NO_2, SO_2, and CO from operational activities with and without mitigation. Table 3.2-54 presents the maximum off-site concentrations of PM_{10} and $PM_{2.5}$ from operational activities with and without mitigation.

Table 3.2-53: Maximum Off-site NO_2, SO_2, and CO Concentrations (CEQA)—Alternative 3 Operation

Pollutant	Averaging Time	Background Concentration (ppm)[c]	Maximum Unmitigated Modeled Alternative 3 Concentration Increment (ppm)[d]	Maximum Mitigated Modeled Alternative 3 Concentration Increment (ppm)[d]	Total Unmitigated Ground-Level Concentration (ppm)[e]	Total Mitigated Ground-Level Concentration (ppm)[e]	SCAQMD Threshold (ppm)	Unmitigated Concentration above threshold?	Mitigated Concentration above threshold?
NO_2	Federal 1-hour[a]	0.088	0.029	0.029	**0.117**	**0.117**	0.100	**Yes**	**Yes**
	State 1-hour	0.11	0.04	-	0.15	-	0.18	No	-
	Federal annual	0.017	0.010	-	0.027	-	0.053	No	-
	State annual	0.017	0.010	-	0.027	-	0.030	No	-
SO_2	Federal 1-hour[b]	0.038	0.0001	-	0.038	-	0.075	No	-
	State 1-hour	0.05	0.0001	-	0.05	-	0.25	No	-
	24-hour	0.01	0.000001	-	0.01	-	0.04	No	-
CO	1-hour	7	0.1	-	7	-	20 / 35	No	-
	8-hour	1.8	0.1	-	1.9	-	9.0	No	-

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The CEQA increment represents Alternative 3 minus CEQA baseline.

[c] The maximum modeled Alternative 3 concentration, maximum modeled baseline concentrations, and maximum concentration increments may occur at different receptors. Therefore, the modeled Alternative 3 and baseline concentrations in the table may not necessarily subtract to equal the increment.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

Table 3.2-54: Maximum Off-site PM_{10} and $PM_{2.5}$ Concentrations (CEQA) — Alternative 3 Operation

Pollutant	Averaging Time	Maximum Modeled Concentration of CEQA Baseline ($\mu g/m^3$)	Maximum Unmitigated Modeled Concentration of Alternative 3 ($\mu g/m^3$)	Maximum Mitigated Modeled Concentration of Alternative 3 ($\mu g/m^3$)	Unmitigated Ground-Level Concentration CEQA Increment ($\mu g/m^3$)[a,b]	Mitigated Ground-Level Concentration CEQA Increment ($\mu g/m^3$)[a,b]	SCAQMD Threshold ($\mu g/m^3$)	Unmitigated CEQA Concentration above Threshold?	Mitigated CEQA Concentration above Threshold?
PM_{10}	24-hour	8.2	31.8	31.7	**25.2**	**25.2**	2.5	**Yes**	**Yes**
	Annual	3.8	17.8	17.8	**15.4**	**15.4**	1.0	**Yes**	**Yes**
$PM_{2.5}$	24-hour	4.0	8.4	8.4	**5.6**	**5.5**	2.5	**Yes**	**Yes**

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The CEQA increment represents Alternative 3 minus CEQA baseline.

[c] The maximum modeled Alternative 3 concentration, maximum modeled baseline concentrations, and maximum concentration increments may occur at different receptors. Therefore, the modeled Alternative 3 and baseline concentrations in the table may not necessarily subtract to equal the increment.

1

Table 3.2-53 shows that the maximum off-site NO_2 (federal 1-hour average) concentration from operational activities would exceed the SCAQMD threshold. Table 3.2-54 shows that the maximum off-site incremental PM_{10} (24-hour and annual average) and $PM_{2.5}$ concentrations from operational activities would exceed SCAQMD thresholds. Therefore, without mitigation, maximum off-site ambient pollutant concentrations associated with the operation of Alternative 3 would be significant under CEQA for NO_2 (federal 1-hour average), PM_{10} (24-hour and annual average), and $PM_{2.5}$.

Mitigation Measures

To reduce the level of impact during operation, mitigation measures MM AQ-6 and MM AQ-7 would be applied. These mitigation measures would be implemented by the responsible parties identified in Section 3.2.4.7.

Table 3.2-53 presents the maximum off-site ground level concentration of NO_2 with mitigation. Table 3.2-54 presents the maximum off-site ground level concentrations of PM_{10} and $PM_{2.5}$ with mitigation.

Residual Impacts

Table 3.2-53 shows that the maximum off-site NO_2 (federal 1-hour average) concentration from operational activities would not be substantially reduced with mitigation and would remain significant and unavoidable under CEQA. Table 3.2-54 shows that the maximum off-site incremental PM_{10} (24-hour and annual average) and $PM_{2.5}$ concentrations from operational activities would not be substantially reduced with mitigation and would remain significant and unavoidable under CEQA.

NEPA Impact Determination

Table 3.2-55 shows that the maximum off-site NO_2, SO_2, and CO concentration from operational activities would not exceed the SCAQMD thresholds. Table 3.2-56 shows that the maximum off-site incremental PM_{10} (24-hour and annual average) concentrations from operational activities would exceed SCAQMD thresholds. Therefore, without mitigation, maximum off-site ambient pollutant concentrations associated with the operation of Alternative 3 would be significant under NEPA for PM_{10} (24-hour and annual average).

Table 3.2-55: Maximum Off-site NO_2, SO_2, and CO Concentrations (NEPA) — Alternative 3 Operation

Pollutant	Averaging Time	Background Concentration (ppm)[c]	Maximum Unmitigated Modeled Alternative 3 Concentration Increment (ppm)[d]	Maximum Mitigated Modeled Alternative 3 Concentration Increment (ppm)[d]	Total Unmitigated Ground-Level Concentration (ppm)[e]	Total Mitigated Ground-Level Concentration (ppm)[e]	SCAQMD Threshold (ppm)	Unmitigated Concentration above threshold?	Mitigated Concentration above threshold?
NO_2	Federal 1-hour[a]	0.088	0.008	-	0.096	-	0.100	No	-
	State 1-hour	0.11	0.01	-	0.12	-	0.18	No	-
	Federal annual	0.017	0.003	-	0.021	-	0.053	No	-
	State annual	0.017	0.003	-	0.021	-	0.030	No	-
SO_2	Federal 1-hour[b]	0.038	0.0001	-	0.038	-	0.075	No	-
	State 1-hour	0.05	0.0001	-	0.05	-	0.25	No	-
	24-hour	0.01	0.00004	-	0.02	-	0.04	No	-
CO	1-hour	7	0.05	-	7	-	20 / 35	No	-
	8-hour	1.8	0.03	-	1.8	-	9.0	No	-

Notes:

[a] The federal 1-hour NO_2 modeled concentration represents the 98th percentile of the daily maximum 1-hour averages.

[b] The federal 1-hour SO_2 modeled concentration represents the 99th percentile of the daily maximum 1-hour averages.

[c] The background concentrations for NO_2, SO_2, and CO were obtained from the TITP station.

[d] The maximum modeled concentration increment represents Alternative 3 operation minus NEPA baseline operations.

[e] Exceedances of the thresholds are indicated in **bold.**

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-56: Maximum Off-site PM_{10} and $PM_{2.5}$ Concentrations (NEPA) — Alternative 3 Operation

Pollutant	Averaging Time	Maximum Modeled Concentration of NEPA Baseline (µg/m³)	Maximum Unmitigated Modeled Concentration of Alternative 3 (µg/m³)	Maximum Mitigated Modeled Concentration of Alternative 3 (µg/m³)	Unmitigated Ground-Level Concentration NEPA Increment (µg/m³)a,c	Mitigated Ground-Level Concentration NEPA Increment (µg/m³)a,c	SCAQMD Threshold (µg/m³)	Unmitigated NEPA Concentration above Threshold?	Mitigated NEPA Concentration above Threshold?
PM_{10}	24-hour	25.2	31.8	31.7	**6.5**	**6.4**	2.5	**Yes**	**Yes**
	Annual	15.0	17.8	17.8	**3.9**	**3.9**	1.0	**Yes**	**Yes**
$PM_{2.5}$	24-hour	6.8	8.4	-	1.6	-	2.5	No	-

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The NEPA increment represents Alternative 3 minus NEPA baseline.

[c] The maximum modeled Alternative 3 concentration, maximum modeled baseline concentrations, and maximum concentration increments may occur at different receptors. Therefore, the modeled Alternative 3 and baseline concentrations in the table may not necessarily subtract to equal the increment.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

1

Mitigation Measures

To reduce the level of impact during operation, mitigation measures MM AQ-6 and MM AQ-7 would be applied. These mitigation measures would be implemented by the responsible parties identified in Section 3.2.4.7. Table 3.2-56 presents the maximum off-site ground level concentrations of PM_{10} with mitigation.

Residual Impacts

Table 3.2-56 shows that the maximum off-site incremental PM_{10} (24-hour and annual average) concentrations from operational activities would also not be substantially reduced with mitigation and would remain significant and unavoidable under NEPA.

Impact AQ-5: Alternative 3 would not generate on-road traffic that would contribute to an exceedance of the 1-hour or 8-hour CO standards.

Alternative 3 would not generate a greater number of truck trips or have a greater impact on intersection LOS than the analysis done for the proposed Project done in Section 3.2.4.5, Impact AQ-5. Because the proposed Project analysis would not exceed CO standards at any intersection, traffic-related impacts for Alternative 3 would also not exceed CO concentration standards at any intersection.

CEQA Impact Determination

CO standards would not be exceeded in the immediate vicinity of heavily congested intersections. CO impacts would therefore not be significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

CO standards would not be exceeded in the immediate vicinity of heavily congested intersections. CO impacts would therefore not be significant under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AQ-6: Alternative 3 would not create an objectionable odor at the nearest sensitive receptor.

Similar to the proposed Project, the mobile nature of the emission sources associated with Alternative 3 would serve to disperse emissions. Additionally, the distance between

Alternative 3 emission sources and the nearest residents would be far enough to allow for adequate dispersion of these emissions to below objectionable odor levels.

CEQA Impact Determination

The potential is low for the Alternative 3 to produce objectionable odors that would affect a sensitive receptor; and significant odor impacts under CEQA, therefore, are not anticipated.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

The potential is low for the Alternative 3 to produce objectionable odors that would affect a sensitive receptor; and significant odor impacts under NEPA, therefore, are not anticipated.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AQ-7: Alternative 3 would expose receptors to significant levels of TACs.

An HRA was conducted to address potential public health effects from TACs generated by Alternative 3. The results of the HRA are summarized below, with impacts shown relative to the CEQA baseline, future CEQA baseline (for cancer risk), and NEPA baseline. The rationale for a CEQA analysis based on both the CEQA baseline and future CEQA baseline is discussed in detail in Section 3.2.4.1, Methodology. Details of the analysis, including TAC emissions, the dispersion modeling approach, and the risk calculation approach, are presented in Appendix B3.

CEQA Impact Determination

Table 3.2-57 presents the maximum predicted CEQA health impacts associated with Alternative 3 with and without mitigation. The table includes estimates of individual cancer risk, chronic noncancer hazard index, and acute noncancer hazard index at the maximally exposed residential, occupational, and sensitive receptors. Results are presented for Alternative 3 (before subtracting baseline), the two CEQA baselines, the CEQA increment (Alternative 3 minus CEQA baseline), and future CEQA increment (Alternative 3 minus future CEQA baseline). The table also presents the CEQA increment and future CEQA increment for the population cancer burden. Significance findings are made by comparing the increments to the significance thresholds.

Table 3.2-57: Maximum CEQA Health Impacts Estimated for Construction and Operation of Alternative 3

Health Impact	Receptor Type	Unmitigated CEQA Increment[a,c]	Mitigated CEQA Increment[a,c]	Unmitigated Future CEQA Increment[b]	Mitigated Future CEQA Increment[b]	Significance Threshold	Unmitigated Significant?[d]	Mitigated Significant?[d]
Cancer Risk	Residential	< 0	n/a [g]	0.8 × 10-6 0.8 in a million	n/a	10×10^{-6} 10 in a million	No	n/a
	Occupational	< 0	n/a	5.3 × 10-6 5.3 in a million	n/a		No	n/a
	Sensitive	< 0	n/a	0.3 × 10-6 0.3 in a million	n/a		No	n/a
Chronic Hazard Index	Residential	0.04	n/a	n/a [e]	n/a	1.0	No	n/a
	Occupational	0.14	n/a	n/a	n/a		No	n/a
	Sensitive	0.07	n/a	n/a	n/a		No	n/a
Acute Hazard Index	Residential	0.05	n/a	n/a	n/a	1.0	No	n/a
	Occupational	0.19	n/a	n/a	n/a		No	n/a
	Sensitive	0.07	n/a	n/a	n/a		No	n/a
Population Cancer Burden		0.0	n/a	0.2	n/a	0.5	No	n/a

Notes:
[a]The CEQA Increment column represents the maximum difference of Alternative 3 minus the CEQA baseline.
[b]The Future CEQA Increment column represents the maximum difference of Alternative 3 minus the Future CEQA baseline.
[c]A CEQA Increment less than zero means that Alternative 3 health values would be less than the CEQA Baseline health values at all modeled receptors.
[d]Exceedances of the thresholds are indicated in **bold**. An impact is marked significant if either the CEQA Increment or Future CEQA Increment exceeds the threshold.
[e]The Future CEQA baseline and Future CEQA increment are applicable only to cancer risk because cancer risk has a uniquely long exposure period (30 years for residential and sensitive exposure, and 70 years for population cancer burden).
[f]Each positive result shown in the table for cancer risk, chronic hazard index, and acute hazard index represents the modeled receptor location with the maximum increment. The increments at all other receptors would be less than the values in the table.
[g] Mitigated health risks were not evaluated because unmitigated impacts would be less than significant.

1

Table 3.2-57 shows that unmitigated Alternative 3 would produce the following health risk impacts under CEQA:

- Individual Cancer Risk

In relation to the CEQA baseline, the maximum incremental cancer risk is predicted to be less than the significance threshold at all receptors. Therefore, Alternative 3 would result in a less-than-significant cancer risk impact. Moreover, the negative values for the CEQA increment indicate that the cancer risk from Alternative 3 would be less than the cancer risk from the CEQA baseline at all modeled receptors, due in large part to the beneficial effect of existing air quality rules and regulations on future emissions.

In relation to the future CEQA baseline, the maximum incremental cancer risk is predicted to be less than the significance threshold at all receptors. Therefore, Alternative 3 would result in a less-than-significant cancer risk impact.

Figure 3.2-4 shows individual cancer risk contours of the future CEQA increment for unmitigated Alternative 3, assuming residential (30-year) exposure parameters. The f*uture* CEQA increment is shown in the figure instead of the CEQA increment because the former shows higher predicted risk. As shown in the figure, the maximum residential receptor for individual cancer risk is located outside the 10 in a million contour line, indicating a less than significant impact.

- Population Cancer Burden

In relation to the CEQA baseline, the cancer burden increment would be zero because the individual cancer risk associated with Alternative 3 would be less than the CEQA baseline at all modeled receptors. Therefore, Alternative 3 would result in a less-than-significant cancer burden impact.

In relation to the Future CEQA baseline, the cancer burden increment is predicted to be less than the significance threshold. Therefore, Alternative 3 would result in a less-than-significant cancer burden impact.

- Chronic and Acute Hazard Indices

Because chronic and acute hazard indices are based on annual and peak hour emissions instead of multiple-year emissions like cancer risk, they are determined by comparing impacts only to the CEQA baseline, which is the baseline at the time of the NOP.

The maximum chronic hazard index increment is predicted to be less than the significance threshold for all receptor types. Therefore, Alternative 3 would result in a less-than-significant chronic noncancer impact.

The maximum acute hazard index increment is predicted to be less than the significance threshold for all receptor types. Therefore, Alternative 3 would result in a less-than-significant acute noncancer impact.

Appendix B3 includes figures showing the locations of the maximally-impacted receptors under CEQA.

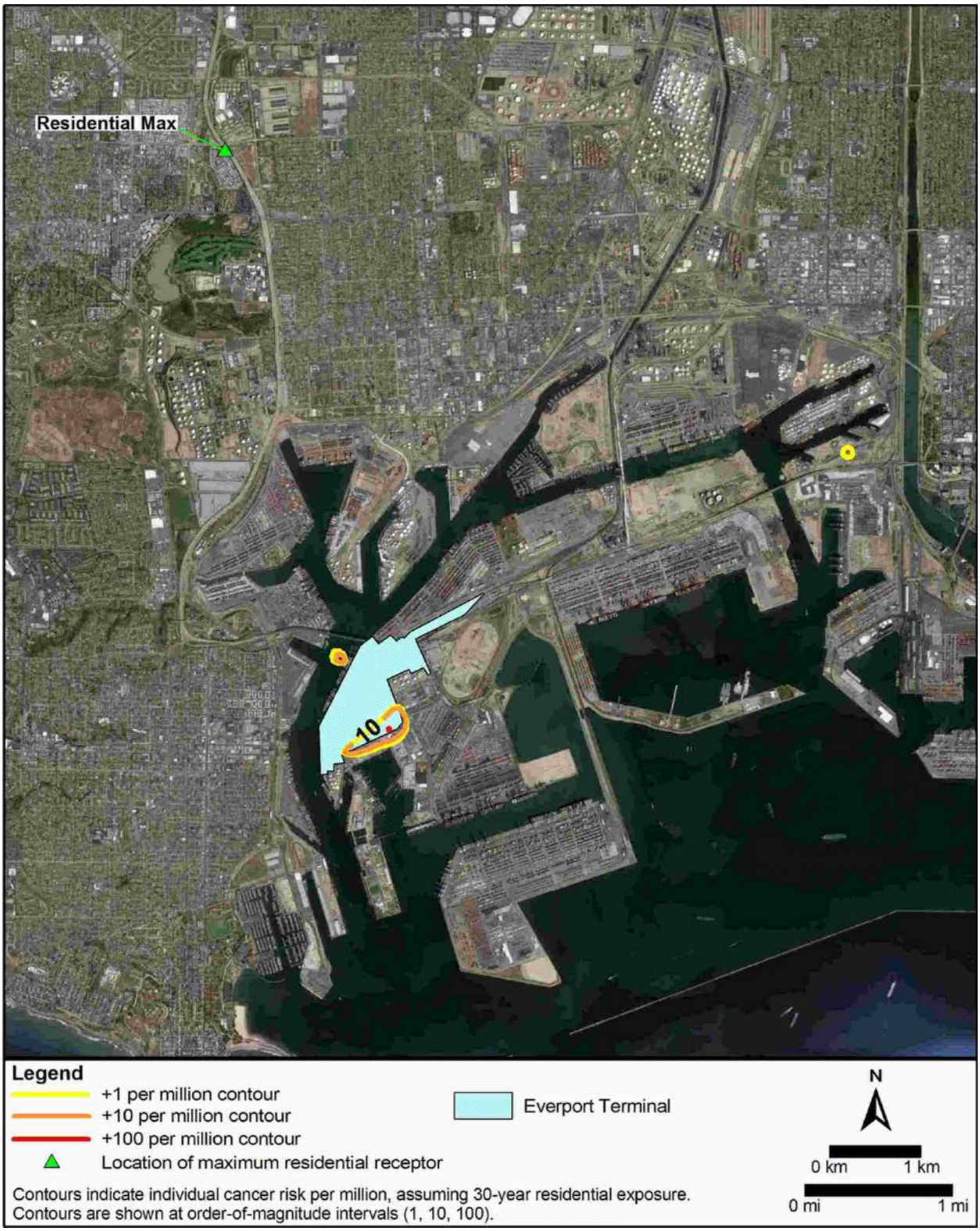

Figure 3.2-4: Isopleths of Residential Cancer Risk – Unmitigated Alternative 3 – Future CEQA Increment

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Table 3.2-58 presents the maximum predicted NEPA health impacts associated with Alternative 3 with and without mitigation. The table includes estimates of individual cancer risk, chronic noncancer hazard index, and acute noncancer hazard index at the maximally exposed residential, occupational, and sensitive receptors. Results are presented for Alternative 3 (before subtracting baseline), the NEPA baseline, and the NEPA increment (Alternative 3 minus NEPA baseline). The table also presents the NEPA increment for the population cancer burden. Significance findings are made by comparing the increments to the significance thresholds.

Table 3.2-58: Maximum NEPA Health Impacts Estimated for Construction and Operation of Alternative 3

Health Impact	Receptor Type	Unmitigated NEPA Increment[a]	Mitigated NEPA Increment[a]	Significance Threshold	Unmitigated Significant?[b]	Mitigated Significant?[b]
Cancer Risk	Residential	**12.3 × 10-6 12.3 in a million**	4.6 × 10-6 4.6 in a million	10×10^{-6} 10 in a million	**Yes**	No
	Occupational	3.8 × 10-6 3.8 in a million	3.4 × 10-6 3.4 in a million		No	No
	Sensitive	7.9 × 10-6 7.9 in a million	3.7 × 10-6 3.7 in a million		No	No
Chronic Hazard Index	Residential	0.03	0.02	1.0	No	No
	Occupational	0.10	0.05		No	No
	Sensitive	0.06	0.05		No	No
Acute Hazard Index	Residential	0.04	0.04	1.0	No	No
	Occupational	0.10	0.10		No	No
	Sensitive	0.07	0.06		No	No
Population Cancer Burden		0.4	0.1	0.5	No	No

Notes:
[a]The NEPA Increment column represents the maximum difference of Alternative 3 minus the NEPA baseline.
[b]Exceedances of the thresholds are indicated in **bold**.
[c]Each positive result shown in the table for cancer risk, chronic hazard index, and acute hazard index represents the modeled receptor location with the maximum increment. The increments at all other receptors would be less than the values in the table.

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Table 3.2-58 shows that unmitigated Alternative 3 would produce the following health risk impacts under NEPA:

- Individual Cancer Risk

In relation to the NEPA baseline, the maximum incremental cancer risk is predicted to be greater than the significance threshold at the maximally impacted residential receptor. Therefore, Alternative 3 would result in a significant cancer risk impact. The cancer risk impact would be less than significant at occupational, and sensitive receptors.

Figure 3.2-5 shows individual cancer risk contours of the NEPA increment for unmitigated Alternative 3, assuming residential (30-year) exposure parameters. The location of the maximum residential receptor for cancer risk is also indicated in the figure.

- Population Cancer Burden

In relation to the NEPA baseline, the cancer burden increment is predicted to be less than the significance threshold. Therefore, Alternative 3 would result in a less-than-significant cancer burden impact.

- Chronic and Acute Hazard Indices

The maximum chronic hazard index increment is predicted to be less than the significance threshold for all receptor types. Therefore, Alternative 3 would result in a less-than-significant chronic noncancer impact.

The maximum acute hazard index impact is predicted to be less than the significance threshold for all receptor types. Therefore, Alternative 3 would result in a less-than-significant acute noncancer impact.

Appendix B3 includes figures showing the locations of the maximally-impacted receptors under NEPA.

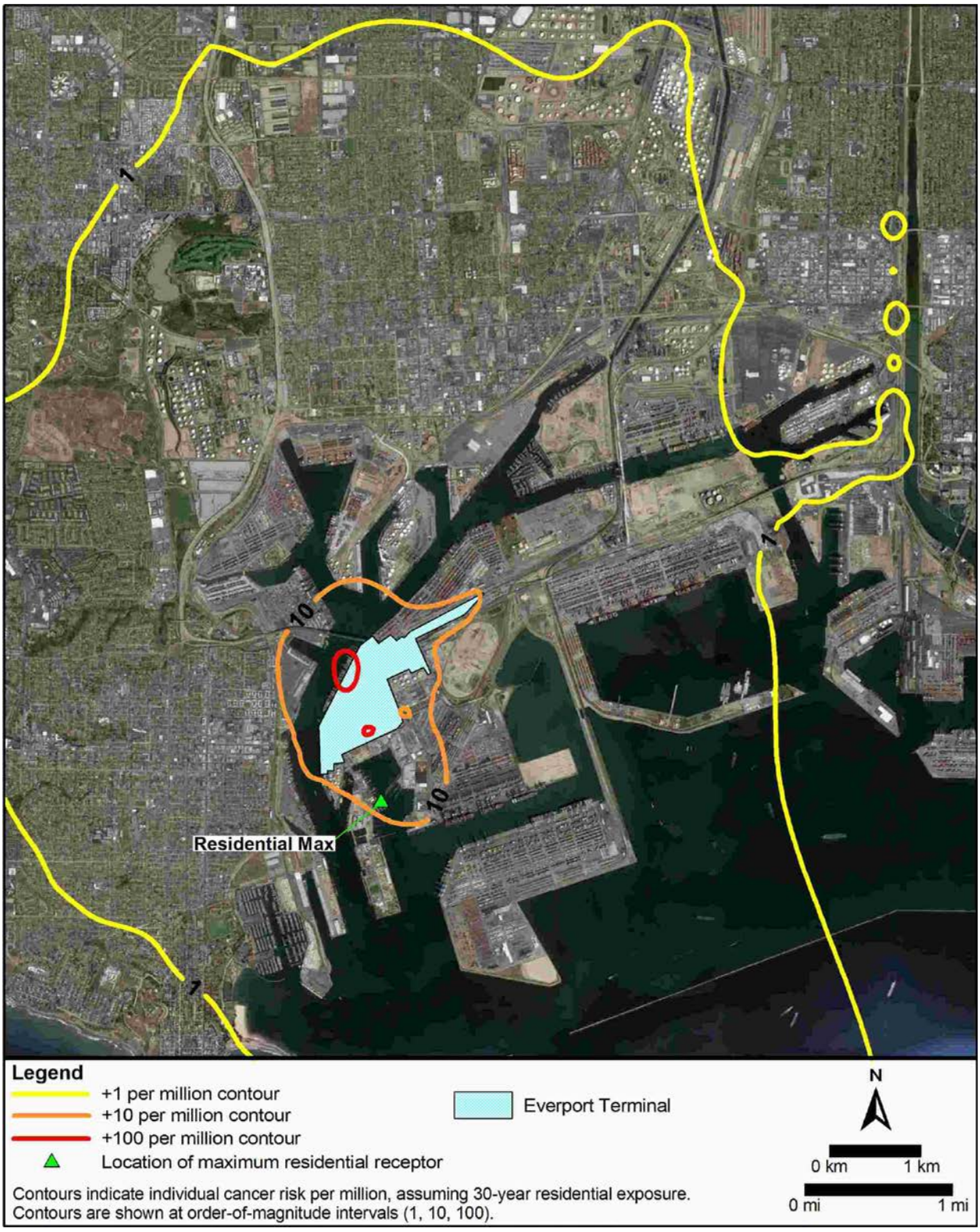

Figure 3.2-5: Isopleths of Residential Cancer Risk – Unmitigated Alternative 3 – NEPA Increment

Mitigation Measures

To reduce health risks associated with Alternative 3, MM AQ-1 through MM AQ-5 would be applied during construction, and MM AQ-6 and MM AQ-7 would be applied during operation. These mitigation measures would be implemented by the responsible parties identified in Section 3.2.4.7. LM AQ-1 and LM AQ-2 are lease measures that may reduce future emissions; however, these lease measures were not quantified in the analysis because the future technologies that may be implemented through these measures have not yet been identified.

Table 3.2-58 presents the maximum predicted NEPA health impacts associated with Alternative 3 with mitigation.

Residual Impacts

Table 3.2-58 shows that, with mitigation, the maximum incremental cancer risk at a residential receptor would be reduced to a less-than-significant impact. All other health risk values would remain less than significant.

Figure 3.2-6 shows individual cancer risk contours of the NEPA increment for mitigated Alternative 3, assuming residential (30-year) exposure parameters. As shown in the figure, the maximum residential receptor for individual cancer risk is located outside the 10 in a million contour line, indicating a less than significant impact.

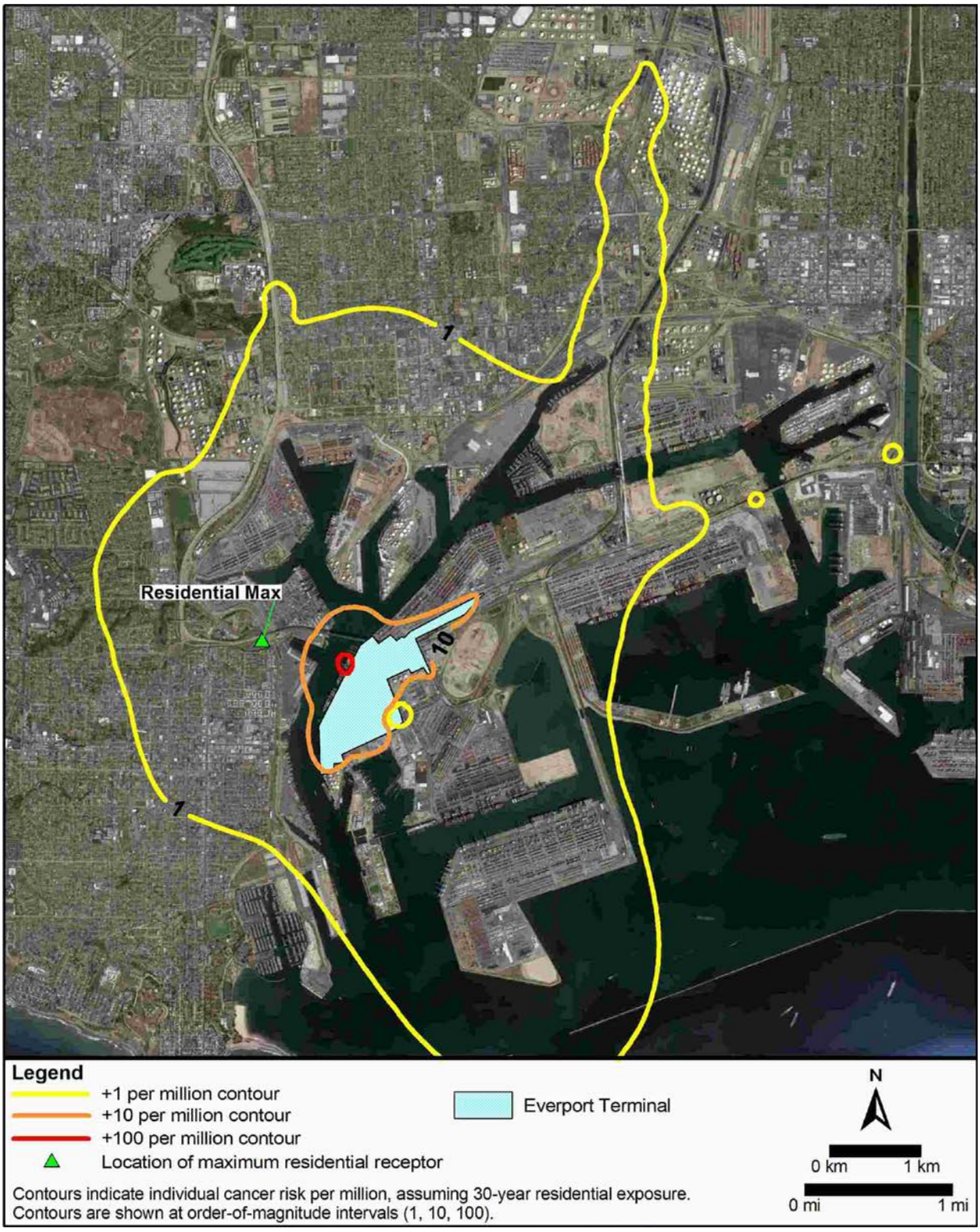

Figure 3.2-6: Isopleths of Residential Cancer Risk – Mitigated Alternative 3 – NEPA Increment

Additional Analysis for Informational Purposes—Particulates: Morbidity and Mortality

Impact AQ-4 indicates that operation of Alternative 3 would result in a maximum off-site 24-hour $PM_{2.5}$ concentration increment that would exceed the SCAQMD significance threshold of 2.5 µg/m^3 (see Table 3.2-56). However, because the operational $PM_{2.5}$ concentrations would be less than significant for all areas where resident populations are greater than zero, it would not exceed LAHD's criterion for calculating morbidity and mortality attributable to PM, potential mortality and morbidity effects were not quantified for Alternative 3. Isopleths (concentration curves) showing areas where $PM_{2.5}$ concentrations would exceed the SCAQMD significance threshold of 2.5 ug/m^3 are presented in Appendix B2.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AQ-8: Alternative 3 would not conflict with or obstruct implementation of an applicable AQMP.

This alternative would comply with SCAQMD rules and regulations and would be consistent with SCAG regional employment and population growth forecasts. Thus, this alternative would not conflict with or obstruct implementation of the AQMP.

CEQA Impact Determination

Alternative 3 would not conflict with or obstruct implementation of the AQMP; therefore, impacts under CEQA are not anticipated.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Alternative 3 would not conflict with or obstruct implementation of the AQMP; therefore, impacts under NEPA are not anticipated.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Alternative 4 – Reduced Project: No Backland Improvements

Under Alternative 4 there would be two operating berths after construction, similar to the proposed Project. This alternative would require the same dredging as the proposed Project. Up to five existing cranes would be raised and five new cranes installed, as well as AMP. This alternative would not include any backland expansion. Based on the throughput projections, this alternative is expected to operate at its capacity of 2,115,133 TEUs by 2038, slightly less than the proposed Project. However, while the terminal could handle similar levels of cargo, this reduced project alternative would not achieve the same level of efficient operations as achieved by the proposed Project. This alternative would accommodate the largest vessels (16,000 TEUs) at Berths 226-229. The new design depth at Berths 230-232 would be capable of handling vessels up to 10,000 TEUs. Under this alternative, 208 vessels would call on the terminal in 2038, which is the same as the proposed Project.

Impact AQ-1: Alternative 4 would result in construction-related emissions that exceed an SCAQMD threshold of significance in Table 3.2-6.

Table 3.2-59A presents the peak day criteria pollutant emissions associated with construction of Alternative 4, with and without mitigation, including disposal of dredged material at a permitted ocean disposal site. Table 3.2-59B presents the peak daily criteria pollutant emissions associated with construction of Alternative 4, with and without mitigation, including disposal of dredged material at an upland (inland) permitted disposal site. Maximum emissions for each construction phase were determined by adding the daily emissions from those construction activities that overlap in the construction schedule (Table 2-4 in Chapter 2). The peak day in 2018 is driven by heavy construction equipment for dredging and tug boats and/or trucks for disposal. The peak day in 2019 occurs when the cargo ship for new crane delivery is operating within the analysis area.

The Everport Container Terminal would continue to operate during construction of Alternative 4; construction and operational activities would overlap during this time. Total proposed project emissions from overlapping construction and operational activities are presented to show the overall impacts of the proposed project. Table 3.2-60 presents the overlap of construction and operations during 2018 and 2019, with and without mitigation. Decrease in operation at the port in 2018 during construction results in a reduction of operational emissions. The reduction is high enough to offset the increase in emissions due to construction activities, resulting in a less than significant peak day emissions in 2018.

Table 3.2-59A: Peak Daily Construction Emissions — Alternative 4 – Ocean Disposal (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Construction Year 2018 - Ocean Disposal												
Off-road Construction Equipment Exhaust	5	5	153	<1	69	22	5	5	153	<1	69	22
Marine Source Exhaust	10	9	263	<1	179	14	5	5	212	<1	179	12
On-Road Construction Vehicles	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Worker Vehicles	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fugitive Emissions	<1	<1	0	0	0	<1	<1	<1	0	0	0	<1
Construction Year 2018 Total	**15**	**14**	**416**	**1**	**248**	**36**	**10**	**10**	**365**	**1**	**248**	**33**
CEQA Impacts												
CEQA Baseline Emissions	0	0	0	0	0	0	0	0	0	0	0	0
Project Minus CEQA Baseline	15	14	416	1	248	36	10	10	365	1	248	33
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	No	No	No	**Yes**	No	No	No
NEPA Impacts												
NEPA Baseline Emissions	6	2	74	<1	67	11	6	2	74	<1	67	11
Project Minus NEPA Baseline	9	12	343	<1	181	25	5	8	291	<1	181	22
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	No	No	No	**Yes**	No	No	No
Construction Year 2019 – Ocean Disposal												
Off-road Construction Equipment Exhaust	1	1	30	<1	10	1	<1	<1	13	<1	20	2
Marine Source Exhaust	54	50	3,324	89	285	126	54	50	3,321	89	285	125
On-Road Construction Vehicles	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	1
Worker Vehicles	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1
Fugitive Emissions	<1	<1	0	0	0	<1	<1	<1	0	0	0	<1
Construction Year 2019 Total	**56**	**51**	**3,354**	**89**	**296**	**128**	**54**	**50**	**3,334**	**89**	**305**	**129**
CEQA Impacts												

Table 3.2-59A: Peak Daily Construction Emissions — Alternative 4 – Ocean Disposal (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
CEQA Baseline Emissions	0	0	0	0	0	0	0	0	0	0	0	0
Project Minus CEQA Baseline	56	51	3,354	89	296	128	54	50	3,334	89	305	129
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**
NEPA Impacts												
NEPA Baseline Emissions	4	0	30	0	35	6	4	0	30	0	35	6
Project Minus NEPA Baseline	52	51	3,323	89	261	122	50	50	3,304	89	271	123
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**

Notes:

- On-road Construction Vehicle emissions include exhaust, road dust, tire wear, and brake wear emissions from haul trucks and material delivery trucks.
- Worker Vehicle emissions include exhaust, road dust, tire wear, and brake wear emissions from construction worker commute.
- Fugitive emissions include construction dust and asphalt off-gassing.
- Emissions of PM_{10} and $PM_{2.5}$ assume that fugitive dust is controlled in accordance with SCAQMD Rule 403 by watering disturbed areas 3 times per day, for a control efficiency of 61 percent from uncontrolled levels.
- NEPA baseline emissions are emissions presented in Peak Daily Construction Emissions—NEPA Baseline, Table 3.2-4.
- Emissions might not add precisely due to rounding.

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

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Table 3.2-59B: Peak Daily Construction Emissions — Alternative 4 – Upland Disposal (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Construction Year 2018 - Upland Disposal												
Off-road Construction Equipment Exhaust	5	4	138	<1	63	19	4	4	136	<1	66	19
Marine Source Exhaust	2	2	54	<1	36	3	1	1	43	<1	36	2
On-Road Construction Vehicles	9	3	83	<1	6	2	9	2	99	<1	6	3
Worker Vehicles	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fugitive Emissions	<1	<1	0	0	0	<1	<1	<1	0	0	0	<1
Construction Year 2018 Total	**16**	**9**	**275**	**1**	**106**	**24**	**14**	**8**	**278**	**1**	**109**	**24**
CEQA Impacts												
CEQA Baseline Emissions	0	0	0	0	0	0	0	0	0	0	0	0
Project Minus CEQA Baseline	16	9	275	1	106	24	14	8	278	1	109	24
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	No	No	No	**Yes**	No	No	No
NEPA Impacts												
NEPA Baseline Emissions	6	2	74	0	67	11	6	2	74	0	67	11
Project Minus NEPA Baseline	10	7	201	<1	38	12	9	6	204	<1	42	13
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	No	No	No	**Yes**	No	No	No
Construction Year 2019 – Upland Disposal												
Off-road Construction Equipment Exhaust	1	1	30	0	10	1	0	0	13	0	20	2
Marine Source Exhaust	54	50	3,324	89	285	126	54	50	3,321	89	285	125
On-Road Construction Vehicles	<1	<1	<1	<1	1	1	<1	<1	<1	<1	<1	1
Worker Vehicles	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1
Fugitive Emissions	<1	<1	0	0	0	<1	<1	<1	0	0	0	<1
Construction Year 2019 Total	**56**	**51**	**3,354**	**89**	**296**	**128**	**54**	**50**	**3,334**	**89**	**305**	**129**
CEQA Impacts												

Table 3.2-59B: Peak Daily Construction Emissions — Alternative 4 – Upland Disposal (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
CEQA Baseline Emissions	0	0	0	0	0	0	0	0	0	0	0	0
Project Minus CEQA Baseline	56	51	3,354	89	296	128	54	50	3,334	89	305	129
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**
NEPA Impacts												
NEPA Baseline Emissions	4	0	30	0	35	6	4	0	30	0	35	6
Project Minus NEPA Baseline	52	51	3,323	89	261	122	50	50	3,304	89	271	123
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**

Notes:

- On-road Construction Vehicle emissions include exhaust, road dust, tire wear, and brake wear emissions from haul trucks and material delivery trucks.
- Worker Vehicle emissions include exhaust, road dust, tire wear, and brake wear emissions from construction worker commute.
- Fugitive emissions include construction dust and asphalt off-gassing.
- Emissions of PM_{10} and $PM_{2.5}$ assume that fugitive dust is controlled in accordance with SCAQMD Rule 403 by watering disturbed areas 3 times per day, for a control efficiency of 61 percent from uncontrolled levels.
- NEPA baseline emissions are emissions presented in Peak Daily Construction Emissions—NEPA Baseline, Table 3.2-4.
- Emissions might not add precisely due to rounding.

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

Table 3.2-60: Peak Daily Combined Construction and Operational Emissions – Alternative 4 (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Construction 2018												
Ocean Disposal	15	14	416	1	248	36	10	10	365	1	248	33
Upland Disposal	16	9	275	1	106	24	14	8	278	1	109	24
Operation 2018												
Ships: Main Propulsion Engines	124	117	6,975	143	814	468	124	117	6,975	143	814	468
Ships: Aux Engines and Boilers	41	39	1,601	102	146	58	41	39	1,601	102	146	58
AMP Electricity Use	2	2	16	7	8	<1	2	2	16	7	8	<1
Tugboats	2	1	60	<1	127	9	2	1	60	<1	127	9
Trucks	139	46	2,383	4	216	71	139	46	2,383	4	216	71
Line Haul Locomotives	26	24	1,022	1	252	42	26	24	1,022	1	252	42
Switch Locomotives	<1	<1	15	<1	5	1	<1	<1	15	<1	5	1
Cargo Handling Equipment	3	3	262	2	302	26	3	3	262	2	302	26
Worker Vehicles	17	5	10	<1	109	4	17	5	10	<1	109	4
Total Construction (Ocean Disposal) and Operation Year 2018	**368**	**249**	**12,761**	**261**	**2,227**	**715**	**363**	**245**	**12,709**	**261**	**2,227**	**712**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Project Minus CEQA Baseline	-96	-54	2	-822	258	-50	-100	-58	-50	-822	258	-53
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	No	No	No	No	No	No	No	No	No	No
NEPA Impacts												
NEPA Baseline Emissions	367	245	12,858	271	2,115	717	367	245	12,858	271	2,115	717
Project Minus NEPA Baseline	<1	4	-97	-11	111	-1	-4	<1	-149	-11	111	-4
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	No	No	No	No	No	No	No	No	No	No
Total Construction (Upland Disposal) and Operation Year 2018	**369**	**244**	**12,619**	**261**	**2,084**	**703**	**367**	**243**	**12,622**	**261**	**2,087**	**704**
CEQA Impacts												

Table 3.2-60: Peak Daily Combined Construction and Operational Emissions – Alternative 4 (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Project Minus CEQA Baseline	-95	-59	-139	-822	115	-62	-96	-60	-136	-822	118	-62
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	No	No	No	No	No	No	No	No	No	No
NEPA Impacts												
NEPA Baseline Emissions	367	245	12,858	271	2,115	717	367	245	12,858	271	2,115	717
Project Minus NEPA Baseline	1	-1	-239	-11	-32	-14	<1	-2	-236	-11	-28	-13
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	No	No	No	No	No	No	No	No	No	No
Construction 2019												
Ocean/Upland Disposal	56	51	3,354	89	296	128	54	50	3,334	89	305	129
Operation 2019												
Ships: Main Propulsion Engines	122	115	6,865	141	802	462	107	100	5,819	113	748	442
Ships: Aux Engines and Boilers	38	36	1,518	91	138	55	31	29	1,167	80	107	43
AMP Electricity Use	1	1	9	4	4	<1	2	2	15	6	8	<1
Tugboats	2	2	63	<1	134	10	2	2	63	<1	134	10
Trucks	155	50	2,515	5	222	69	155	50	2,515	5	222	69
Line Haul Locomotives	23	21	948	1	245	38	23	21	948	1	245	38
Switch Locomotives	<1	<1	15	<1	5	1	<1	<1	15	<1	5	1
Cargo Handling Equipment	3	3	277	2	373	31	3	3	277	2	373	31
Worker Vehicles	16	5	8	<1	85	3	16	5	8	<1	85	3
Total Construction and Operation Year 2019	**416**	**283**	**15,571**	**333**	**2,304**	**796**	**393**	**262**	**14,161**	**297**	**2,231**	**766**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Project Minus CEQA Baseline	-48	-20	2,813	-749	335	31	-71	-41	1,403	-786	262	<1
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	No	No	No	**Yes**	No	No	No

Table 3.2-60: Peak Daily Combined Construction and Operational Emissions – Alternative 4 (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
NEPA Impacts												
NEPA Baseline Emissions	371	234	11,871	244	2,041	693	371	234	11,871	244	2,041	693
Project Minus NEPA Baseline	45	49	3,700	90	263	103	22	28	2,291	53	190	73
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**	No	No	No

Notes:

- Emissions assume the simultaneous occurrence of maximum daily emissions for each source category. Such levels would rarely occur during day-to-day terminal operations.
- Truck, train, ship, and worker commute emissions include transport within the SCAB.
- AMP electricity use reflects indirect emissions from regional power generation.
- Emissions reflect the maximum of upland and marine emissions associated with the disposal of dredged materials (see Appendix B1, Methodology).
- NEPA baseline emissions include the NEPA baseline construction emissions plus the NEPA baseline operational emissions, presented in Table 3.2-4 and Table 3.2-5.
- Emissions might not precisely add due to rounding.

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

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CEQA Impact Determination

Tables 3.2-59A and 3.2-59B show that unmitigated peak daily construction emissions would exceed the SCAQMD daily emission thresholds for NO_X under CEQA during 2018 and 2019. Construction emissions would also exceed the SCAQMD daily emission thresholds for VOC during the 2019 construction year. Therefore, unmitigated Alternative 4 construction emissions would be significant under CEQA for NO_X and VOC prior to mitigation. The largest contributors to peak day construction emissions are marine sources (including ships used to deliver new cranes and tugboats used to assist dredging barges, and dive boats), followed by off-road construction equipment (including dredging equipment).

Table 3.2-60 shows that overlapping construction and operational emissions in 2018 would not exceed the SCAQMD daily emission thresholds for construction. However, construction and operational emissions in 2019 exceed the SCAQMD daily emission thresholds for construction for NO_X. Therefore, impacts would be significant during the peak year of construction and operational overlap under CEQA.

Mitigation Measures

To reduce the level of impact during construction, MM AQ-1 through MM AQ-5 would be applied. These mitigation measures would be implemented by the responsible parties identified in Section 3.2.4.7. Tables 3.2-59A and 3.2-59B present the peak daily criteria pollutant emissions associated with the construction of Alternative 4, after the application of MM AQ-1 through MM AQ-5. Table 3.2-60 presents the peak daily combined construction and operational emissions, during the time of peak construction, after the application of the same mitigation measures.

Residual Impacts

Emissions from construction of Alternative 4 would be reduced with mitigation but would remain significant and unavoidable under CEQA for NO_X in 2018 and 2019 and VOC in 2019. In addition, although emissions from overlapping construction and operation would be reduced with mitigation, they would remain significant and unavoidable under CEQA for NO_X during the 2019 peak construction year.

NEPA Impact Determination

Tables 3.2-59A and 3.2-59B show that unmitigated peak daily construction emissions would exceed the SCAQMD daily thresholds for NO_X under NEPA in 2018 and 2019 and for VOC in 2019. Therefore, unmitigated Alternative 4 construction emissions would be significant under NEPA for NO_X and VOC prior to mitigation.

Table 3.2-60 shows that overlapping construction and operational emissions in 2019 would exceed the SCAQMD daily emission thresholds for construction for NO_X and VOC. Therefore, impacts would be significant in 2019 under NEPA.

Mitigation Measures

Tables 3.2-59A and 3.2-59B present the peak daily criteria pollutant emissions associated with construction of Alternative 4, after the application of MM AQ-1

through MM AQ-5. Table 3.2-60 presents the peak daily combined construction and operational emissions after the application of the same mitigation measures.

Residual Impacts

Emissions from construction of Alternative 4 would be reduced with mitigation but would remain significant and unavoidable under NEPA for NO_X in 2018 and 2019 and for VOC in 2019. In addition, emissions of VOC from overlapping construction and operation would be reduced to levels that are less than significant under NEPA. Although NO_X emissions from overlapping construction and operation would be reduced, impacts would remain significant and unavoidable under NEPA in 2019.

Impact AQ-2: Alternative 4 would result in construction-related off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.2-7.

Dispersion modeling of on-site construction emissions was performed to assess the impact of Alternative 4 on local ambient air concentrations. A summary of the dispersion modeling results is presented here; the complete dispersion modeling report is included in Appendix B2.

CEQA Impact Determination

Table 3.2-61 presents the maximum off-site ground level concentrations of NO_2, SO_2, and CO from construction. Table 3.2-62 presents the maximum off-site ground level concentrations of PM_{10} and $PM_{2.5}$ from construction. Table 3.2-63 presents maximum off-site ground level concentrations of NO_2, SO_2, and CO when peak construction activity would overlap with terminal operations. Table 3.2-64 presents the maximum off-site ground level concentrations of PM_{10} and $PM_{2.5}$ when peak construction activity would overlap with terminal operations. As seen before with emissions, where decrease in operation at the port in 2018 during construction resulted in a reduction of total emissions from construction and operations, lower concentrations were predicted for some pollutants when construction and operational sources were both modeled.

Table 3.2-61: Maximum Off-site Ambient NO_2, SO_2, and CO Concentrations (CEQA) — Alternative 4 Construction

Pollu-tant	Averaging Time	Background Concentration (ppm)[c]	Maximum Unmitigated Modeled Alternative 4 Concentration Increment (ppm)	Maximum Mitigated Modeled Alternative 4 Concentration Increment (ppm)	Total Unmitigated Ground-Level Concentration (ppm)[d]	Total Mitigated Ground-Level Concentration (ppm)[d]	SCAQMD Threshold (ppm)	Unmitigated Concentration above Threshold?	Mitigated Concentration above Threshold?
NO_2	Federal 1-hour[a]	0.088	0.056	0.053	**0.144**	**0.141**	0.100	**Yes**	**Yes**
	State 1-hour	0.11	0.06	-	0.18	-	0.18	No	-
	Federal annual	0.017	0.001	-	0.018	-	0.053	No	-
	State annual	0.017	0.001	-	0.018	-	0.030	No	-
SO_2	Federal 1-hour[b]	0.038	0.0001	-	0.038	-	0.075	No	-
	State 1-hour	0.05	0.0001	-	0.05	-	0.25	No	-
	24-hour	0.01	0.00004	-	0.02	-	0.04	No	-
CO	1-hour	7	0.1	-	7	-	20 / 35	No	-
	8-hour	1.8	0.1	-	1.9	-	9.0	No	-

Notes:

[a] The federal 1-hour NO_2 modeled concentration represents the 98th percentile of the daily maximum 1-hour averages.

[b] The federal 1-hour SO_2 modeled concentration represents the 99th percentile of the daily maximum 1-hour averages.

[c] The background concentrations for NO_2, SO_2, and CO were obtained from the TITP station.

[d] Exceedances of the thresholds are indicated in **bold**.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-62: Maximum Off-site Ambient PM_{10} and $PM_{2.5}$ Concentrations (CEQA) — Alternative 4 Construction

Pollutant	Averaging Time	Maximum Modeled Concentration of CEQA Baseline (µg/m³)	Maximum Unmitigated Modeled Concentration of Alternative 4 (µg/m³)	Maximum Mitigated Modeled Concentration of Alternative 4 (µg/m³)	Unmitigated Ground-Level Concentration CEQA Increment (µg/m³)[a,b]	Mitigated Ground-Level Concentration CEQA Increment (µg/m³)[a,b]	SCAQMD Threshold (µg/m³)	Unmitigated CEQA Concentration above Threshold?	Mitigated CEQA Concentration above Threshold?
PM_{10}	24-hour	0.0	2.8	-	2.8	-	10.4	No	-
	Annual	0.0	0.1	-	0.1	-	1.0	No	-
$PM_{2.5}$	24-hour	0.0	2.5	-	2.5	-	10.4	No	-

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The CEQA increment represents Alternative 4 minus CEQA baseline. Because the CEQA baseline for construction is zero, the CEQA increment equals the maximum modeled concentration.

[c] The maximum modeled Alternative 4 concentration, maximum modeled baseline concentrations, and maximum concentration increments may occur at different receptors. Therefore, the modeled Alternative 4 and baseline concentrations in the table may not necessarily subtract to equal the increment.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-63: Maximum Off-site Ambient NO_2, SO_2, and CO Concentrations (CEQA) — Alternative 4 Construction and Operation

Pollutant	Averaging Time	Background Concentration (ppm)[c]	Maximum Unmitigated Modeled Alternative 4 Concentration Increment (ppm)[d]	Maximum Mitigated Modeled Alternative 4 Concentration Increment (ppm)[d]	Total Unmitigated Ground-Level Concentration (ppm)[e]	Total Mitigated Ground-Level Concentration (ppm)[e]	SCAQMD Threshold (ppm)	Unmitigated Concentration above Threshold?	Mitigated Concentration above Threshold?
NO_2	Federal 1-hour[a]	0.088	0.011	-	0.099	-	0.100	No	-
	State 1-hour	0.11	0.02	-	0.13	-	0.18	No	-
	Federal annual	0.017	0.003	-	0.020	-	0.053	No	-
	State annual	0.017	0.003	-	0.020	-	0.030	No	-
SO_2	Federal 1-hour[b]	0.038	0.0001	-	0.038	-	0.075	No	-
	State 1-hour	0.05	0.0001	-	0.05	-	0.25	No	-
	24-hour	0.01	0.00006	-	0.02	-	0.04	No	-
CO	1-hour	7	0.1	-	7	-	20 / 35	No	-
	8-hour	1.8	0.1	-	1.9	-	9.0	No	-

Notes:

[a] The federal 1-hour NO_2 modeled concentration represents the 98th percentile of the daily maximum 1-hour averages.

[b] The federal 1-hour SO_2 modeled concentration represents the 99th percentile of the daily maximum 1-hour averages.

[c] The background concentrations for NO_2, SO_2, and CO were obtained from the TITP station.

[d] The maximum modeled concentration increment represents Alternative 4 construction plus operation minus 2013 terminal operations.

[e] Exceedances of the thresholds are indicated in **bold**.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-64: Maximum Off-site Ambient PM_{10} and $PM_{2.5}$ Concentrations (CEQA)—Alternative 4 Construction and Operation

Pollutant	Averaging Time	Maximum Modeled Concentration of CEQA Baseline ($\mu g/m^3$)	Maximum Unmitigated Modeled Concentration of Alternative 4 ($\mu g/m^3$)	Maximum Mitigated Modeled Concentration of Alternative 4 ($\mu g/m^3$)	Unmitigated Ground-Level Concentration CEQA Increment ($\mu g/m^3$)[a,b]	Mitigated Ground-Level Concentration CEQA Increment ($\mu g/m^3$)[a,]	SCAQMD Threshold ($\mu g/m^3$)	Unmitigated CEQA Concentration above Threshold?	Mitigated CEQA Concentration above Threshold?
PM_{10}	24-hour	8.2	11.0	-	2.8	-	10.4	No	-
	Annual	3.8	5.5	5.5	**1.7**	**1.6**	1.0	**Yes**	**Yes**
$PM_{2.5}$	24-hour	4.0	3.6	-	3.5	-	10.4	No	-

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The CEQA increment represents Alternative 4 minus CEQA baseline.

[c] The maximum modeled Alternative 4 concentration, maximum modeled baseline concentrations, and maximum concentration increments may occur at different receptors. Therefore, the modeled Alternative 4 and baseline concentrations in the table may not necessarily subtract to equal the increment.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-61 shows that the maximum off-site NO_2 (federal 1-hour average) concentration from construction activities would exceed SCAQMD thresholds. Table 3.2-62 shows that the maximum off-site incremental PM_{10} (24-hour and annual average) and $PM_{2.5}$ (24-hour) concentrations from construction activities would not exceed SCAQMD thresholds. Therefore, without mitigation, maximum off-site ambient pollutant concentration associated with the construction of Alternative 4 would be significant under CEQA for NO_2 (federal 1-hour average).

Table 3.2-63 shows that the maximum off-site NO_2, SO_2, and CO concentrations from overlapping construction and operational activities would not exceed SCAQMD thresholds. Table 3.2-64 shows that the maximum off-site incremental PM_{10} (annual average) concentration from overlapping construction and operational activities would exceed SCAQMD thresholds. Therefore, without mitigation, maximum off-site ambient pollutant concentration associated with the combined construction and operation of Alternative 4 would be significant under CEQA for PM_{10} (annual average).

Mitigation Measures

To reduce the level of impact during construction, mitigation measure MM AQ-1 through MM AQ-5 would be applied. These mitigation measures would be implemented by the responsible parties identified in Section 3.2.4.7.

Table 3.2-61 presents the maximum off-site ground level concentration of NO_2 from construction with mitigation. Table 3.2-64 presents the maximum off-site ground level concentration of PM_{10} when peak construction activity would overlap with terminal operations with construction mitigation.

Residual Impacts

Table 3.2-61 shows that the maximum off-site NO_2 (federal 1-hour and state 1-hour average) concentrations from construction activities would be reduced with mitigation but would remain significant. Therefore, with mitigation, maximum off-site ambient pollutant concentrations associated with the construction of Alternative 4 would be significant and unavoidable under CEQA for NO_2 (federal 1-hour).

Table 3.2-64 shows that the maximum off-site incremental PM_{10} (annual average) concentration from overlapping construction and operational activities would be reduced with mitigation but would remain significant. Therefore, following mitigation, maximum off-site ambient pollutant concentrations associated with the combined construction and operation of Alternative 4 would be significant and unavoidable under CEQA for PM_{10} (annual average).

NEPA Impact Determination

Table 3.2-65 shows that the maximum off-site NO_2 (federal 1-hour average) concentration from construction activities would exceed SCAQMD thresholds. Table 3.2-66 shows that the maximum off-site incremental PM_{10} (24-hour and annual average) and $PM_{2.5}$ (24-hour average) concentrations from construction activities would not exceed the SCAQMD thresholds. Therefore, without mitigation, maximum off-site ambient pollutant concentration associated with the construction of Alternative 4 would be significant under NEPA for NO_2 (federal 1-hour average).

Table 3.2-65: Maximum Off-site Ambient NO_2, SO_2, and CO Concentrations (NEPA) — Alternative 4 Construction

Pollutant	Averaging Time	Background Concentration (ppm)[c]	Maximum Unmitigated Modeled Alternative 4 Concentration Increment (ppm)[d]	Maximum Mitigated Modeled Alternative 4 Concentration Increment (ppm)[d]	Total Unmitigated Ground-Level Concentration (ppm)[e]	Total Mitigated Ground-Level Concentration (ppm)[e]	SCAQMD Threshold (ppm)	Unmitigated Concentration above threshold?	Mitigated Concentration above threshold?
NO_2	Federal 1-hour[a]	0.088	0.053	0.050	**0.141**	**0.138**	0.100	**Yes**	**Yes**
	State 1-hour	0.11	0.06	-	0.17	-	0.18	No	-
	Federal annual	0.017	0.001	-	0.018	-	0.053	No	-
	State annual	0.017	0.001	-	0.018	-	0.030	No	-
SO_2	Federal 1-hour[b]	0.038	0.0001	-	0.038	-	0.075	No	-
	State 1-hour	0.05	0.0001	-	0.05	-	0.25	No	-
	24-hour	0.01	0.0004	-	0.02	-	0.04	No	-
CO	1-hour	7	0.1	-	7	-	20 / 35	No	-
	8-hour	1.8	0.1	-	1.9	-	9.0	No	-

Notes:

[a] The federal 1-hour NO_2 modeled concentration represents the 98th percentile of the daily maximum 1-hour averages.

[b] The federal 1-hour SO_2 modeled concentration represents the 99th percentile of the daily maximum 1-hour averages.

[c] The background concentrations for NO_2, SO_2, and CO were obtained from the TITP station.

[d] The maximum modeled concentration increment represents Alternative 4 construction minus NEPA baseline.

[e] Exceedances of the thresholds are indicated in **bold**.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-66: Maximum Off-site Ambient PM_{10} and $PM_{2.5}$ Concentrations (NEPA) — Alternative 4 Construction

Pollutant	Averaging Time	Maximum Modeled Concentration of NEPA Baseline (µg/m³)	Maximum Unmitigated Modeled Concentration of Alternative 4 (µg/m³)	Maximum Mitigated Modeled Concentration of Alternative 4 (µg/m³)	Unmitigated Ground-Level Concentration NEPA Increment (µg/m³)[a,c]	Mitigated Ground-Level Concentration NEPA Increment (µg/m³)[a,c]	SCAQMD Threshold (µg/m³)	Unmitigated NEPA Concentration above Threshold?	Mitigated NEPA Concentration above Threshold?
PM_{10}	24-hour	1.7	2.8	-	2.6	-	10.4	No	-
	Annual	0.3	0.1	-	0.3	-	1.0	No	-
$PM_{2.5}$	24-hour	0.4	2.5	-	2.5	-	10.4	No	-

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The NEPA increment represents Alternative 4 minus NEPA baseline.

[c] The maximum modeled Alternative 4 concentration, maximum modeled baseline concentrations, and maximum concentration increments may occur at different receptors. Therefore, the modeled Alternative 4 and baseline concentrations in the table may not necessarily subtract to equal the increment.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-67: Maximum Off-site Ambient NO_2, SO_2, and CO Concentrations (NEPA) — Alternative 4 Construction and Operation

Pollutant	Averaging Time	Background Concentration (ppm)[c]	Maximum Unmitigated Modeled Alternative 4 Concentration Increment (ppm)[d]	Maximum Mitigated Modeled Alternative 4 Concentration Increment (ppm)[d]	Total Unmitigated Ground-Level Concentration (ppm)[e]	Total Mitigated Ground-Level Concentration (ppm)[e]	SCAQMD Threshold (ppm)	Unmitigated Concentration above threshold?	Mitigated Concentration above threshold?
NO_2	Federal 1-hour[a]	0.088	0.036	0.030	**0.124**	**0.118**	0.100	**Yes**	**Yes**
	State 1-hour	0.11	0.05	-	0.16	-	0.18	No	-
	Federal annual	0.017	0.017	-	0.035	-	0.053	No	-
	State annual	0.017	0.017	-	0.035	-	0.030	No	-
SO_2	Federal 1-hour[b]	0.038	0.0006	-	0.038	-	0.075	No	-
	State 1-hour	0.05	0.0006	-	0.05	-	0.25	No	-
	24-hour	0.01	0.0002	-	0.02	-	0.04	No	-
CO	1-hour	7	0.1	-	7	-	20 / 35	No	-
	8-hour	1.8	0.1	-	1.9	-	9.0	No	-

Notes:

[a] The federal 1-hour NO_2 modeled concentration represents the 98th percentile of the daily maximum 1-hour averages.

[b] The federal 1-hour SO_2 modeled concentration represents the 99th percentile of the daily maximum 1-hour averages.

[c] The background concentrations for NO_2, SO_2, and CO were obtained from the TITP station.

[d] The maximum modeled concentration increment represents Alternative 4 construction plus operation minus NEPA baseline.

[e] Exceedances of the thresholds are indicated in **bold**.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-68: Maximum Off-site Ambient PM_{10} and $PM_{2.5}$ Concentrations (NEPA) — Alternative 4 Construction and Operation

Pollutant	Averaging Time	Maximum Modeled Concentration of NEPA Baseline ($\mu g/m^3$)	Maximum Unmitigated Modeled Concentration of Alternative 4 ($\mu g/m^3$)	Maximum Mitigated Modeled Concentration of Alternative 4 ($\mu g/m^3$)	Unmitigated Ground-Level Concentration NEPA Increment ($\mu g/m^3$)[a,c]	Mitigated Ground-Level Concentration NEPA Increment ($\mu g/m^3$)[a,c]	SCAQMD Threshold ($\mu g/m^3$)	Unmitigated NEPA Concentration above Threshold?	Mitigated NEPA Concentration above Threshold?
PM_{10}	24-hour	24.8	11.0	-	4.6	-	10.4	No	-
	Annual	15.0	5.5	-	2.8	-	1.0	No	-
$PM_{2.5}$	24-hour	7.1	3.6	-	2.3	-	10.4	No	-

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The NEPA increment represents Alternative 4 minus NEPA baseline.

[c] The maximum modeled Alternative 4 concentration, maximum modeled baseline concentrations, and maximum concentration increments may occur at different receptors. Therefore, the modeled Alternative 4 and baseline concentrations in the table may not necessarily subtract to equal the increment.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-67 shows that the maximum off-site NO_2 (federal 1-hour average) concentration from overlapping construction and operational activities would exceed SCAQMD thresholds. Table 3.2-68 shows that the maximum off-site incremental PM_{10} (24-hour an annual average) and $PM_{2.5}$ (24-hour average) concentration from overlapping construction and operational activities would not exceed SCAQMD thresholds. Therefore, without mitigation, maximum off-site ambient pollutant concentrations associated with the combined construction and operation of Alternative 4 would be significant under CEQA for NO_2 (federal 1-hour average).

Mitigation Measures

To reduce the level of impact during construction, MM AQ-1 through MM AQ-5 would be applied. These mitigation measures would be implemented by the responsible parties identified in Section 3.2.4.7.

Table 3.2-65 presents the maximum off-site ground level concentration of NO_2 from construction with mitigation. Table 3.2-67 presents concentrations of NO_2 when peak construction activity would overlap with terminal operations with construction mitigation.

Residual Impacts

Table 3.2-65 shows that the maximum off-site NO_2 (federal 1-hour average) concentration from construction activities would be reduced with mitigation but would remain significant. Therefore, with mitigation, maximum off-site ambient pollutant concentration associated with the construction of Alternative 4 would be significant and unavoidable under NEPA for NO_2 (federal 1-hour average).

Table 3.2-67 shows that the maximum off-site NO_2 (federal 1-hour average) concentration from overlapping construction and operational activities would be reduced with mitigation but would remain significant. Therefore, following mitigation, maximum off-site ambient pollutant concentration associated with the combined construction and operation of Alternative 4 would be significant and unavoidable under NEPA for NO_2 (federal 1-hour average).

Impact AQ-3: Alternative 4 would result in operational emissions that exceed an SCAQMD threshold of significance in Table 3.2-8.

Table 3.2-69 presents unmitigated peak daily criteria pollutant emissions associated with operation of Alternative 4. Comparisons to the CEQA and NEPA baseline emissions are presented to determine CEQA and NEPA significance, respectively.

Alternative 4 source characteristics, activity levels, sulfur fuel content, emission factors, and other parameters assumed in the operational emissions are discussed in detail in Appendix B1: Table 3.1-2 for container ships, Table 3.1-3 for CHE, Table 3.1-4 for trucks, and Table 3.1-5 for trains. The following is a summary of terminal activity under Alternative 4:

- Annual throughput of 2,115,133 TEUs by 2033;
- 208 annual container ship calls by 2033;
- Largest container ship would be 15,000 TEUs;

- 3 peak day container ship transits by 2033;
- 7 AMP-capable berths by 2033;
- 1,477,899 annual truck trips by 2033;
- 5,985 peak day truck trips by 2033;
- 1,149 annual on-dock trains and 455 near- and off-dock trains by 2033; and
- 3.5 peak day on-dock trains and 1.4 near- and off-dock trains by 2033

Table 3.2-69: Peak Daily Operational Emissions — Alternative 4 (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Year 2019												
Ships: Main Propulsion Engines	122	115	6,865	141	802	462	107	100	5,819	113	748	442
Ships: Aux Engines and Boilers	38	36	1,518	91	138	55	31	29	1,167	80	107	43
AMP Electricity Use	1	1	9	4	4	0	2	2	15	6	8	0
Tugboats	2	2	63	0	134	10	2	2	63	0	134	10
Trucks	155	50	2,515	5	222	69	155	50	2,515	5	222	69
Line Haul Locomotives	23	21	948	1	245	38	23	21	948	1	245	38
Switch Locomotives	0	0	15	0	5	1	0	0	15	0	5	1
Cargo Handling Equipment	3	3	277	2	373	31	3	3	277	2	373	31
Worker Vehicles	16	5	8	0	85	3	16	5	8	0	85	3
Total Operational Year 2019	**360**	**232**	**12,218**	**244**	**2,008**	**668**	**339**	**212**	**10,827**	**207**	**1,926**	**636**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Project Minus CEQA Baseline	-103	-71	-541	-839	40	-98	-125	-91	-1,931	-875	-43	-129
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	No	No	No	No	No	No	No	No	No	No
NEPA Impacts												
NEPA Baseline Emissions	367	234	11,841	244	2,006	687	367	234	11,841	244	2,006	687
Project Minus NEPA Baseline	-7	-2	377	0	2	-19	-28	-22	-1,013	-36	-80	-50
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	**Yes**	No	No	No	No	No	No	No	No	No
Year 2026												
Ships: Main Propulsion Engines	131	123	7,382	152	857	492	116	109	5,476	124	803	472
Ships: Aux Engines and Boilers	37	35	1,465	94	134	53	38	36	1,315	96	135	54
AMP Electricity Use	3	3	29	12	15	1	3	3	30	13	15	1
Tugboats	2	1	60	0	143	10	2	1	60	0	143	10
Trucks	171	48	1,100	5	176	37	171	48	1,100	5	176	37
Line Haul Locomotives	21	20	988	1	381	38	21	20	988	1	381	38

Table 3.2-69: Peak Daily Operational Emissions — Alternative 4 (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Switch Locomotives	0	0	16	0	6	1	0	0	16	0	6	1
Cargo Handling Equipment	4	4	147	3	521	34	4	4	147	3	521	34
Worker Vehicles	19	5	5	0	63	2	19	5	5	0	63	2
Total Operational Year 2026	**388**	**241**	**11,193**	**268**	**2,297**	**669**	**374**	**227**	**9,137**	**243**	**2,244**	**650**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Project Minus CEQA Baseline	-75	-62	-1,565	-814	329	-97	-90	-76	-3,621	-840	275	-116
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	No	No	No	No	No	No	No	No	No	No
NEPA Impacts												
NEPA Baseline Emissions	344	215	8,523	236	2,058	641	344	215	8,523	236	2,058	641
Project Minus NEPA Baseline	44	26	2,671	32	239	28	30	12	615	7	186	9
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	**Yes**	No	No	No	No	No	**Yes**	No	No	No
Year 2033												
Ships: Main Propulsion Engines	137	129	7,467	158	903	520	104	98	3,117	96	784	477
Ships: Aux Engines and Boilers	62	59	2,485	146	233	92	56	52	1,128	137	200	80
AMP Electricity Use	1	1	8	3	4	0	2	2	16	7	8	0
Tugboats	2	2	64	0	153	11	2	2	64	0	153	11
Trucks	179	50	877	5	190	34	179	50	877	5	190	34
Line Haul Locomotives	47	44	2,551	6	1,580	94	47	44	2,551	6	1,580	94
Switch Locomotives	0	0	35	0	14	2	0	0	35	0	14	2
Cargo Handling Equipment	6	5	160	4	672	43	6	5	160	4	672	43
Worker Vehicles	22	6	4	0	59	3	22	6	4	0	59	3
Total Operational Year 2033	**457**	**296**	**13,651**	**323**	**3,810**	**800**	**418**	**259**	**7,951**	**255**	**3,662**	**745**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Project Minus CEQA Baseline	-7	-7	893	-760	1,841	34	-46	-44	-4,808	-828	1,693	-21

Table 3.2-69: Peak Daily Operational Emissions — Alternative 4 (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	**Yes**	No	**Yes**	No	No	No	No	No	**Yes**	No
NEPA Impacts												
NEPA Baseline Emissions	405	270	7,729	279	3,437	852	405	270	7,729	279	3,437	852
Project Minus NEPA Baseline	52	25	5,922	44	373	-52	13	-12	222	-24	225	-107
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	**Yes**	No	No	No	No	No	**Yes**	No	No	No
Year 2038												
Ships: Main Propulsion Engines	137	129	7,467	158	903	520	104	98	1,920	96	784	477
Ships: Aux Engines and Boilers	62	59	2,485	146	233	92	56	52	803	137	200	80
AMP Electricity Use	1	1	8	3	4	0	1.543	1.543	15.6	6.6	7.7	0.4
Tugboats	1	1	58	0	132	10	1.38	1.23	57.94	0.26	132.11	9.59
Trucks	179	50	790	5	184	32	179	50	790	5	184	32
Line Haul Locomotives	30	27	1,839	6	1,580	69	30	27	1,839	6	1,580	69
Switch Locomotives	0	0	18	0	14	1	0	0	18	0	14	1
Cargo Handling Equipment	6	5	155	4	672	43	6	5	155	4	672	43
Worker Vehicles	22	6	3	0	52	2	22	6	3	0	52	2
Total Operational Year 2038	**438**	**279**	**12,823**	**323**	**3,775**	**769**	**399**	**241**	**5,603**	**255**	**3,627**	**714**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Project Minus CEQA Baseline	-25	-24	65	-760	1,807	4	-65	-62	-7,156	-828	1,658	-51
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	**Yes**	No	**Yes**	No	No	No	No	No	**Yes**	No
NEPA Impacts												
NEPA Baseline Emissions	390	257	4,524	279	3,397	827	390	257	4,524	279	3,397	827
Project Minus NEPA Baseline	48	22	8,299	44	378	-58	9	-15	1,078	-24	230	-113
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	**Yes**	No	No	No	No	No	**Yes**	No	No	No

Table 3.2-69: Peak Daily Operational Emissions — Alternative 4 (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**

Notes:

- Emissions assume the simultaneous occurrence of peak daily equipment activity levels. Such levels would rarely occur during day-to-day terminal operations.
- Truck, train, ship, and worker commute emissions include transport within the South Coast Air Basin.
- AMP electricity use reflects indirect emissions from regional power generation.
- NEPA baseline emissions reflect the NEPA baseline operational, presented in Table 3.2-5.
- Emissions might not precisely add due to rounding.

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

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Discussion of Emissions Trends and Comparison to Proposed Project

Emissions would vary due to several factors, such as regulatory requirements, activity levels, source (container ships, tugboats, trucks, locomotives, CHE, and worker vehicles) characteristics, and emission factors. The combination of these factors can result in emissions that do not always decrease or increase consistently over time.

Under Alternative 4, terminal activity would increase in each study year but would always have less level of activity as the proposed Project or Alternative 3. Regulatory requirements described in detail in Appendix B1 would serve to decrease emission factors from most emission sources. In addition, as equipment ages, engine efficiency would decrease and emission factors would increase in comparison to brand-new equipment.

Alternative 4 would not achieve the same level of efficient operations as would be achieved by the proposed Project but the same number of annual container ship calls would be required. The peak day ship calls (over a 24-hour period) would be limited to three as compared to four for the proposed Project.

CEQA Impact Determination

Table 3.2-63 shows that peak daily operational emissions would exceed the SCAQMD daily emission thresholds and would be significant for NO_X and CO in 2033 and 2038 under CEQA.

Mitigation Measures

Table 3.2-69 presents peak daily operational emissions associated with Alternative 4, following the application of MM AQ-6 and MM AQ-7.

Residual Impacts

Table 3.2-69 shows that emissions from operation of Alternative 4 would be reduced with mitigation. Emissions of NO_X in 2033 and 2038 would be reduced to levels that are less than significant under CEQA. However, emissions of CO in 2033 and 2038 would remain significant and unavoidable under CEQA.

NEPA Impact Determination

Table 3.2-69 shows that unmitigated peak daily operational emissions would exceed the SCAQMD daily thresholds for NO_X in 2019, 2026, 2033 and 2038. Therefore, unmitigated Alternative 4 operational emissions would be significant under NEPA for NO_X prior to mitigation.

Mitigation Measures

Table 3.2-69 presents the peak daily pollutant emissions associated with operation of Alternative 4, after the application of MM AQ-6 and MM AQ-7. LM AQ-1 and LM AQ-2 are lease measures that may reduce future emissions; however, because implementation may change over the life of the leases, these measures were not included in emissions calculations.

Residual Impacts

Table 3.2-69 shows that emissions of NO_X in 2019 from operation of Alternative 4 would be reduced to levels that are less than significant under NEPA. However, emissions of NO_X in 2026, 2033, and 2038 will remain significant and unavoidable under NEPA after mitigation.

Impact AQ-4: Alternative 4 operations would result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.2-9.

Dispersion modeling of on- and off-site Alternative 4 operational emissions was performed to assess the impact of Alternative 4 on local ambient air concentrations. A summary of the dispersion modeling results is presented here; the complete dispersion modeling report is included in Appendix B2.

CEQA Impact Determination

Table 3.2-70 presents the maximum off-site concentrations of NO_2, SO_2, and CO from operational activities with and without mitigation. Table 3.2-71 presents the maximum off-site concentrations of PM_{10} and $PM_{2.5}$ from operational activities with and without mitigation.

Table 3.2-70: Maximum Off-site NO_2, SO_2, and CO Concentrations (CEQA) — Alternative 4 Operation

Pollutant	Averaging Time	Background Concentration (ppm)[c]	Maximum Unmitigated Modeled Alternative 4 Concentration Increment (ppm)[d]	Maximum Mitigated Modeled Alternative 4 Concentration Increment (ppm)[d]	Total Unmitigated Ground-Level Concentration (ppm)[e]	Total Mitigated Ground-Level Concentration (ppm)[e]	SCAQMD Threshold (ppm)	Unmitigated Concentration above threshold?	Mitigated Concentration above threshold?
NO_2	Federal 1-hour[a]	0.088	0.0002	-	0.088	-	0.100	No	-
	State 1-hour	0.11	-0.0002	-	0.11	-	0.18	No	-
	Federal annual	0.017	0.003	-	0.020	-	0.053	No	-
	State annual	0.017	0.003	-	0.020	-	0.030	No	-
SO_2	Federal 1-hour[b]	0.038	-0.0001	-	0.038	-	0.075	No	-
	State 1-hour	0.05	-0.0001	-	0.05	-	0.25	No	-
	24-hour	0.01	0.000005	-	0.01	-	0.04	No	-
CO	1-hour	7	0.1	-	7	-	20 / 35	No	-
	8-hour	1.8	0.1	-	1.9	-	9.0	No	-

Notes:

[a] The federal 1-hour NO_2 modeled concentration represents the 98th percentile of the daily maximum 1-hour averages.

[b] The federal 1-hour SO_2 modeled concentration represents the 99th percentile of the daily maximum 1-hour averages.

[c] The background concentrations for NO_2, SO_2, and CO were obtained from the TITP station.

[d] The maximum modeled concentration increment represents Alternative 4 operation minus 2013 terminal operations.

[e] Exceedances of the thresholds are indicated in **bold.**

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-71: Maximum Off-site PM_{10} and $PM_{2.5}$ Concentrations (CEQA) — Alternative 4 Operation

Pollutant	Averaging Time	Maximum Modeled Concentration of CEQA Baseline ($\mu g/m^3$)	Maximum Unmitigated Modeled Concentration of Alternative 4 ($\mu g/m^3$)	Maximum Mitigated Modeled Concentration of Alternative 4 ($\mu g/m^3$)	Unmitigated Ground-Level Concentration CEQA Increment ($\mu g/m^3$)[a,b]	Mitigated Ground-Level Concentration CEQA Increment ($\mu g/m^3$)[a,b]	SCAQMD Threshold ($\mu g/m^3$)	Unmitigated CEQA Concentration above Threshold?	Mitigated CEQA Concentration above Threshold?
PM_{10}	24-hour	8.2	15.0	15.0	**6.8**	**6.8**	2.5	**Yes**	**Yes**
	Annual	3.8	7.3	7.3	**3.5**	**3.5**	1.0	**Yes**	**Yes**
$PM_{2.5}$	24-hour	4.0	4.6	-	0.8	-	2.5	No	-

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The CEQA increment represents Alternative 4 minus CEQA baseline.

[c] The maximum modeled Alternative 4 concentration, maximum modeled baseline concentrations, and maximum concentration increments may occur at different receptors. Therefore, the modeled Alternative 4 and baseline concentrations in the table may not necessarily subtract to equal the increment.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

1

Table 3.2-70 shows that the maximum off-site NO_2, SO_2, and CO concentrations from operational activities would not exceed the SCAQMD thresholds. Table 3.2-71 shows that the maximum off-site incremental PM_{10} (24-hour and annual average) concentrations from operational activities would exceed SCAQMD thresholds. Therefore, without mitigation, maximum off-site ambient pollutant concentrations associated with the operation of Alternative 4 would be significant under CEQA for PM_{10} (24-hour and annual average).

Mitigation Measures

To reduce the level of impact during operation, mitigation measures MM AQ-6 and MM AQ-7 would be applied. These mitigation measures would be implemented by the responsible parties identified in Section 3.2.4.7. Table 3.2-71 presents the maximum off-site ground level concentrations of PM_{10} with mitigation.

Residual Impacts

Table 3.2-71 shows that the maximum off-site incremental PM_{10} (24-hour and annual average) concentrations from operational activities would not be substantially reduced with mitigation and would remain significant and unavoidable under CEQA.

NEPA Impact Determination

Table 3.2-72 shows that the maximum off-site NO_2 (federal 1-hour and state annual average) concentrations from operational activities would exceed the SCAQMD threshold. Table 3.2-73 shows that the maximum off-site incremental PM_{10} (24-hour and annual average) concentrations from operational activities would exceed SCAQMD thresholds. Therefore, without mitigation, maximum off-site ambient pollutant concentrations associated with the operation of Alternative 4 would be significant under NEPA for NO_2 (federal 1-hour and state annual average) and PM_{10} (24-hour and annual average).

Table 3.2-72: Maximum Off-site NO_2, SO_2, and CO Concentrations (NEPA) — Alternative 4 Operation

Pollutant	Averaging Time	Background Concentration (ppm)[c]	Maximum Unmitigated Modeled Alternative 4 Concentration Increment (ppm)[d]	Maximum Mitigated Modeled Alternative 4 Concentration Increment (ppm)[d]	Total Unmitigated Ground-Level Concentration (ppm)[e]	Total Mitigated Ground-Level Concentration (ppm)[e]	SCAQMD Threshold (ppm)	Unmitigated Concentration above threshold?	Mitigated Concentration above threshold?
NO_2	Federal 1-hour[a]	0.088	0.023	0.023	**0.111**	**0.111**	0.100	**Yes**	**Yes**
	State 1-hour	0.11	0.03	-	0.14	-	0.18	No	-
	Federal annual	0.017	0.017	-	0.035	-	0.053	No	-
	State annual	0.017	0.017	0.017	**0.035**	**0.034**	0.030	**Yes**	**Yes**
SO_2	Federal 1-hour[b]	0.038	0.0003	-	0.038	-	0.075	No	-
	State 1-hour	0.05	0.0003	-	0.05	-	0.25	No	-
	24-hour	0.01	0.0001	-	0.02	-	0.04	No	-
CO	1-hour	7	0.1	-	7	-	20 / 35	No	-
	8-hour	1.8	0.1	-	1.9	-	9.0	No	-

Notes:

[a] The federal 1-hour NO_2 modeled concentration represents the 98th percentile of the daily maximum 1-hour averages.

[b] The federal 1-hour SO_2 modeled concentration represents the 99th percentile of the daily maximum 1-hour averages.

[c] The background concentrations for NO_2, SO_2, and CO were obtained from the TITP station.

[d] The maximum modeled concentration increment represents Alternative 4 operation minus NEPA baseline.

[e] Exceedances of the thresholds are indicated in **bold.**

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-73: Maximum Off-site PM_{10} and $PM_{2.5}$ Concentrations (NEPA) — Alternative 4 Operation

Pollutant	Averaging Time	Maximum Modeled Concentration of NEPA Baseline ($\mu g/m^3$)	Maximum Unmitigated Modeled Concentration of Alternative 4 ($\mu g/m^3$)	Maximum Mitigated Modeled Concentration of Alternative 4 ($\mu g/m^3$)	Unmitigated Ground-Level Concentration NEPA Increment ($\mu g/m^3$)a,c	Mitigated Ground-Level Concentration NEPA Increment ($\mu g/m^3$)a,c	SCAQMD Threshold ($\mu g/m^3$)	Unmitigated NEPA Concentration above Threshold?	Mitigated NEPA Concentration above Threshold?
PM_{10}	24-hour	25.2	15.0	15.0	**5.8**	**5.7**	2.5	**Yes**	**Yes**
	Annual	15.0	7.3	7.3	**3.3**	**3.3**	1.0	**Yes**	**Yes**
$PM_{2.5}$	24-hour	6.8	4.6	-	1.2	-	2.5	No	-

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The NEPA increment represents Alternative 4 minus NEPA baseline.

[c] The maximum modeled Alternative 4 concentration, maximum modeled baseline concentrations, and maximum concentration increments may occur at different receptors. Therefore, the modeled Alternative 4 and baseline concentrations in the table may not necessarily subtract to equal the increment.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

1

Mitigation Measures

To reduce the level of impact during operation, mitigation measures MM AQ-6 and MM AQ-7 would be applied. These mitigation measures would be implemented by the responsible parties identified in Section 3.2.4.7.

Table 3.2-72 presents the maximum off-site ground level concentration of NO_2 with mitigation. Table 3.2-73 presents the maximum off-site ground level concentrations of PM_{10} with mitigation.

Residual Impacts

Table 3.2-72 shows that the maximum off-site NO_2 (federal 1-hour and state annual average) concentrations from operational activities would not be substantially reduced with mitigation and would remain significant and unavoidable under NEPA. Table 3.2-73 shows that the maximum off-site incremental PM_{10} (24-hour and annual average) concentrations from operational activities would also not be substantially reduced with mitigation and would remain significant and unavoidable under NEPA.

Impact AQ-5: Alternative 4 would not generate on-road traffic that would contribute to an exceedance of the 1-hour or 8-hour CO standards.

Alternative 4 would not generate a greater number of truck trips or have a greater impact on intersection LOS than the analysis done for the proposed Project done in Section 3.2.4.5, Impact AQ-5. Because the proposed Project analysis would not exceed CO standards at any intersection, traffic-related impacts for Alternative 4 would also not exceed CO concentration standards at any intersection.

CEQA Impact Determination

CO standards would not be exceeded in the immediate vicinity of heavily congested intersections. CO impacts would therefore not be significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

CO standards would not be exceeded in the immediate vicinity of heavily congested intersections. CO impacts would therefore not be significant under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AQ-6: Alternative 4 would not create an objectionable odor at the nearest sensitive receptor.

Similar to the proposed Project, the mobile nature of the emission sources associated with Alternative 4 would serve to disperse emissions. Additionally, the distance between Alternative 4 emission sources and the nearest residents would be far enough to allow for adequate dispersion of these emissions to below objectionable odor levels.

CEQA Impact Determination

The potential is low for the Alternative 4 to produce objectionable odors that would affect a sensitive receptor; and significant odor impacts under CEQA, therefore, are not anticipated.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

The potential is low for the Alternative 4 to produce objectionable odors that would affect a sensitive receptor; and significant odor impacts under NEPA, therefore, are not anticipated.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AQ-7: Alternative 4 would not expose receptors to significant levels of TACs.

An HRA was conducted to address potential public health effects from TACs generated by Alternative 4. The results of the HRA are summarized below, with impacts shown relative to the CEQA baseline, future CEQA baseline (for cancer risk), and NEPA baseline. The rationale for a CEQA analysis based on both the CEQA baseline and future CEQA baseline is discussed in detail in Section 3.2.4.1, Methodology. Details of the analysis, including TAC emissions, the dispersion modeling approach, and the risk calculation approach, are presented in Appendix B3.

CEQA Impact Determination

Table 3.2-74 presents the maximum predicted CEQA health impacts associated with Alternative 4 with and without mitigation. The table includes estimates of individual cancer risk, chronic noncancer hazard index, and acute noncancer hazard index at the maximally exposed residential, occupational, and sensitive receptors. Results are presented for Alternative 4 (before subtracting baseline), the two CEQA baselines, the CEQA increment (Alternative 4 minus CEQA baseline), and future CEQA increment (Alternative 4 minus future CEQA baseline). The table also presents the CEQA increment and future CEQA increment for the population cancer burden. Significance findings are made by comparing the increments to the significance thresholds.

Table 3.2-74 shows that unmitigated Alternative 4 would produce the following health risk impacts under CEQA:

- Individual Cancer Risk

In relation to the CEQA baseline, the maximum incremental cancer risk is predicted to be less than the significance threshold at all receptors. Therefore, Alternative 4 would result in a less-than-significant cancer risk impact. Moreover, the negative values for the CEQA increment indicate that the cancer risk from Alternative 4 would be less than the cancer risk from the CEQA baseline at all modeled receptors, due in large part to the beneficial effect of existing air quality rules and regulations on future emissions.

In relation to the future CEQA baseline, the maximum incremental cancer risk is predicted to be less than the significance threshold at all receptors. Therefore, Alternative 4 would result in a less-than-significant cancer risk impact.

Figure 3.2-7 shows individual cancer risk contours of the future CEQA increment for unmitigated Alternative 4, assuming residential (30-year) exposure parameters. The f*uture* CEQA increment is shown in the figure instead of the CEQA increment because the former shows higher predicted risk. As shown in the figure, the maximum residential receptor for individual cancer risk is located outside the 10 in a million contour line, indicating a less than significant impact.

Table 3.2-74: Maximum CEQA Health Impacts Estimated for Construction and Operation of Alternative 4

Health Impact	Receptor Type	Unmitigated CEQA Increment[a,c]	Mitigated CEQA Increment[a,c]	Unmitigated Future CEQA Increment[b]	Mitigated Future CEQA Increment[b]	Significance Threshold	Unmitigated Significant?[d]	Mitigated Significant?[d]
Cancer Risk	Residential	< 0	n/a [g]	0.04 × 10-6 0.04 in a million	n/a	10×10^{-6} 10 in a million	No	n/a
	Occupational	< 0	n/a	1.9 × 10-6 1.9 in a million	n/a		No	n/a
	Sensitive	< 0	n/a	0.0007 × 10-6 0.0007 in a million	n/a		No	n/a
Chronic Hazard Index	Residential	0.05	n/a	n/a [e]	n/a	1.0	No	n/a
	Occupational	0.09	n/a	n/a	n/a		No	n/a
	Sensitive	0.09	n/a	n/a	n/a		No	n/a
Acute Hazard Index	Residential	0.06	n/a	n/a	n/a	1.0	No	n/a
	Occupational	0.10	n/a	n/a	n/a		No	n/a
	Sensitive	0.10	n/a	n/a	n/a		No	n/a
Population Cancer Burden		0.0	n/a	0.0	n/a	0.5	No	n/a

Notes:
[a]The CEQA Increment column represents the maximum difference of Alternative 4 minus the CEQA baseline.
[b]The Future CEQA Increment column represents the maximum difference of Alternative 4 minus the Future CEQA baseline.
[c]A CEQA Increment less than zero means that Alternative 4 health values would be less than the CEQA Baseline health values at all modeled receptors.
[d]Exceedances of the thresholds are indicated in **bold**. An impact is marked significant if either the CEQA Increment or Future CEQA Increment exceeds the threshold.
[e]The Future CEQA baseline and Future CEQA increment are applicable only to cancer risk because cancer risk has a uniquely long exposure period (30 years for residential and sensitive exposure, and 70 years for population cancer burden).
[f]Each positive result shown in the table for cancer risk, chronic hazard index, and acute hazard index represents the modeled receptor location with the maximum increment. The increments at all other receptors would be less than the values in the table.
[g] Mitigated health risks were not evaluated because unmitigated impacts would be less than significant.

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- Population Cancer Burden

In relation to the CEQA baseline, the cancer burden increment would be zero because the individual cancer risk associated with Alternative 4 would be less than the CEQA baseline at all modeled receptors. Therefore, Alternative 4 would result in a less-than-significant cancer burden impact.

In relation to the Future CEQA baseline, the cancer burden increment is predicted to be less than the significance threshold. Therefore, Alternative 4 would result in a less-than-significant cancer burden impact.

- Chronic and Acute Hazard Indices

Because chronic and acute hazard indices are based on annual and peak hour emissions instead of multiple-year emissions like cancer risk, they are determined by comparing impacts only to the CEQA baseline, which is the baseline at the time of the NOP.

The maximum chronic hazard index increment is predicted to be less than the significance threshold for all receptor types. Therefore, Alternative 4 would result in a less-than-significant chronic noncancer impact.

The maximum acute hazard index increment is predicted to be less than the significance threshold for all receptor types. Therefore, Alternative 4 would result in a less-than-significant acute noncancer impact.

Appendix B3 includes figures showing the locations of the maximally-impacted receptors under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

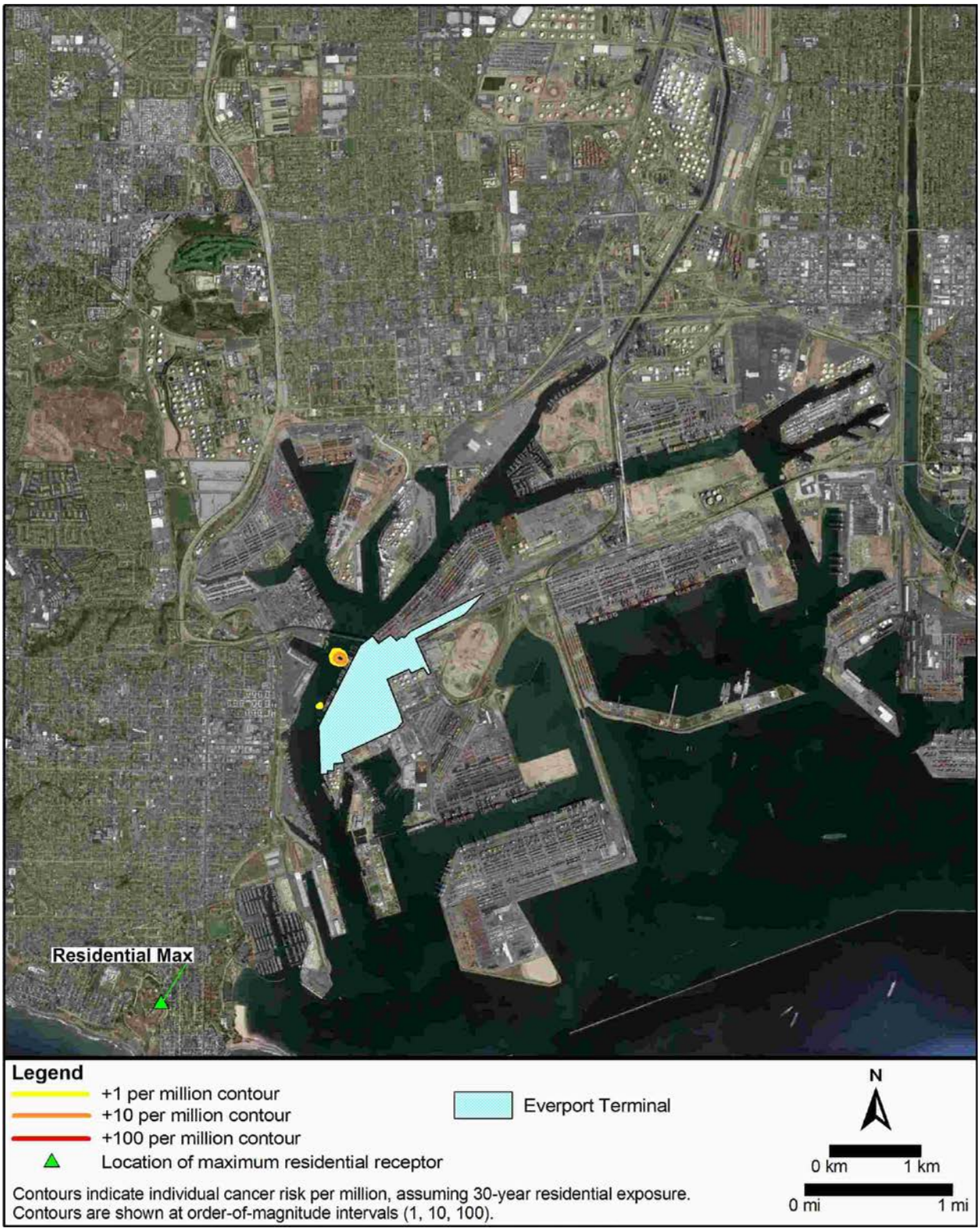

Figure 3.2-7: Isopleths of Residential Cancer Risk – Unmitigated Alternative 4 – Future CEQA Increment

NEPA Impact Determination

Table 3.2-75 presents the maximum predicted NEPA health impacts associated with Alternative 4 with and without mitigation. The table includes estimates of individual cancer risk, chronic noncancer hazard index, and acute noncancer hazard index at the maximally exposed residential, occupational, and sensitive receptors. Results are presented for Alternative 4 (before subtracting baseline), the NEPA baseline, and the NEPA increment (Alternative 4 minus NEPA baseline). The table also presents the NEPA increment for the population cancer burden. Significance findings are made by comparing the increments to the significance thresholds.

Table 3.2-75 shows that unmitigated Alternative 4 would produce the following health risk impacts under NEPA:

- Individual Cancer Risk

In relation to the NEPA baseline, the maximum incremental cancer risk is predicted to be less than the significance threshold at all receptors. Therefore, Alternative 4 would result in a less-than-significant cancer risk impact.

Figure 3.2-8 shows individual cancer risk contours of the NEPA increment for unmitigated Alternative 4, assuming residential (30-year) exposure parameters. As shown in the figure, the maximum residential receptor for individual cancer risk is located outside the 10 in a million contour line, indicating a less than significant impact.

- Population Cancer Burden

In relation to the NEPA baseline, the cancer burden increment is predicted to be less than the significance threshold. Therefore, Alternative 4 would result in a less-than-significant cancer burden impact.

- Chronic and Acute Hazard Indices

The maximum chronic hazard index increment is predicted to be less than the significance threshold for all receptor types. Therefore, Alternative 4 would result in a less-than-significant chronic noncancer impact.

The maximum acute hazard index impact is predicted to be less than the significance threshold for all receptor types. Therefore, Alternative 4 would result in a less-than-significant acute noncancer impact.

Appendix B3 includes figures showing the locations of the maximally-impacted receptors under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Table 3.2-75: Maximum NEPA Health Impacts Estimated for Construction and Operation of Alternative 4

Health Impact	Receptor Type	Unmitigated NEPA Increment[a]	Mitigated NEPA Increment[a]	Significance Threshold	Unmitigated Significant?[b]	Mitigated Significant?[b]
Cancer Risk	Residential	9.2 × 10-6 9.2 in a million	n/a [d]	10×10^{-6} 10 in a million	No	n/a
	Occupational	4.8 × 10-6 4.8 in a million	n/a		No	n/a
	Sensitive	6.6 × 10-6 6.6 in a million	n/a		No	n/a
Chronic Hazard Index	Residential	0.03	n/a	1.0	No	n/a
	Occupational	0.08	n/a		No	n/a
	Sensitive	0.08	n/a		No	n/a
Acute Hazard Index	Residential	0.05	n/a	1.0	No	n/a
	Occupational	0.09	n/a		No	n/a
	Sensitive	0.09	n/a		No	n/a
Population Cancer Burden		0.2	n/a	0.5	No	n/a

Notes:
[a]The NEPA Increment column represents the maximum difference of Alternative 4 minus the NEPA baseline.
[b]Exceedances of the thresholds are indicated in **bold**.
[c]Each positive result shown in the table for cancer risk, chronic hazard index, and acute hazard index represents the modeled receptor location with the maximum increment. The increments at all other receptors would be less than the values in the table.
[d] Mitigated health risks were not evaluated because unmitigated impacts would be less than significant.

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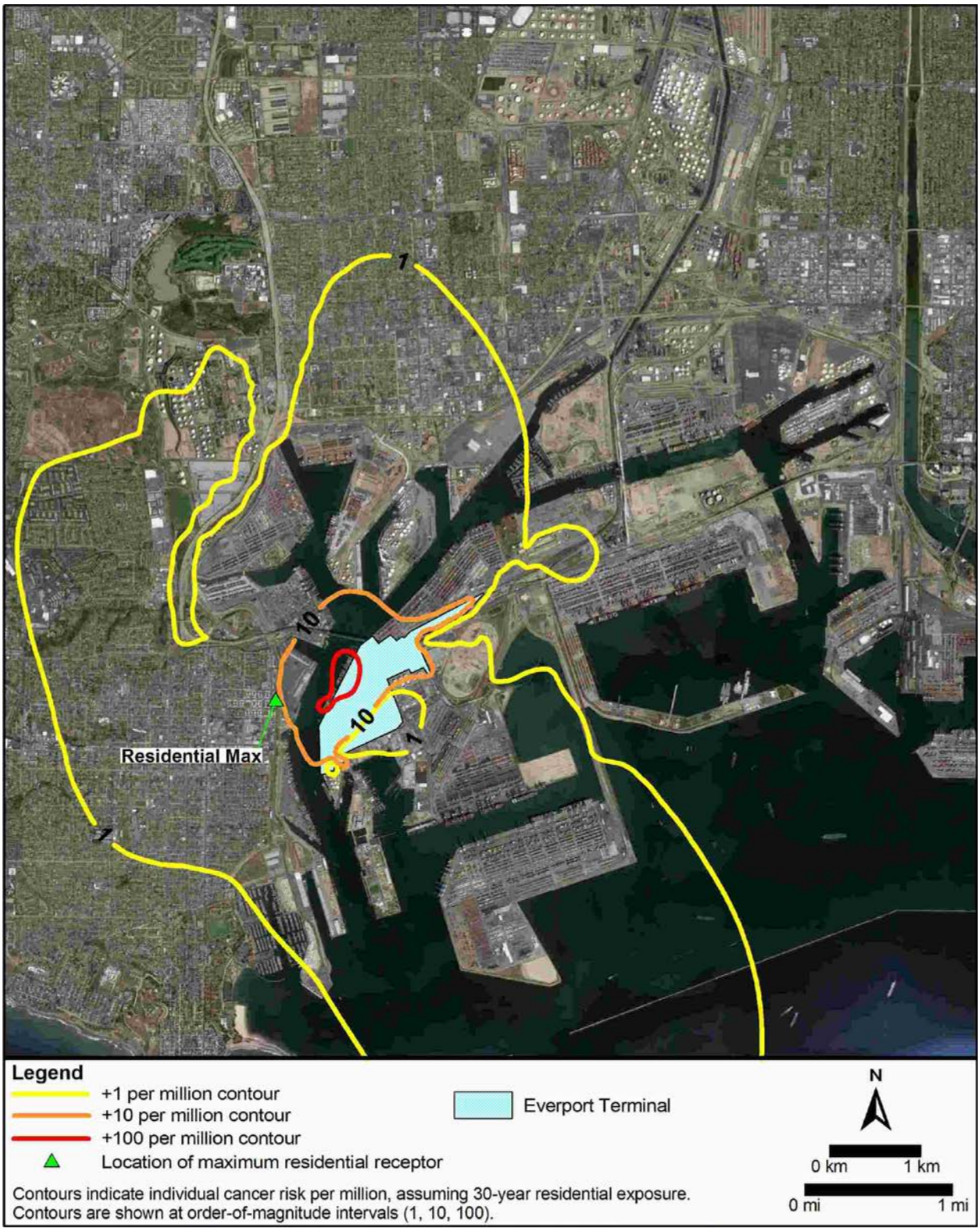

Figure 3.2-8: Isopleths of Residential Cancer Risk – Unmitigated Alternative 4 – NEPA Increment

Additional Analysis for Informational Purposes—Particulates: Morbidity and Mortality

Impact AQ-4 indicates that operation of Alternative 4 would result in a maximum off-site 24-hour $PM_{2.5}$ concentration increment that would not exceed the SCAQMD significance threshold of 2.5 $\mu g/m^3$ for any analysis year (see Table 3.2-71). Because the operational $PM_{2.5}$ concentrations would be less than significant and would not exceed LAHD's criterion for calculating morbidity and mortality attributable to PM, potential mortality and morbidity effects were not quantified for Alternative 4.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AQ-8: Alternative 4 would not conflict with or obstruct implementation of an applicable AQMP.

This alternative would comply with SCAQMD rules and regulations and would be consistent with SCAG regional employment and population growth forecasts. Thus, this alternative would not conflict with or obstruct implementation of the AQMP.

CEQA Impact Determination

Alternative 4 would not conflict with or obstruct implementation of the AQMP; therefore, impacts under CEQA are not anticipated.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Alternative 4 would not conflict with or obstruct implementation of the AQMP; therefore, impacts under NEPA are not anticipated.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Alternative 5 – Expanded On-Dock Railyard: Wharf and Backland Improvements with an Expanded TICTF

Alternative 5 would be the same as the proposed Project but with an additional on-dock rail track at the TICTF. Under Alternative 5, there would be two operating berths after construction and the terminal would add 23.5 acres of backlands, similar to the proposed Project. This alternative would require the same dredging as the proposed Project. This alternative would accommodate the largest vessels (16,000 TEUs) at Berths 226-229. The new design depth at Berths 230-232 would be capable of handling vessels up to 10,000 TEUs. Based on the throughput projections, this alternative is expected to operate at its capacity of 2,379,525 TEUs by 2038. Under this project alternative, the terminal could handle the same level of cargo as the proposed Project but would have added capacity at the TICTF and be able to transport a greater number of containers via rail than the proposed Project. Under this alternative, 208 vessels would call on the terminal in 2038, which is the same as the proposed Project.

Impact AQ-1: Alternative 5 would result in construction-related emissions that exceed an SCAQMD threshold of significance in Table 3.2-6.

Table 3.2-76A presents the peak day criteria pollutant emissions associated with construction of Alternative 5, with and without mitigation, including disposal of dredged material at a permitted ocean disposal site. Table 3.2-76B presents the peak day criteria pollutant emissions associated with construction of Alternative 5, with and without mitigation, including disposal of dredged material at an upland (inland) permitted disposal site. Maximum emissions for each construction phase were determined by adding the daily emissions from those construction activities that overlap in the proposed construction schedule (Table 2-6 in Chapter 2). The peak day in 2018 is driven by heavy construction equipment for dredging and tug boats and/or trucks for disposal. The peak day in 2019 occurs when the cargo ship for new crane delivery is operating within the analysis area.

The Everport Container Terminal would continue to operate during construction of Alternative 5; construction and operational activities would overlap during this time. Total proposed project emissions from overlapping construction and operational activities are presented to show the overall impacts of the proposed project. Table 3.2-77 presents the overlap of project-related construction and operations during 2018 and 2019, with and without mitigation. Decrease in operation at the port in 2018 during construction results in a reduction of operational emissions. The reduction is high enough to offset the increase in emissions due to construction activities, resulting in a less than significant peak day emissions in 2018.

Table 3.2-76A: Peak Daily Construction Emissions — Alternative 5 – Ocean Disposal (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Construction Year 2018 - Ocean Disposal												
Off-road Construction Equipment Exhaust	12	11	309	1	141	34	6	6	227	1	185	41
Marine Source Exhaust	10	9	263	<1	179	14	5	5	212	<1	179	12
On-Road Construction Vehicles	7	2	47	<1	4	1	7	2	55	<1	4	1
Worker Vehicles	<1	<1	<1	<1	2	<1	<1	<1	<1	<1	2	<1
Fugitive Emissions	<1	<1	0	0	0	<1	<1	<1	0	0	0	<1
Construction Year 2018 Total	**29**	**22**	**620**	**1**	**325**	**50**	**18**	**12**	**493**	**1**	**369**	**54**
CEQA Impacts												
CEQA Baseline Emissions	0	0	0	0	0	0	0	0	0	0	0	0
Project Minus CEQA Baseline	29	22	620	1	325	50	18	12	493	1	369	54
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	No	No	No	**Yes**	No	No	No
NEPA Impacts												
NEPA Baseline Emissions	6	2	74	<1	67	11	6	2	74	<1	67	11
Project Minus NEPA Baseline	23	20	546	1	258	38	13	10	420	1	302	43
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	No	No	No	**Yes**	No	No	No
Construction Year 2019 – Ocean Disposal												
Off-road Construction Equipment Exhaust	1	1	30	<1	10	1	<1	<1	13	<1	20	2
Marine Source Exhaust	54	50	3,324	89	285	126	54	50	3,321	89	285	125
On-Road Construction Vehicles	<1	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	1
Worker Vehicles	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1
Fugitive Emissions	<1	<1	0	0	0	<1	<1	<1	0	0	0	<1
Construction Year 2019 Total	**56**	**51**	**3,354**	**89**	**296**	**128**	**54**	**50**	**3,334**	**89**	**305**	**129**
CEQA Impacts												

Table 3.2-76A: Peak Daily Construction Emissions — Alternative 5 – Ocean Disposal (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
CEQA Baseline Emissions	0	0	0	0	0	0	0	0	0	0	0	0
Project Minus CEQA Baseline	56	51	3,354	89	296	128	54	50	3,334	89	305	129
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**
NEPA Impacts												
NEPA Baseline Emissions	4	<1	30	<1	35	6	4	<1	30	<1	35	6
Project Minus NEPA Baseline	52	51	3,323	89	261	122	50	50	3,304	89	271	123
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**

Notes:

- On-road Construction Vehicle emissions include exhaust, road dust, tire wear, and brake wear emissions from haul trucks and material delivery trucks.
- Worker Vehicle emissions include exhaust, road dust, tire wear, and brake wear emissions from construction worker commute.
- Fugitive emissions include construction dust and asphalt off-gassing.
- Emissions of PM_{10} and $PM_{2.5}$ assume that fugitive dust is controlled in accordance with SCAQMD Rule 403 by watering disturbed areas 3 times per day, for a control efficiency of 61 percent from uncontrolled levels.
- NEPA baseline emissions are emissions presented in Peak Daily Construction Emissions—NEPA Baseline, Table 3.2-4.
- Emissions might not add precisely due to rounding.

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

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Table 3.2-76B: Peak Daily Construction Emissions — Alternative 5 — Upland Disposal (lbs/day)

Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Construction Year 2018 - Upland Disposal												
Off-road Construction Equipment Exhaust	11	11	294	1	134	31	5	5	210	1	181	38
Marine Source Exhaust	2	2	54	<1	36	3	1	1	43	<1	36	2
On-Road Construction Vehicles	10	3	79	<1	6	2	10	3	92	<1	6	2
Worker Vehicles	<1	<1	<1	<1	2	<1	<1	<1	<1	<1	2	<1
Fugitive Emissions	<1	<1	0	0	0	<1	<1	<1	0	0	0	<1
Construction Year 2018 Total	**24**	**15**	**426**	**1**	**178**	**36**	**17**	**8**	**345**	**1**	**226**	**44**
CEQA Impacts												
CEQA Baseline Emissions	0	0	0	0	0	0	0	0	0	0	0	0
Project Minus CEQA Baseline	24	15	426	1	178	36	17	8	345	1	226	44
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	No	No	No	**Yes**	No	No	No
NEPA Impacts												
NEPA Baseline Emissions	6	2	74	<1	67	11	6	2	74	<1	67	11
Project Minus NEPA Baseline	19	14	353	1	111	25	11	7	272	1	158	32
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	No	No	No	**Yes**	No	No	No
Construction Year 2019 – Upland Disposal												
Off-road Construction Equipment Exhaust	1	1	30	<1	10	1	<1	<1	13	<1	20	2
Marine Source Exhaust	54	50	3,324	89	285	126	54	50	3,321	89	285	125
On-Road Construction Vehicles	<1	<1	<1	<1	1	1	<1	<1	<1	<1	<1	1
Worker Vehicles	<1	<1	<1	<1	1	<1	<1	<1	<1	<1	<1	<1
Fugitive Emissions	<1	<1	0	0	0	<1	<1	<1	0	0	0	<1
Construction Year 2019 Total	**56**	**51**	**3,354**	**89**	**296**	**128**	**54**	**50**	**3,334**	**89**	**305**	**129**
CEQA Impacts												

Table 3.2-76B: Peak Daily Construction Emissions — Alternative 5 — Upland Disposal (lbs/day)

Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
CEQA Baseline Emissions	0	0	0	0	0	0	0	0	0	0	0	0
Project Minus CEQA Baseline	56	51	3,354	89	296	128	54	50	3,334	89	305	129
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**
NEPA Impacts												
NEPA Baseline Emissions	4	0	30	0	35	6	4	0	30	0	35	6
Project Minus NEPA Baseline	52	51	3,323	89	261	122	50	50	3,304	89	271	123
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**

Notes:

- On-road Construction Vehicle emissions include exhaust, road dust, tire wear, and brake wear emissions from haul trucks and material delivery trucks.
- Worker Vehicle emissions include exhaust, road dust, tire wear, and brake wear emissions from construction worker commute.
- Fugitive emissions include construction dust and asphalt off-gassing.
- Emissions of PM_{10} and $PM_{2.5}$ assume that fugitive dust is controlled in accordance with SCAQMD Rule 403 by watering disturbed areas 3 times per day, for a control efficiency of 61 percent from uncontrolled levels.
- NEPA baseline emissions are emissions presented in Peak Daily Construction Emissions—NEPA Baseline, Table 3.2-4.
- Emissions might not add precisely due to rounding.

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

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Table 3.2-77: Peak Daily Combined Construction and Operational Emissions – Alternative 5 (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Construction 2018												
Ocean Disposal	29	22	620	1	325	50	18	12	493	1	369	54
Upland Disposal	24	15	426	1	178	36	17	8	345	1	226	44
Operation 2018												
Ships: Main Propulsion Engines	124	117	6,975	143	814	468	124	117	6,975	143	814	468
Ships: Aux Engines and Boilers	41	39	1,601	102	146	58	41	39	1,601	102	146	58
AMP Electricity Use	2	2	16	7	8	<1	2	2	16	7	8	<1
Tugboats	2	1	60	<1	127	9	2	1	60	<1	127	9
Trucks	139	46	2,383	4	216	71	139	46	2,383	4	216	71
Line Haul Locomotives	26	24	1,022	1	252	42	26	24	1,022	1	252	42
Switch Locomotives	<1	<1	15	<1	5	1	<1	<1	15	<1	5	1
Cargo Handling Equipment	3	3	262	2	302	26	3	3	262	2	302	26
Worker Vehicles	17	5	10	<1	109	4	17	5	10	<1	109	4
Total Construction (Ocean Disposal) and Operation Year 2018	**353**	**235**	**12,344**	**260**	**1,978**	**679**	**353**	**235**	**12,344**	**260**	**1,978**	**679**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Project Minus CEQA Baseline	-111	-68	-414	-822	10	-86	-92	-56	79	-821	379	-32
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	No	No	No	No	No	No	No	No	No	No
NEPA Impacts												
NEPA Baseline Emissions	367	245	12,858	271	2,115	717	367	245	12,858	271	2,115	717
Project Minus NEPA Baseline	-14	-10	-514	-11	-137	-37	4	2	-20	-10	232	17
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	No	No	No	No	No	No	No	No	No	No
Total Construction (Upland Disposal) and Operation Year 2018	**377**	**251**	**12,771**	**261**	**2,157**	**715**	**370**	**244**	**12,690**	**261**	**2,204**	**723**
CEQA Impacts												

Table 3.2-77: Peak Daily Combined Construction and Operational Emissions – Alternative 5 (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Project Minus CEQA Baseline	-87	-52	12	-822	188	-50	-94	-59	-69	-822	235	-43
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	No	No	No	No	No	No	No	No	No	No
NEPA Impacts												
NEPA Baseline Emissions	367	245	12,858	271	2,115	717	367	245	12,858	271	2,115	717
Project Minus NEPA Baseline	10	6	-87	-10	41	-1	3	-1	-168	-10	88	6
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	No	No	No	No	No	No	No	No	No	No
Construction 2019												
Ocean/Upland Disposal	56	51	3,354	89	296	128	54	50	3,334	89	305	129
Operation 2019												
Ships: Main Propulsion Engines	127	119	7,113	146	834	480	111	105	6,068	118	779	460
Ships: Aux Engines and Boilers	42	40	1,695	101	154	61	35	33	1,345	90	123	49
AMP Electricity Use	1	1	10	4	5	<1	2	2	17	7	8	<1
Tugboats	2	2	63	<1	134	10	2	2	63	<1	134	10
Trucks	164	53	2,664	5	235	73	164	53	2,664	5	235	73
Line Haul Locomotives	27	25	1,099	1	284	44	27	25	1,099	1	284	44
Switch Locomotives	<1	<1	16	<1	5	1	<1	<1	16	<1	5	1
Cargo Handling Equipment	4	3	306	2	393	34	4	3	306	2	393	34
Worker Vehicles	17	5	8	<1	88	3	17	5	8	<1	88	3
Total Construction and Operation Year 2019	**438**	**299**	**16,329**	**350**	**2,427**	**834**	**416**	**277**	**14,921**	**313**	**2,354**	**804**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Project Minus CEQA Baseline	-25	-4	3,571	-733	459	69	-48	-26	2,162	-770	385	39
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	No	**Yes**	No	No	No	No	No	**Yes**	No	No	No

Table 3.2-77: Peak Daily Combined Construction and Operational Emissions – Alternative 5 (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
NEPA Impacts												
NEPA Baseline Emissions	371	234	11,871	244	2,041	693	371	234	11,871	244	2,041	693
Project Minus NEPA Baseline	67	64	4,459	106	387	142	45	43	3,050	69	313	111
Significance Threshold	150	55	100	150	550	75	150	55	100	150	550	75
Significant?	No	**Yes**	**Yes**	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**

Notes:

- Emissions assume the simultaneous occurrence of maximum daily emissions for each source category. Such levels would rarely occur during day-to-day terminal operations.
- Truck, train, ship, and worker commute emissions include transport within the SCAB.
- AMP electricity use reflects indirect emissions from regional power generation.
- Emissions reflect the maximum of upland and marine emissions associated with the disposal of dredged materials (see Appendix B1, Methodology).
- NEPA baseline emissions include the NEPA baseline construction emissions plus the NEPA baseline operational emissions, presented in Table 3.2-4 and Table 3.2-5.
- Emissions might not precisely add due to rounding.

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

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CEQA Impact Determination

Tables 3.2-76A and 3.2-76B show that unmitigated peak daily construction emissions would exceed the SCAQMD daily emission thresholds for NO_X under CEQA during 2018 and 2019. Construction emissions would also exceed the SCAQMD daily emission thresholds for VOC during the 2019 construction year. Therefore, unmitigated Alternative 5 construction emissions would be significant under CEQA for NO_X and VOC prior to mitigation.

The largest contributors to peak day construction emissions are marine sources (including ships used to deliver new cranes and tugboats used to assist dredging barges, and dive boats), followed by off-road construction equipment (including dredging equipment).

Table 3.2-77 shows that overlapping construction and operational emissions in 2018 would not exceed the SCAQMD daily emission thresholds for construction. However, construction and operational emissions in 2019 exceed the SCAQMD daily emission thresholds for construction for NO_X under CEQA. Therefore, impacts would be significant during the peak year of construction and operational overlap under CEQA.

Mitigation Measures

To reduce the level of impact during construction, MM AQ-1 through MM AQ-5 would be applied. These mitigation measures would be implemented by the responsible parties identified in Section 3.2.4.7. Tables 3.2-76A and 3.2-76B present the peak day criteria pollutant emissions associated with construction of Alternative 5 after the application of MM AQ-1 through MM AQ-5. Table 3.2-77 presents the peak day combined construction and operational emissions after the application of MM AQ-1 through MM AQ-5.

Residual Impacts

Emissions from construction of Alternative 5 would be reduced with mitigation but would remain significant and unavoidable under CEQA for NO_X in 2018 and for NO_X and VOC in 2019. In addition, emissions from overlapping construction and operation would be reduced with mitigation but would remain significant and unavoidable under CEQA for NO_X in 2019.

NEPA Impact Determination

Tables 3.2-76A and 3.2-76B show that unmitigated peak daily construction emissions would exceed the SCAQMD daily thresholds for NO_X under NEPA in 2018 and exceed thresholds for NOx and VOC under NEPA in 2019. Therefore, unmitigated Alternative 5 construction emissions would be significant under NEPA for NO_X and VOC prior to mitigation.

Table 3.2-77 shows that overlapping construction and operational emissions in 2019 would exceed the SCAQMD daily emission thresholds for construction for $PM_{2.5}$, NO_X, and VOC. Therefore, impacts would be significant during the peak year of construction and operational overlap under NEPA.

Mitigation Measures

Tables 3.2-76A and 3.2-76B present the peak day criteria pollutant emissions associated with construction of Alternative 5, after the application of MM AQ-1 through MM AQ-5. Table 3.2-77 presents the peak daily combined construction and operational emissions after the application of MM AQ-1 through MM AQ-5.

Residual Impacts

Emissions from construction of Alternative 5 would be reduced with mitigation but would remain significant and unavoidable under NEPA for NO_X, in 2018 and for NO_X and VOC in 2019. In addition, emissions from overlapping construction and operation would be reduced with mitigation to a level that is less than significant under NEPA for $PM_{2.5}$ in 2019. However, they would remain significant and unavoidable under NEPA for NO_X and VOC during 2019.

Impact AQ-2: Alternative 5 would result in construction-related off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.2-7.

Dispersion modeling of on-site construction emissions was performed to assess the impact of Alternative 5 on local ambient air concentrations. A summary of the dispersion modeling results is presented here; the complete dispersion modeling report is included in Appendix B2.

CEQA Impact Determination

Table 3.2-78 presents the maximum off-site ground level concentrations of NO_2, SO_2, and CO from construction with and without mitigation. Table 3.2-79 presents the maximum off-site ground level concentrations of PM_{10} and $PM_{2.5}$ from construction with and without mitigation. Table 3.2-80 presents maximum off-site ground level concentrations of NO_2, SO_2, and CO when peak construction activity would overlap with terminal operations with and without mitigation. Table 3.2-81 presents the maximum off-site ground level concentrations of PM_{10} and $PM_{2.5}$ when peak construction activity would overlap with terminal operations with and without mitigation. As seen before with emissions, where decrease in operation at the port in 2018 during construction resulted in a reduction of total emissions from construction and operations, lower concentrations were predicted for some pollutants when construction and operational sources were both modeled.

Table 3.2-78: Maximum Off-site Ambient NO_2, SO_2, and CO Concentrations (CEQA)—Alternative 5 Construction

Pollutant	Averaging Time	Background Concentration (ppm)[c,d]	Maximum Unmitigated Modeled Project Concentration (ppm)[d]	Maximum Mitigated Modeled Project Concentration (ppm)[d]	Total Unmitigated Ground-Level Concentration (ppm)[d]	Total Mitigated Ground-Level Concentration (ppm)[d]	SCAQMD Threshold (ppm)	Unmitigated Concentration above Threshold?	Mitigated Concentration above Threshold?
NO_2	Federal 1-hour[a]	0.088	0.061	0.053	**0.149**	**0.141**	0.100	**Yes**	**Yes**
	State 1-hour	0.11	0.07	0.06	**0.18**	0.17	0.18	**Yes**	No
	Federal annual	0.017	0.004	-	0.021	-	0.053	No	-
	State annual	0.017	0.004	-	0.021	-	0.030	No	-
SO_2	Federal 1-hour[b]	0.038	0.0002	-	0.038	-	0.075	No	-
	State 1-hour	0.05	0.0002	-	0.05	-	0.25	No	-
	24-hour	0.01	0.0001	-	0.02	-	0.04	No	-
CO	1-hour	7	0.1	-	7	-	20 / 35	No	-
	8-hour	1.8	0.1	-	1.9	-	9.0	No	-

Notes:

[a] The federal 1-hour NO_2 modeled concentration represents the 98th percentile of the daily maximum 1-hour averages.

[b] The federal 1-hour SO_2 modeled concentration represents the 99th percentile of the daily maximum 1-hour averages.

[c] The background concentrations for NO_2, SO_2, and CO were obtained from the TITP station.

[d] Exceedances of the thresholds are indicated in **bold**.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-79: Maximum Off-site Ambient PM_{10} and $PM_{2.5}$ Concentrations (CEQA) — Alternative 5 Construction

Pollutant	Averaging Time	Maximum Modeled Concentration of CEQA Baseline ($\mu g/m^3$)	Maximum Unmitigated Modeled Concentration of Alternative 5 ($\mu g/m^3$)	Maximum Mitigated Modeled Concentration of Alternative 5 ($\mu g/m^3$)	Unmitigated Ground-Level Concentration CEQA Increment ($\mu g/m^3$)[a,b]	Mitigated Ground-Level Concentration CEQA Increment ($\mu g/m^3$)[a,b]	SCAQMD Threshold ($\mu g/m^3$)	Unmitigated CEQA Concentration above Threshold?	Mitigated CEQA Concentration above Threshold?
PM_{10}	24-hour	0.0	4.9	-	4.9	-	10.4	No	-
	Annual	0.0	0.8	-	0.8	-	1.0	No	-
$PM_{2.5}$	24-hour	0.0	4.3	-	4.3	-	10.4	No	-

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The CEQA increment represents the alternative minus CEQA baseline. Because the CEQA baseline for construction is zero, the CEQA increment equals the maximum modeled concentration.

[c] The maximum modeled project concentration, maximum modeled baseline concentrations, and maximum concentration increments may occur at different receptors. Therefore, the modeled project and baseline concentrations in the table may not necessarily subtract to equal the increment.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-80: Maximum Off-site Ambient NO_2, SO_2, and CO Concentrations (CEQA)— Alternative 5 Combined Construction and Operation

Pollutant	Averaging Time	Background Concentration (ppm)[c]	Maximum Unmitigated Modeled Project Concentration Interval (ppm)[d]	Maximum Mitigated Modeled Project Concentration Interval (ppm)[d]	Total Unmitigated Ground-Level Concentration (ppm)[e]	Total Mitigated Ground-Level Concentration (ppm)[e]	CEQA / NEPA Threshold (ppm)	Unmitigated Concentration above Threshold?	Mitigated Concentration above Threshold?
NO_2	Federal 1-hour[a]	0.088	0.044	0.31	0.132	0.119	0.100	**Yes**	**Yes**
	State 1-hour	0.11	0.06	-	0.18	-	0.18	No	-
	Federal annual	0.017	0.010	-	0.028	-	0.053	No	-
	State annual	0.017	0.010	-	0.028	-	0.030	No	-
SO_2	Federal 1-hour[b]	0.038	0.0002	-	0.038	-	0.075	No	-
	State 1-hour	0.05	0.0002	-	0.05	-	0.25	No	-
	24-hour	0.01	0.00006	-	0.02	-	0.04	No	-
CO	1-hour	7	0.1	-	7	-	20 / 35	No	-
	8-hour	1.8	0.1	-	1.9	-	9.0	No	-

Notes:

[a] The federal 1-hour NO_2 modeled concentration represents the 98th percentile of the daily maximum 1-hour averages.

[b] The federal 1-hour SO_2 modeled concentration represents the 99th percentile of the daily maximum 1-hour averages.

[c] The background concentrations for NO_2, SO_2, and CO were obtained from the TITP station.

[d] The maximum modeled concentration increment represents alternative construction plus operations minus 2013 CEQA baseline terminal operations.

[e] Exceedances of the thresholds are indicated in **bold.**

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-81: Maximum Off-site Ambient PM_{10} and $PM_{2.5}$ Concentrations (CEQA) — Alternative 5 Combined Construction and Operation

Pollutant	Averaging Time	Maximum Modeled Concentration of CEQA Baseline ($\mu g/m^3$)	Maximum Unmitigated Modeled Concentration of Alternative ($\mu g/m^3$)	Maximum Mitigated Modeled Concentration of Alternative ($\mu g/m^3$)	Unmitigated Ground-Level Concentration CEQA Increment ($\mu g/m^3$)[a,b]	Mitigated Ground-Level Concentration CEQA Increment ($\mu g/m^3$)[a,b]	SCAQMD Threshold ($\mu g/m^3$)	Unmitigated CEQA Concentration above Threshold?	Mitigated CEQA Concentration above Threshold?
PM_{10}	24-hour	8.2	24.3	24.3	**18.0**	**17.9**	10.4	**Yes**	**Yes**
	Annual	3.8	14.7	14.7	**12.3**	**12.3**	1.0	**Yes**	**Yes**
$PM_{2.5}$	24-hour	4.0	6.5	-	3.7	-	10.4	No	-

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The CEQA increment represents alternative minus CEQA baseline.

[c] The maximum modeled project concentration, maximum modeled baseline concentrations, and maximum concentration increments may occur at different receptors. Therefore, the modeled project and baseline concentrations in the table may not necessarily subtract to equal the increment.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-78 shows that the maximum off-site NO_2 (federal and state 1-hour averages) concentrations from construction activities would exceed SCAQMD thresholds. Table 3.2-79 shows that the maximum off-site incremental PM_{10} and $PM_{2.5}$ concentrations from construction activities would not exceed SCAQMD thresholds for any averaging period. Therefore, without mitigation, maximum off-site ambient pollutant concentrations associated with the construction of Alternative 5 would be significant under CEQA for NO_2 (federal and state 1-hour averages).

Table 3.2-80 shows that the maximum off-site NO_2, SO_2, and CO concentrations from overlapping construction and operational activities would not exceed SCAQMD thresholds. Table 3.2-81 shows that the maximum off-site incremental PM_{10} (24-hour and annual average) concentrations from overlapping construction and operational activities would exceed SCAQMD thresholds. Therefore, without mitigation, maximum off-site ambient pollutant concentrations associated with the combined construction and operation of the Alternative 5 would be significant under CEQA for PM_{10} (24-hour and annual average).

Mitigation Measures

To reduce the level of impact during construction, MM AQ-1 through MM AQ-5 would be applied. These mitigation measures would be implemented by the responsible parties identified in Section 3.2.4.7. Table 3.2-78 presents the maximum off-site ground level concentrations of NO_2 from construction with mitigation. Table 3.2-81 presents the maximum off-site ground level concentration of PM_{10} when peak construction activity would overlap with terminal operations with construction mitigation.

Residual Impacts

Table 3.2-78 shows that the maximum off-site state 1-hour NO_2 concentration from construction would be reduced to less than significant levels. However, federal 1-hour NO_2 concentration would be reduced with mitigation but would remain significant. Therefore, with mitigation, maximum off-site ambient pollutant concentrations associated with the construction of Alternative 5 would be significant and unavoidable under CEQA for NO_2 (federal 1-hour average).

Table 3.2-81 shows that the maximum off-site incremental 24-hour and annual PM_{10} concentrations from overlapping construction and operational activities would be reduced with mitigation but would remain significant. Therefore, following mitigation, maximum off-site ambient pollutant concentrations associated with the combined construction and operation of Alternative 5 would be significant and unavoidable under CEQA for PM_{10} (24-hour and annual average).

NEPA Impact Determination

Table 3.2-82 shows that the maximum off-site NO_2 (federal 1-hour average) concentration from construction activities would exceed SCAQMD thresholds. Table 3.2-83 shows that the maximum off-site incremental PM_{10} and $PM_{2.5}$ concentrations from construction activities would not exceed SCAQMD thresholds for any averaging period. Therefore, without mitigation, maximum off-site ambient pollutant concentrations associated with the construction of Alternative 5 would be significant under NEPA for NO_2 (federal 1-hour average).

Table 3.2-82: Maximum Off-site Ambient NO_2, SO_2, and CO Concentrations (NEPA) — Alternative 5 Construction

Pollutant	Averaging Time	Background Concentration (ppm)[c]	Maximum Unmitigated Modeled Project Concentration Interval (ppm)[d]	Maximum Mitigated Modeled Project Concentration Interval (ppm)[d]	Total Unmitigated Ground-Level Concentration (ppm)[e]	Total Mitigated Ground-Level Concentration (ppm)[e]	NEPA Threshold (ppm)	Unmitigated Concentration above Threshold?	Mitigated Concentration above Threshold?
NO_2	Federal 1-hour[a]	0.088	0.058	0.050	**0.146**	**0.138**	0.100	**Yes**	**Yes**
	State 1-hour	0.11	0.06	-	0.18	-	0.18	No	-
	Federal annual	0.017	0.003	-	0.020	-	0.053	No	-
	State annual	0.017	0.003	-	0.020	-	0.030	No	-
SO_2	Federal 1-hour[b]	0.038	0.0002	-	0.038	-	0.075	No	-
	State 1-hour	0.05	0.0002	-	0.05	-	0.25	No	-
	24-hour	0.01	0.0001	-	0.02	-	0.04	No	-
CO	1-hour	7	0.1	-	7	-	20 / 35	No	-
	8-hour	1.8	0.1	-	1.9	-	9.0	No	-

Notes:

[a] The federal 1-hour NO_2 modeled concentration represents the 98th percentile of the daily maximum 1-hour averages.

[b] The federal 1-hour SO_2 modeled concentration represents the 99th percentile of the daily maximum 1-hour averages.

[c] The background concentrations for NO_2, SO_2, and CO were obtained from the TITP station.

[d] The maximum modeled concentration increment represents alternative construction minus NEPA baseline.

[e] Exceedances of the thresholds are indicated in **bold.**

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-83: Maximum Off-site Ambient PM_{10} and $PM_{2.5}$ Concentrations (NEPA)— Alternative 5 Construction

Pollutant	Averaging Time	Maximum Modeled Concentration of NEPA Baseline (µg/m^3)	Maximum Unmitigated Modeled Concentration of Alternative 5 (µg/m^3)	Maximum Mitigated Modeled Concentration of Alternative 5 (µg/m^3)	Unmitigated Ground-Level Concentration NEPA Increment (µg/m^3)[a,b]	Mitigated Ground-Level Concentration NEPA Increment (µg/m^3)[a,b]	SCAQMD Threshold (µg/m^3)	Unmitigated NEPA Concentration above Threshold?	Mitigated NEPA Concentration above Threshold?
PM_{10}	24-hour	1.7	4.9	-	4.7	-	10.4	No	-
	Annual	0.3	0.8	-	0.5	-	1.0	No	-
$PM_{2.5}$	24-hour	0.4	4.3	-	4.2	-	10.4	No	-

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The NEPA increment represents the alternative minus NEPA baseline.

[c] The maximum modeled project concentration, maximum modeled baseline concentrations, and maximum concentration increments may occur at different receptors. Therefore, the modeled project and baseline concentrations in the table may not necessarily subtract to equal the increment.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-84: Maximum Off-site Ambient NO_2, SO_2, and CO Concentrations (NEPA) — Alternative 5 Combined Construction and Operation

Pollutant	Averaging Time	Background Concentration (ppm)[c]	Maximum Unmitigated Modeled Project Concentration Interval (ppm)[d]	Maximum Mitigated Modeled Project Concentration Interval (ppm)[d]	Total Unmitigated Ground-Level Concentration (ppm)[e]	Total Mitigated Ground-Level Concentration (ppm)[e]	CEQA / NEPA Threshold (ppm)	Unmitigated Concentration above Threshold?	Mitigated Concentration above Threshold?
NO_2	Federal 1-hour[a]	0.088	0.031	0.028	**0.119**	**0.116**	0.100	**Yes**	**Yes**
	State 1-hour	0.11	0.04	-	0.15	-	0.18	No	-
	Federal annual	0.017	0.003	-	0.020	-	0.053	No	-
	State annual	0.017	0.003	-	0.020	-	0.030	No	-
SO_2	Federal 1-hour[b]	0.038	0.0005	-	0.038	-	0.075	No	-
	State 1-hour	0.05	0.0005	-	0.05	-	0.25	No	-
	24-hour	0.01	0.0001	-	0.02	-	0.04	No	-
CO	1-hour	7	0.1	-	7	-	20 / 35	No	-
	8-hour	1.8	0.1	-	1.9	-	9.0	No	-

Notes:

[a] The federal 1-hour NO_2 modeled concentration represents the 98th percentile of the daily maximum 1-hour averages.

[b] The federal 1-hour SO_2 modeled concentration represents the 99th percentile of the daily maximum 1-hour averages.

[c] The background concentrations for NO_2, SO_2, and CO were obtained from the TITP station.

[d] The maximum modeled concentration increment represents alternative construction plus operations minus NEPA baseline.

[e] Exceedances of the thresholds are indicated in **bold.**

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-85: Maximum Off-site Ambient PM_{10} and $PM_{2.5}$ Concentrations (NEPA) — Alternative 5 Combined Construction and Operation

Pollutant	Averaging Time	Maximum Modeled Concentration of NEPA Baseline ($\mu g/m^3$)	Maximum Unmitigated Modeled Concentration of Alternative ($\mu g/m^3$)	Maximum Mitigated Modeled Concentration of Alternative ($\mu g/m^3$)	Unmitigated Ground-Level Concentration NEPA Increment ($\mu g/m^3$)[a,b]	Mitigated Ground-Level Concentration NEPA Increment ($\mu g/m^3$)[a,b]	SCAQMD Threshold ($\mu g/m^3$)	Unmitigated NEPA Concentration above Threshold?	Mitigated NEPA Concentration above Threshold?
PM_{10}	24-hour	24.8	24.3	-	4.1	-	10.4	No	-
	Annual	15.0	14.7	-	0.3	-	1.0	No	-
$PM_{2.5}$	24-hour	7.1	6.5	-	3.9	-	10.4	No	-

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The NEPA increment represents alternative minus NEPA baseline.

[c] The maximum modeled project concentration, maximum modeled baseline concentrations, and maximum concentration increments may occur at different receptors. Therefore, the modeled project and baseline concentrations in the table may not necessarily subtract to equal the increment.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-84 shows that the maximum off-site NO_2 (federal 1-hour average) concentration from overlapping construction and operational activities would exceed SCAQMD thresholds. Table 3.2-85 shows that the maximum off-site incremental PM_{10} and $PM_{2.5}$ concentrations from overlapping construction and operational activities would not exceed SCAQMD thresholds for any averaging period. Therefore, without mitigation, maximum off-site ambient pollutant concentrations associated with the combined construction and operation of Alternative 5 would be significant under NEPA for NO_2 (federal 1-hour average).

Mitigation Measures

To reduce the level of impact during construction, mitigation measures MM AQ-1 through MM AQ-5 would be applied. These mitigation measures would be implemented by the responsible parties identified in Section 3.2.4.7.

Table 3.2-82 presents the maximum off-site ground level concentration of NO_2 from construction with mitigation. Table 3.2-84 presents concentration of NO_2 when peak construction activity would overlap with terminal operations with mitigation.

Residual Impacts

Table 3.2-82 shows that the maximum off-site federal 1-hour NO_2 concentration would be reduced with mitigation but would remain significant. Therefore, with mitigation, maximum off-site ambient pollutant concentrations associated with construction of Alternative 5 would be significant and unavoidable under NEPA for NO_2 (federal 1-hour average).

Table 3.2-84 shows that the maximum off-site federal 1-hour NO_2 concentration from overlapping construction and operational activities would be reduced with mitigation but would remain significant. Therefore, following mitigation, maximum off-site ambient pollutant concentrations associated with the combined construction and operation of Alternative 5 would be significant and unavoidable under NEPA for NO_2 (federal 1-hour average).

Impact AQ-3: Alternative 5 would result in operational emissions that exceed an SCAQMD threshold of significance in Table 3.2-8.

Table 3.2-86 presents unmitigated peak daily criteria pollutant emissions associated with operation of Alterative 5. Emissions were estimated for the Alternative 5 study years: 2019, 2026, 2033, and 2038. Peak daily emissions represent upper-bound estimates of activity levels at the terminal and as such would occur infrequently. Comparisons to the CEQA and NEPA baseline emissions are presented to determine CEQA and NEPA significance, respectively.

Alternative 5 source characteristics, activity levels, fuel sulfur content, emission factors, and other parameters assumed in the operational emissions are discussed in detail in Appendix B1: Table 3.1-2 for container ships, Table 3.1-3 for CHE, Table 3.1-4 for trucks, and Table 3.1-5 for trains.

Table 3.2-86: Peak Daily Operational Emissions — Alternative 5 (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Year 2019												
Ships: Main Propulsion Engines	127	119	7,113	146	834	480	111	105	6,068	118	779	460
Ships: Aux Engines and Boilers	42	40	1,695	101	154	61	35	33	1,345	90	123	49
AMP Electricity Use	1	1	10	4	5	0	2	2	17	7	8	0
Tugboats	2	2	63	0	134	10	2	2	63	0	134	10
Trucks	164	53	2,664	5	235	73	164	53	2,664	5	235	73
Line Haul Locomotives	27	25	1,099	1	284	44	27	25	1,099	1	284	44
Switch Locomotives	0	0	16	0	5	1	0	0	16	0	5	1
Cargo Handling Equipment	4	3	306	2	393	34	4	3	306	2	393	34
Worker Vehicles	17	5	8	0	88	3	17	5	8	0	88	3
Total Operational Year 2019	**383**	**247**	**12,976**	**260**	**2,131**	**706**	**361**	**227**	**11,586**	**224**	**2,049**	**675**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Project Minus CEQA Baseline	-81	-56	217	-822	163	-59	-102	-76	-1,172	-859	80	-91
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	**Yes**	No	No	No	No	No	No	No	No	No
NEPA Impacts												
NEPA Baseline Emissions	367	234	11,841	244	2,006	687	367	234	11,841	244	2,006	687
Project Minus NEPA Baseline	16	13	1,135	17	126	19	-6	-7	-254	-20	43	-12
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	**Yes**	No	No	No	No	No	No	No	No	No
Year 2026												
Ships: Main Propulsion Engines	132	124	7,148	150	876	506	117	110	5,576	122	822	487
Ships: Aux Engines and Boilers	50	47	1,942	117	185	73	43	41	1,487	107	154	61
AMP Electricity Use	2	2	23	10	11	1	3	3	29	12	14	1
Tugboats	2	1	60	0	143	10	2	1	60	0	143	10
Trucks	191	54	1,231	6	198	42	191	54	1,231	6	198	42
Line Haul Locomotives	26	24	1,191	2	459	45	26	24	1,191	2	459	45
Switch Locomotives	0	0	18	0	7	1	0	0	18	0	7	1
Cargo Handling Equipment	5	4	158	3	552	38	5	4	158	3	552	38
Worker Vehicles	20	6	5	0	68	3	20	6	5	0	68	3
Total Operational Year 2026	**427**	**263**	**11,777**	**288**	**2,500**	**719**	**406**	**243**	**9,756**	**252**	**2,418**	**688**
CEQA Impacts												

Table 3.2-86: Peak Daily Operational Emissions — Alternative 5 (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Project Minus CEQA Baseline	-36	-40	-982	-794	531	-46	-58	-60	-3,002	-831	449	-77
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	No	No	No	No	No	No	No	No	No	No
NEPA Impacts												
NEPA Baseline Emissions	344	215	8,523	236	2,058	641	344	215	8,523	236	2,058	641
Project Minus NEPA Baseline	83	48	3,255	53	442	79	62	28	1,234	16	360	48
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	**Yes**	No	No	**Yes**	No	No	**Yes**	No	No	No
Year 2033												
Ships: Main Propulsion Engines	190	178	10,544	226	1,216	692	156	146	4,915	162	1,095	649
Ships: Aux Engines and Boilers	46	43	1,854	102	176	69	43	41	1,093	100	162	64
AMP Electricity Use	1	1	12	5	6	0	2	2	17	7	8	0
Tugboats	2	2	85	0	204	15	2	2	85	0	204	15
Trucks	203	57	1,007	6	219	39	203	57	1,007	6	219	39
Line Haul Locomotives	59	54	3,150	8	1,950	116	59	54	3,150	8	1,950	116
Switch Locomotives	1	1	39	0	16	2	1	1	39	0	16	2
Cargo Handling Equipment	6	5	170	4	707	48	6	5	170	4	707	48
Worker Vehicles	24	7	4	0	64	3	24	7	4	0	64	3
Total Operational Year 2033	**531**	**348**	**16,867**	**351**	**4,559**	**985**	**495**	**314**	**10,481**	**288**	**4,425**	**936**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Project Minus CEQA Baseline	68	45	4,109	-732	2,590	219	32	11	-2,277	-795	2,457	171
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	**Yes**	No	**Yes**	**Yes**	No	No	No	No	**Yes**	**Yes**
NEPA Impacts												
NEPA Baseline Emissions	405	270	7,729	279	3,437	852	405	270	7,729	279	3,437	852
Project Minus NEPA Baseline	127	78	9,138	72	1,122	133	91	44	2,752	9	988	84
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	**Yes**	**Yes**	No	**Yes**	**Yes**	No	No	**Yes**	No	**Yes**	**Yes**
Year 2038												
Ships: Main Propulsion Engines	190	178	10,544	226	1,216	692	156	146	3,042	162	1,095	649

Table 3.2-86: Peak Daily Operational Emissions — Alternative 5 (lbs/day)

	Without Mitigation						With Mitigation					
Source Category	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_X**	**CO**	**VOC**
Ships: Aux Engines and Boilers	46	43	1,854	102	176	69	43	41	745	100	162	64
AMP Electricity Use	1	1	12	5	6	0	2	2	17	7	8	0
Tugboats	2	2	77	0	176	13	2	2	77	0	176	13
Trucks	203	56	907	6	212	37	203	56	907	6	212	37
Line Haul Locomotives	37	34	2,271	8	1,950	85	37	34	2,271	8	1,950	85
Switch Locomotives	0	0	21	0	16	1	0	0	21	0	16	1
Cargo Handling Equipment	6	5	164	4	707	48	6	5	164	4	707	48
Worker Vehicles	24	7	4	0	56	3	24	7	4	0	56	3
Total Operational Year 2038	**508**	**327**	**15,856**	**351**	**4,516**	**947**	**472**	**293**	**7,249**	**288**	**4,382**	**899**
CEQA Impacts												
CEQA Baseline Emissions	464	303	12,759	1,083	1,969	765	464	303	12,759	1,083	1,969	765
Project Minus CEQA Baseline	45	24	3,097	-732	2,547	182	8	-10	-5,510	-795	2,414	133
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	No	**Yes**	No	**Yes**	**Yes**	No	No	No	No	**Yes**	**Yes**
NEPA Impacts												
NEPA Baseline Emissions	390	257	4,524	279	3,397	827	390	257	4,524	279	3,397	827
Project Minus NEPA Baseline	118	70	11,332	72	1,119	120	82	36	2,724	9	985	72
Significance Threshold	150	55	55	150	550	55	150	55	55	150	550	55
Significant?	No	**Yes**	**Yes**	No	**Yes**	**Yes**	No	No	**Yes**	No	**Yes**	**Yes**

Notes:

- Emissions assume the simultaneous occurrence of peak daily equipment activity levels. Such levels would rarely occur during day-to-day terminal operations.
- Truck, train, ship, and worker commute emissions include transport within the South Coast Air Basin.
- AMP electricity use reflects indirect emissions from regional power generation.
- Emissions might not precisely add due to rounding.

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

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Discussion of Emission Trends and Comparison to Proposed Project

Emissions would vary due to several factors, such as regulatory requirements, activity levels, source (container ships, tugboats, trucks, locomotives, CHE, and worker vehicles) characteristics, and emission factors. The combination of these factors can result in emissions that do not always decrease or increase consistently over time.

Under Alternative 5, terminal activity would increase in each study year and would have the same level of activity as the proposed Project in all years. Regulatory requirements described in detail in Appendix B1 would serve to decrease emission factors from most emission sources. In addition, as equipment ages, engine efficiency would decrease and emission factors would increase in comparison to brand-new equipment.

Although the terminal would handle similar levels of cargo, more rail activity and less truck hauling would occur in Alternative 5.

CEQA Impact Determination

Table 3.2-86 shows that unmitigated peak daily operational emissions would exceed the SCAQMD daily emission thresholds and would be significant for NO_X under CEQA in years 2019, 2033, and 2038. Emissions of CO and VOC would also exceed the SCAQMD daily emission thresholds in 2033 and 2038.

The largest contributors to peak daily operational emissions in all analysis years would be emissions from container ship transit. Container ship hoteling, trucks, and locomotives would be key secondary contributors. Emissions for all analyzed pollutants CO, VOC, PM_{10}, $PM_{2.5}$, and SO_X would increase between years 2019 and 2033 due to terminal throughput increase. Emissions would decline slightly for all pollutants from year 2033 to 2038 as regulatory requirements for trucks, locomotives, and CHE continue to reduce emission factors after the terminal reached its operating capacity in 2033.

Mitigation Measures

Table 3.2-86 presents the peak daily criteria pollutant emissions associated with operation of Alternative 5, after the application of MM AQ-6 and MM AQ-7. Lease measures LM AQ-1 and LM AQ-2 would also potentially reduce future emissions. These measures were not quantified in the analysis because the future technologies that may be implemented through these measures have not yet been identified.

Residual Impacts

Table 3.2-86 shows that emissions from operation of Alternative 5 would be reduced with mitigation. Emissions of NO_X in 2019, 2033, and 2038 would be reduced to levels that are less than significant under CEQA. However, CO and VOC emissions in 2033 and 2038 would remain significant and unavoidable under CEQA.

NEPA Impact Determination

Table 3.2-86 shows that unmitigated peak daily operational emissions would exceed the SCAQMD daily thresholds for NO_X in 2019, 2026, 2033, and 2038; VOC in 2026, 2033, and 2038; and $PM_{2.5}$ and CO in 2033 and 2038. Therefore, unmitigated Alternative 5

operational emissions would be significant under NEPA for $PM_{2.5}$, NO_X, CO, and VOC prior to mitigation.

Mitigation Measures

Table 3.2-86 presents the peak daily pollutant emissions associated with operation of Alternative 5, after the application of MM AQ-6 and MM AQ-7. LM AQ-1 and LM AQ-2 are lease measures that may reduce future emissions; however, because implementation may change over the life of the leases, these measures were not included in emissions calculations.

Residual Impacts

Table 3.2-86 shows that emissions of NO_X in 2019, VOC in 2026, and $PM_{2.5}$ in 2033 and 2038 from operation of Alternative 5 would be reduced to levels that are less than significant under NEPA. Emissions of NO_X in 2026, 2033, and 2038 and CO and VOC in 2033 and 2038 would be reduced with mitigation but would remain significant and unavoidable.

Impact AQ-4: Alternative 5 operations would result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.2-9.

Dispersion modeling of on- and off-site Alternative 5 operational emissions was performed to assess the impact of Alternative 5 on local ambient air concentrations. A summary of the dispersion modeling results is presented here; the complete dispersion modeling report is included in Appendix B2.

CEQA Impact Determination

Table 3.2-87 presents the maximum off-site concentrations of NO_2, SO_2, and CO from operational activities with and without mitigation. Table 3.2-88 presents the maximum off-site concentrations of PM_{10} and $PM_{2.5}$ from operational activities with and without mitigation.

Table 3.2-87: Maximum Off-site NO_2, SO_2, and CO Concentrations (CEQA) — Alternative 5 Operation

Pollu-tant	Averaging Time	Background Concentration (ppm)[c]	Maximum Unmitigated Modeled Project Concentration Interval (ppm)[d]	Maximum Mitigated Modeled Project Concentration Interval (ppm)[d]	Total Unmitigated Ground-Level Concentration (ppm)[e]	Total Mitigated Ground-Level Concentration (ppm)[e]	CEQA / NEPA Threshold (ppm)	Unmitigated Concentration above Threshold?	Mitigated Concentration above Threshold?
NO_2	Federal 1-hour[a]	0.088	0.031	0.031	**0.119**	**0.119**	0.100	**Yes**	**Yes**
	State 1-hour	0.11	0.04	-	0.16	-	0.18	No	-
	Federal annual	0.017	0.010	-	0.028	-	0.053	No	-
	State annual	0.017	0.010	-	0.028	-	0.030	No	-
SO_2	Federal 1-hour[b]	0.038	0.0001	-	0.038	-	0.075	No	-
	State 1-hour	0.05	0.0001	-	0.05	-	0.25	No	-
	24-hour	0.01	0.000003	-	0.01	-	0.04	No	-
CO	1-hour	7	0.2	-	7	-	20 / 35	No	-
	8-hour	1.8	0.1	-	1.9	-	9.0	No	-

Notes:

[a] The federal 1-hour NO_2 modeled concentration represents the 98th percentile of the daily maximum 1-hour averages.

[b] The federal 1-hour SO_2 modeled concentration represents the 99th percentile of the daily maximum 1-hour averages.

[c] The background concentrations for NO_2, SO_2 and CO were obtained from the TITP station.

[d] The maximum modeled concentration increment represents Alternative 5 operation minus 2013 terminal operations.

[e] Exceedances of the thresholds are indicated in **bold**.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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2

Table 3.2-88: Maximum Off-site PM_{10} and $PM_{2.5}$ Concentrations (CEQA) — Alternative 5 Operation

Pollutant	Averaging Time	Maximum Modeled Concentration of CEQA Baseline ($\mu g/m^3$)	Maximum Unmitigated Modeled Concentration of Alternative 5 ($\mu g/m^3$)	Maximum Mitigated Modeled Concentration of Alternative 5 ($\mu g/m^3$)	Unmitigated Ground-Level Concentration CEQA Increment ($\mu g/m^3$)[a,b]	Mitigated Ground-Level Concentration CEQA Increment ($\mu g/m^3$)[a,b]	SCAQMD Threshold ($\mu g/m^3$)	Unmitigated CEQA Concentration above Threshold?	Mitigated CEQA Concentration above Threshold?
PM_{10}	24-hour	8.2	33.1	33.1	**26.6**	**26.6**	2.5	**Yes**	**Yes**
	Annual	3.8	18.5	18.5	**16.1**	**16.1**	1.0	**Yes**	**Yes**
$PM_{2.5}$	24-hour	4.0	8.8	8.8	**5.9**	**5.9**	2.5	**Yes**	**Yes**

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The CEQA increment represents Alternative 5 minus CEQA baseline.

[c] The maximum modeled project concentration, maximum modeled baseline concentrations, and maximum concentration increments may occur at different receptors. Therefore, the modeled project and baseline concentrations in the table may not necessarily subtract to equal the increment.

1

Table 3.2-87 shows that the maximum off-site NO_2 (federal 1-hour average) concentration from operational activities would exceed SCAQMD thresholds. Table 3.2-88 shows that the maximum off-site incremental PM_{10} (24-hour and annual average) and $PM_{2.5}$ (24-hour average) concentrations from operational activities would exceed SCAQMD thresholds. Therefore, without mitigation, maximum off-site ambient pollutant concentrations associated with operation of Alternative 5 would be significant under CEQA for NO_2 (federal 1-hour average), PM_{10} (24-hour and annual average), and $PM_{2.5}$ (24-hour average).

Mitigation Measures

To reduce the level of impact during construction, mitigation measures MM AQ-6 and MM AQ-7 would be applied. These mitigation measures would be implemented by the responsible parties identified in Section 3.2.4.7.

Table 3.2-87 presents the maximum off-site ground level concentrations of NO_2 with mitigation. Table 3.2-88 presents the maximum off-site ground level concentrations of PM_{10} and $PM_{2.5}$ with mitigation.

Residual Impacts

Table 3.2-87 shows that the maximum off-site NO_2 (federal 1-hour average) concentration would remain significant and unavoidable under CEQA after mitigation. Table 3.2-88 shows that the maximum off-site incremental PM_{10} (24-hour and annual average) and $PM_{2.5}$ (24-hour average) concentrations from operational activities would also not be substantially reduced with mitigation and would remain significant and unavoidable under CEQA.

NEPA Impact Determination

Table 3.2-89 shows that the maximum off-site concentrations of NO_2, SO_2, and CO from operational activities would not exceed the SCAQMD thresholds. Table 3.2-90 shows that that the maximum off-site incremental PM_{10} (24-hour and annual average) concentrations from operational activities would exceed SCAQMD thresholds. Therefore, without mitigation, maximum off-site ambient pollutant concentrations associated with operation of Alternative 5 would be significant under NEPA for PM_{10} (24-hour and annual average).

Table 3.2-89: Maximum Off-site NO_2, SO_2, and CO Concentrations (NEPA) — Alternative 5 Operation

Pollutant	Averaging Time	Background Concentration (ppm)[c]	Maximum Unmitigated Modeled Project Concentration Interval (ppm)[d]	Maximum Mitigated Modeled Project Concentration Interval (ppm)[d]	Total Unmitigated Ground-Level Concentration (ppm)[e]	Total Mitigated Ground-Level Concentration (ppm)[e]	NEPA Threshold (ppm)	Unmitigated Concentration above Threshold?	Mitigated Concentration above Threshold?
NO_2	Federal 1-hour[a]	0.088	0.009	-	0.097	-	0.100	No	-
	State 1-hour	0.11	0.01	-	0.13	-	0.18	No	-
	Federal annual	0.017	0.004	-	0.022	-	0.053	No	-
	State annual	0.017	0.004	-	0.022	-	0.030	No	-
SO_2	Federal 1-hour[b]	0.038	0.0002	-	0.038	-	0.075	No	-
	State 1-hour	0.05	0.0002	-	0.05	-	0.25	No	-
	24-hour	0.01	0.0001	-	0.02	-	0.04	No	-
CO	1-hour	7	0.1	-	7	-	20 / 35	No	-
	8-hour	1.8	0.04	-	1.9	-	9.0	No	-

Notes:

[a] The federal 1-hour NO_2 modeled concentration represents the 98th percentile of the daily maximum 1-hour averages.

[b] The federal 1-hour SO_2 modeled concentration represents the 99th percentile of the daily maximum 1-hour averages.

[c] The background concentrations for NO_2, SO_2 and CO were obtained from the TITP station.

[d] The maximum modeled concentration increment represents Alternative 5 operation NEPA baseline.

[e] Exceedances of the thresholds are indicated in **bold**.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

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Table 3.2-90: Maximum Off-site PM_{10} and $PM_{2.5}$ Concentrations (NEPA) — Alternative 5 Operation

Pollutant	Averaging Time	Maximum Modeled Concentration of NEPA Baseline ($\mu g/m^3$)	Maximum Unmitigated Modeled Concentration of Alternative 5 ($\mu g/m^3$)	Maximum Mitigated Modeled Concentration of Alternative 5 ($\mu g/m^3$)	Unmitigated Ground-Level Concentration NEPA Increment ($\mu g/m^3$)[a,b]	Mitigated Ground-Level Concentration NEPA Increment ($\mu g/m^3$)[a,b]	SCAQMD Threshold ($\mu g/m^3$)	Unmitigated NEPA Concentration above Threshold?	Mitigated NEPA Concentration above Threshold?
PM_{10}	24-hour	25.2	33.1	33.1	**7.9**	**7.8**	2.5	**Yes**	**Yes**
	Annual	15.0	18.5	18.5	**4.7**	**4.6**	1.0	**Yes**	**Yes**
$PM_{2.5}$	24-hour	6.8	8.8	-	2.0	-	2.5	No	-

Notes:

[a] Exceedances of the threshold are indicated in **bold**. The thresholds for PM_{10} and $PM_{2.5}$ are incremental thresholds; therefore, the incremental concentration without background is compared to the threshold.

[b] The NEPA increment represents Alternative 5 minus NEPA baseline.

[c] The maximum modeled project concentration, maximum modeled baseline concentrations, and maximum concentration increments may occur at different receptors. Therefore, the modeled project and baseline concentrations in the table may not necessarily subtract to equal the increment.

A value of "-" represents values that were not modeled due to unmitigated results already being below SCAQMD thresholds.

1

Mitigation Measures

To reduce the level of impact during operation, mitigation measures MM AQ-6 and MM AQ-7 would be applied. These mitigation measures would be implemented by the responsible parties identified in Section 3.2.4.7. Table 3.2-90 presents the maximum off-site ground level concentrations of PM_{10} with mitigation.

Residual Impacts

Table 3.2-90 shows that the maximum off-site incremental PM_{10} (24-hour and annual average) concentration from operational activities would not be substantially reduced with mitigation and would remain significant and unavoidable under NEPA.

Impact AQ-5: Alternative 5 would not generate on-road traffic that would contribute to an exceedance of the 1-hour or 8-hour CO standards.

Alternative 5 would not generate a greater number of truck trips or have a greater impact on intersection LOS than the analysis done for the proposed Project done in Section 3.2.4.5, Impact AQ-5. Because the proposed Project analysis would not exceed CO standards at any intersection, traffic-related impacts for Alternative 5 would also not exceed CO concentration standards at any intersection.

CEQA Impact Determination

CO standards would not be exceeded in the immediate vicinity of heavily congested intersections. CO impacts would therefore not be significant under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

CO standards would not be exceeded in the immediate vicinity of heavily congested intersections. CO impacts would therefore not be significant under NEPA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AQ-6: Alternative 5 would not create an objectionable odor at the nearest sensitive receptor.

Similar to the proposed Project, the mobile nature of the emission sources associated with Alternative 5 would serve to disperse emissions. Additionally, the distance between

Alternative 5 emission sources and the nearest residents would be far enough to allow for adequate dispersion of these emissions to below objectionable odor levels.

CEQA Impact Determination

The potential is low for the Alternative 5 to produce objectionable odors that would affect a sensitive receptor; and significant odor impacts under CEQA, therefore, are not anticipated.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

The potential is low for the Alternative 5 to produce objectionable odors that would affect a sensitive receptor; and significant odor impacts under NEPA, therefore, are not anticipated.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AQ-7: Alternative 5 would expose receptors to significant levels of TACs.

An HRA was conducted to address potential public health effects from TACs generated by Alternative 5. The results of the HRA are summarized below, with impacts shown relative to the CEQA baseline, future CEQA baseline (for cancer risk), and NEPA baseline. The rationale for a CEQA analysis based on both the CEQA baseline and future CEQA baseline is discussed in detail in Section 3.2.4.1, Methodology. Details of the analysis, including TAC emissions, the dispersion modeling approach, and the risk calculation approach, are presented in Appendix B3.

CEQA Impact Determination

Table 3.2-91 presents the maximum predicted CEQA health impacts associated with Alternative 5 with and without mitigation. The table includes estimates of individual cancer risk, chronic noncancer hazard index, and acute noncancer hazard index at the maximally exposed residential, occupational, and sensitive receptors. Results are presented for Alternative 5 (before subtracting baseline), the two CEQA baselines, the CEQA increment (Alternative 5 minus CEQA baseline), and future CEQA increment (Alternative 5 minus future CEQA baseline). The table also presents the CEQA increment and future CEQA increment for the population cancer burden. Significance findings are made by comparing the increments to the significance thresholds.

Table 3.2-91: Maximum CEQA Health Impacts Estimated for Construction and Operation of Alternative 5

Health Impact	Receptor Type	Unmitigated CEQA Increment[a,c]	Mitigated CEQA Increment[a,c]	Unmitigated Future CEQA Increment[b]	Mitigated Future CEQA Increment[b]	Significance Threshold	Unmitigated Significant?[d]	Mitigated Significant?[d]
Cancer Risk	Residential	< 0	n/a [g]	1.5 × 10-6 1.5 in a million	n/a	10×10^{-6} 10 in a million	No	n/a
	Occupational	< 0	n/a	5.8 × 10-6 5.8 in a million	n/a		No	n/a
	Sensitive	< 0	n/a	0.9 × 10-6 0.9 in a million	n/a		No	n/a
Chronic Hazard Index	Residential	0.07	n/a	n/a [e]	n/a	1.0	No	n/a
	Occupational	0.16	n/a	n/a	n/a		No	n/a
	Sensitive	0.12	n/a	n/a	n/a		No	n/a
Acute Hazard Index	Residential	0.07	n/a	n/a	n/a	1.0	No	n/a
	Occupational	0.20	n/a	n/a	n/a		No	n/a
	Sensitive	0.10	n/a	n/a	n/a		No	n/a
Population Cancer Burden		0.0	n/a	0.1	n/a	0.5	No	n/a

Notes:
[a]The CEQA Increment column represents the maximum difference of Alternative 5 minus the CEQA baseline.
[b]The Future CEQA Increment column represents the maximum difference of Alternative 5 minus the Future CEQA baseline.
[c]A CEQA Increment less than zero means that Alternative 5 health values would be less than the CEQA Baseline health values at all modeled receptors.
[d]Exceedances of the thresholds are indicated in **bold**. An impact is marked significant if either the CEQA Increment or Future CEQA Increment exceeds the threshold.
[e]The Future CEQA baseline and Future CEQA increment are applicable only to cancer risk because cancer risk has a uniquely long exposure period (30 years for residential and sensitive exposure, and 70 years for population cancer burden).
[f]Each positive result shown in the table for cancer risk, chronic hazard index, and acute hazard index represents the modeled receptor location with the maximum increment. The increments at all other receptors would be less than the values in the table.
[g] Mitigated health risks were not evaluated because unmitigated impacts would be less than significant.

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Table 3.2-91 shows that unmitigated Alternative 5 would produce the following health risk impacts under CEQA:

- Individual Cancer Risk

In relation to the CEQA baseline, the maximum incremental cancer risk is predicted to be less than the significance threshold at all receptors. Therefore, Alternative 5 would result in a less-than-significant cancer risk impact. Moreover, the negative values for the CEQA increment indicate that the cancer risk from Alternative 5 would be less than the cancer risk from the CEQA baseline at all modeled receptors, due in large part to the beneficial effect of existing air quality rules and regulations on future emissions.

In relation to the future CEQA baseline, the maximum incremental cancer risk is predicted to be less than the significance threshold at all receptors. Therefore, Alternative 5 would result in a less-than-significant cancer risk impact.

Figure 3.2-9 shows individual cancer risk contours of the future CEQA increment for unmitigated Alternative 5, assuming residential (30-year) exposure parameters. The f*uture* CEQA increment is shown in the figure instead of the CEQA increment because the former shows higher predicted risk. As shown in the figure, the maximum residential receptor for individual cancer risk is located outside the 10 in a million contour line, indicating a less than significant impact.

- Population Cancer Burden

In relation to the CEQA baseline, the cancer burden increment would be zero because the individual cancer risk associated with Alternative 5 would be less than the CEQA baseline at all modeled receptors. Therefore, Alternative 5 would result in a less-than-significant cancer burden impact.

In relation to the Future CEQA baseline, the cancer burden increment is predicted to be less than the significance threshold. Therefore, Alternative 5 would result in a less-than-significant cancer burden impact.

- Chronic and Acute Hazard Indices

Because chronic and acute hazard indices are based on annual and peak hour emissions instead of multiple-year emissions like cancer risk, they are determined by comparing impacts only to the CEQA baseline, which is the baseline at the time of the NOP.

The maximum chronic hazard index increment is predicted to be less than the significance threshold for all receptor types. Therefore, Alternative 5 would result in a less-than-significant chronic noncancer impact.

The maximum acute hazard index increment is predicted to be less than the significance threshold for all receptor types. Therefore, Alternative 5 would result in a less-than-significant acute noncancer impact.

Appendix B3 includes figures showing the locations of the maximally-impacted receptors under CEQA.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

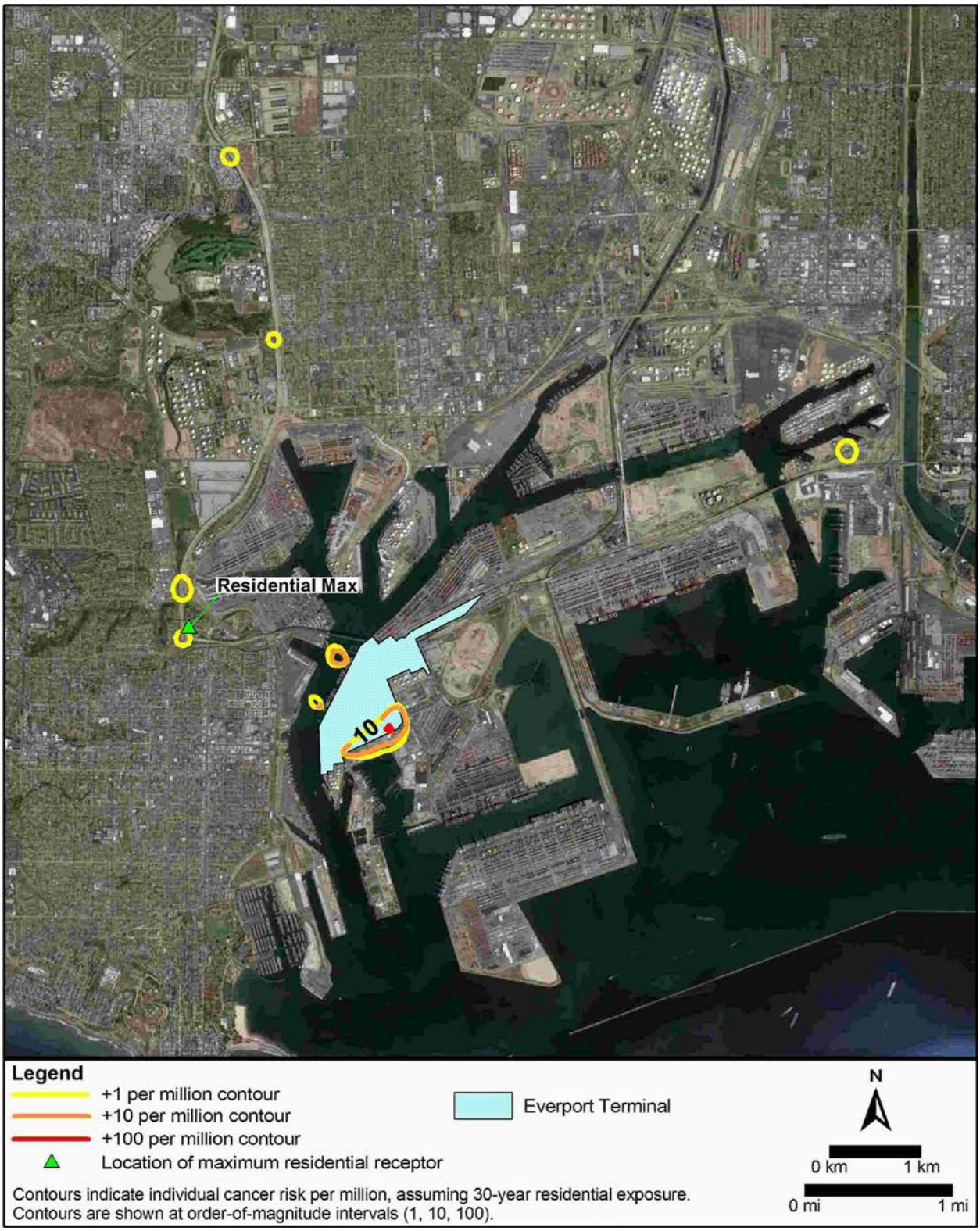

Figure 3.2-9: Isopleths of Residential Cancer Risk – Unmitigated Alternative 5 – Future CEQA Increment

NEPA Impact Determination

Table 3.2-92 presents the maximum predicted NEPA health impacts associated with Alternative 5 with and without mitigation. The table includes estimates of individual cancer risk, chronic noncancer hazard index, and acute noncancer hazard index at the maximally exposed residential, occupational, and sensitive receptors. Results are presented for Alternative 5 (before subtracting baseline), the NEPA baseline, and the NEPA increment (Alternative 5 minus NEPA baseline). The table also presents the NEPA increment for the population cancer burden. Significance findings are made by comparing the increments to the significance thresholds.

Table 3.2-92 shows that unmitigated Alternative 5 would produce the following health risk impacts under NEPA:

- Individual Cancer Risk

In relation to the NEPA baseline, the maximum incremental cancer risk is predicted to be greater than the significance threshold at the maximally impacted residential and sensitive receptors. Therefore, Alternative 5 would result in a significant cancer risk impact. The cancer risk impact would be less than significant at occupational, student, and recreational receptors.

Figure 3.2-10 shows individual cancer risk contours of the NEPA increment for unmitigated Alternative 5, assuming residential (30-year) exposure parameters. The location of the maximum residential receptor for cancer risk is also indicated in the figure.

- Population Cancer Burden

In relation to the NEPA baseline, the cancer burden increment is predicted to be greater than the significance threshold. Therefore, Alternative 5 would result in a significant cancer burden impact.

- Chronic and Acute Hazard Indices

The maximum chronic hazard index increment is predicted to be less than the significance threshold for all receptor types. Therefore, Alternative 5 would result in a less-than-significant chronic noncancer impact.

The maximum acute hazard index impact is predicted to be less than the significance threshold for all receptor types. Therefore, Alternative 5 would result in a less-than-significant acute noncancer impact.

Appendix B3 includes figures showing the locations of the maximally-impacted receptors under NEPA.

Table 3.2-92: Maximum NEPA Health Impacts Estimated for Construction and Operation of Alternative 5

Health Impact	Receptor Type	Unmitigated NEPA Increment[a]	Mitigated NEPA Increment[a]	Significance Threshold	Unmitigated Significant?[b]	Mitigated Significant?[b]
Cancer Risk	Residential	**16.3 × 10-6 16.3 in a million**	9.1 × 10-6 9.1 in a million	10×10^{-6} 10 in a million	**Yes**	No
	Occupational	5.0 × 10-6 5.0 in a million	4.3 × 10-6 4.3 in a million		No	No
	Sensitive	**12.0 × 10-6 12.0 in a million**	7.0 × 10-6 7.0 in a million		**Yes**	No
Chronic Hazard Index	Residential	0.05	0.05	1.0	No	No
	Occupational	0.13	0.10		No	No
	Sensitive	0.11	0.10		No	No
Acute Hazard Index	Residential	0.06	0.06	1.0	No	No
	Occupational	0.10	0.14		No	No
	Sensitive	0.10	0.09		No	No
Population Cancer Burden		**0.7**	0.3	0.5	**Yes**	No

Notes:
[a]The NEPA Increment column represents the maximum difference of Alternative 5 minus the NEPA baseline.
[b]Exceedances of the thresholds are indicated in **bold**.
[c]Each positive result shown in the table for cancer risk, chronic hazard index, and acute hazard index represents the modeled receptor location with the maximum increment. The increments at all other receptors would be less than the values in the table.

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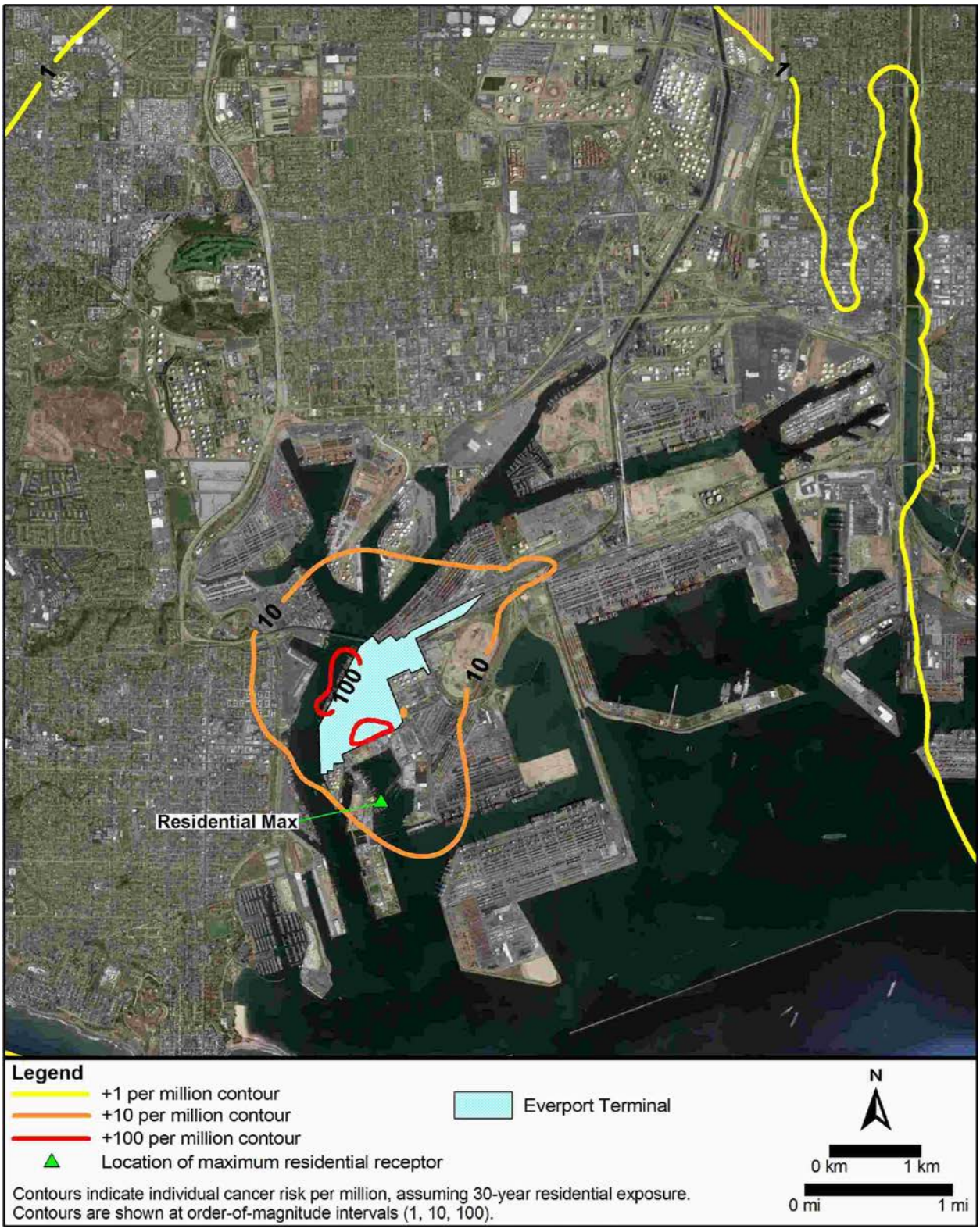

Figure 3.2-10: Isopleths of Residential Cancer Risk – Unmitigated Alternative 5 – NEPA Increment

Mitigation Measures

To reduce health risks associated with Alternative 5, MM AQ-1 through MM AQ-5 would be applied during construction, and MM AQ-6 and MM AQ-7 would be applied during operation. These mitigation measures would be implemented by the responsible parties identified in Section 3.2.4.7. LM AQ-1 and LM AQ-2 are lease measures that may reduce future emissions; however, this lease measure was not quantified in the analysis because the future technologies that may be implemented through these measures have not yet been identified.

Table 3.2-92 presents the maximum predicted NEPA health impacts associated with Alternative 5 with mitigation.

Residual Impacts

Table 3.2-92 shows that, with mitigation, the maximum incremental cancer risk at residential and sensitive receptors would be reduced to a less-than-significant impact. The population cancer burden would also be reduced to a less-than-significant impact. All other health risk values would remain less than significant.

Figure 3.2-11 shows individual cancer risk contours of the NEPA increment for mitigated Alternative 5, assuming residential (30-year) exposure parameters. As shown in the figure, the maximum residential receptor for individual cancer risk is located outside the 10 in a million contour line, indicating a less than significant impact.

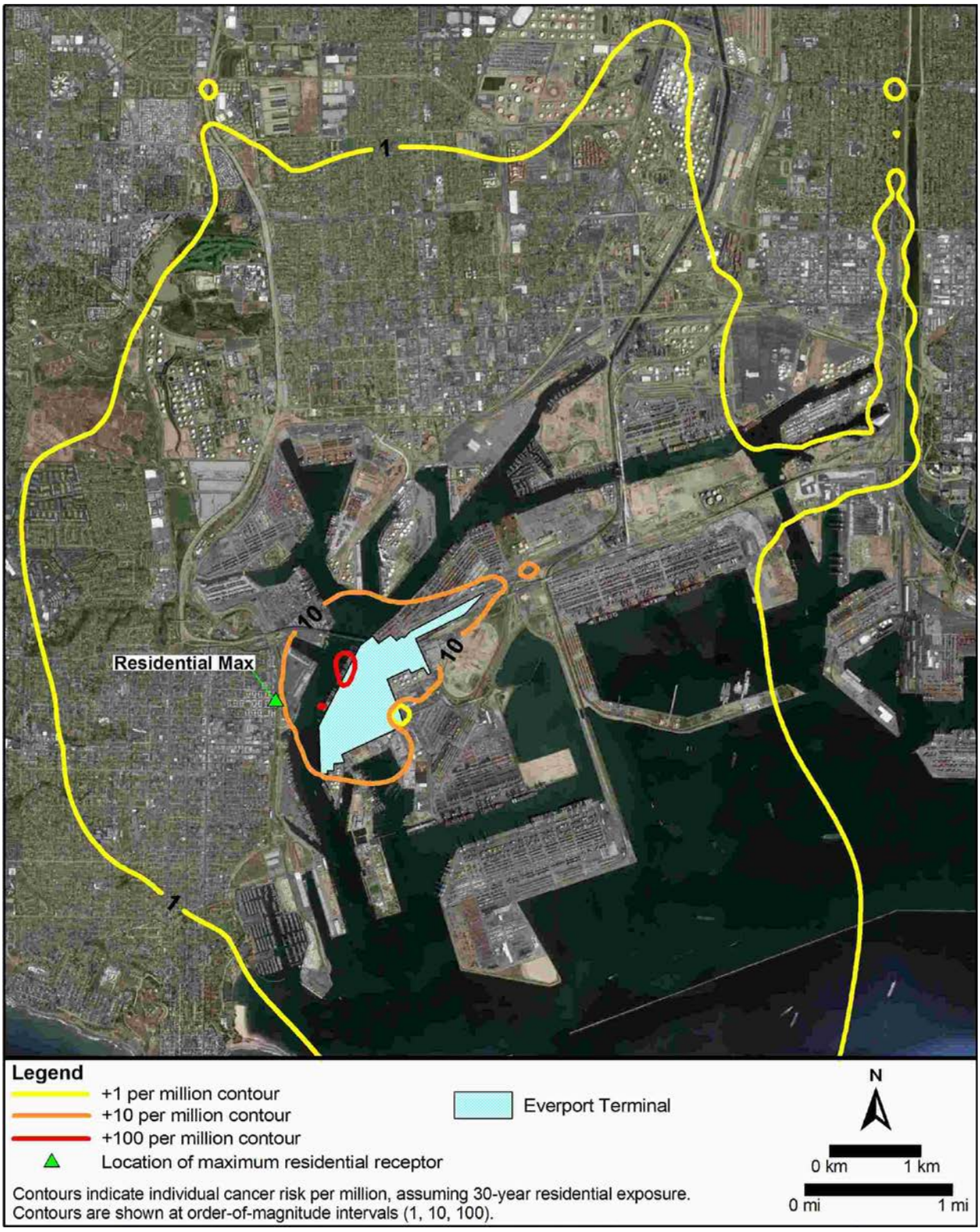

Figure 3.2-11: Isopleths of Residential Cancer Risk – Mitigated Alternative 5 – NEPA Increment

Additional Analysis for Informational Purposes—Particulates: Morbidity and Mortality

Impact AQ-4 indicates that operation of Alternative 5 would result in a maximum off-site 24-hour $PM_{2.5}$ concentration increment that would exceed the SCAQMD significance threshold of 2.5 µg/m^3 (see Table 3.2-88). However, because the operational $PM_{2.5}$ concentrations would be less than significant for all areas where resident populations are greater than zero, it would not exceed LAHD's criterion for calculating morbidity and mortality attributable to PM, potential mortality and morbidity effects were not quantified for Alternative 5. Isopleths (concentration curves) showing areas where $PM_{2.5}$ concentrations would exceed the SCAQMD significance threshold of 2.5 ug/m3 are presented in Appendix B2.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

Impact AQ-8: Alternative 5 would not conflict with or obstruct implementation of an applicable AQMP.

This alternative would comply with SCAQMD rules and regulations and would be consistent with SCAG regional employment and population growth forecasts. Thus, this alternative would not conflict with or obstruct implementation of the AQMP.

CEQA Impact Determination

Alternative 5 would not conflict with or obstruct implementation of the AQMP; therefore, impacts under CEQA are not anticipated.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

NEPA Impact Determination

Alternative 5 would not conflict with or obstruct implementation of the AQMP; therefore, impacts under NEPA are not anticipated.

Mitigation Measures

No mitigation is required.

Residual Impacts

Impacts would be less than significant.

3.2.4.6 Summary of Impact Determinations

Table 3.2-93 summarizes the CEQA and NEPA impact determinations of the proposed Project and alternatives related to Air Quality and Meteorology. This table is meant to allow easy comparison of the potential impacts of the proposed Project and alternatives with respect to this resource. Identified potential impacts may be based on Federal, State, or City of Los Angeles significance criteria, LAHD criteria, and the scientific judgment of the report preparers.

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

Table 3.2-93: Summary Matrix of Potential Impacts and Mitigation Measures for Air Quality Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Mitigation Measures	Residual Impacts after Mitigation
Proposed Project	**AQ-1:** The proposed Project would result in construction-related emissions that exceed an SCAQMD threshold of significance in Table 3.2-6.	CEQA: Construction would be significant for NO_X in 2018 and 2019 and for VOC in 2019. Overlapping construction and operations would be significant for NO_X in 2019.	CEQA: **MM AQ-1: Harbor Craft Used During Construction.** **MM AQ-2: On-Road Trucks Used during Construction.** **MM AQ-3: Non-Road Construction Equipment.** **MM AQ-4: Cargo Ships Used During Construction.** **MM AQ-5: General Construction Mitigation Measure.**	CEQA: Construction would be significant and unavoidable for NO_X in 2018 and 2019 and VOC in 2019. Overlapping construction and operations would be significant and unavoidable for NO_X in 2019.
		NEPA: Construction would be significant for NO_X in 2018 and 2019 and for VOC in 2019. Overlapping construction and operations would be significant for $PM_{2.5}$, NO_X, and VOC in 2019.	NEPA: **MM AQ-1 through : MM AQ-5**	NEPA: Construction would be significant and unavoidable for NO_X in 2018 and 2019 and VOC in 2019. Overlapping construction and operations would be significant and unavoidable for NO_X and VOC in 2019.
	AQ-2: Proposed Project construction would result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.2-7.	CEQA: Maximum off-site ambient air pollutant concentrations would be significant for NO_2 (federal 1-hour average). Overlapping construction and operations would be significant for NO_2 (federal 1-hour average) and PM_{10} (24-hour and annual average).	CEQA: **MM AQ-1 through MM AQ-5**	CEQA: Maximum off-site ambient air pollutant concentrations would be significant and unavoidable for NO_2 (federal 1-hour average). Overlapping construction and operations would be significant and unavoidable for NO_2 (federal 1-hour average) and PM_{10} (24-hour and annual average).
		NEPA: Maximum off-site ambient air pollutant concentrations would be significant for NO_2 (federal 1-	NEPA: **MM AQ-1 through MM AQ-5**	NEPA: Maximum off-site ambient air pollutant concentrations would be

Table 3.2-93: Summary Matrix of Potential Impacts and Mitigation Measures for Air Quality Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Mitigation Measures	Residual Impacts after Mitigation
		hour average). Overlapping construction and operations would be significant for NO_2 (federal 1-hour average).		significant and unavoidable for NO_2 (federal 1-hour average). Overlapping construction and operations would be significant and unavoidable for NO_2 (federal 1-hour average).
	AQ-3: The proposed Project would result in operational emissions that exceed an SCAQMD threshold of significance in Table 3.2-8.	CEQA: Operations would be significant for NO_X in 2019, 2033, and 2038 and CO and VOC in 2033 and 2038.	CEQA: **MM AQ-6: Vessel Speed Reduction Program (VSRP).** **MM AQ-7: Alternative Maritime Power (AMP).** **LM AQ-1: Replacement of Equipment and Review of New Technology.** **LM AQ-2: Priority Access System.**	CEQA: Operations would be significant and unavoidable for CO and VOC in 2033 and 2038.
		NEPA: Operations would be significant for NO_X in 2019, 2026, 2033, and 2038; VOC in 2026, 2033, and 2038; and CO and $PM_{2.5}$ in 2033 and 2038.	NEPA: **MM AQ-6, MM AQ-7, LM AQ-1, and LM AQ-2**	NEPA: Operations would be significant and unavoidable for NO_X in 2026, 2033, 2038 and CO and VOC in 2033 and 2038.
	AQ-4: Proposed project operations would result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.2-9.	CEQA: Operations would be significant for NO_2 (federal 1-hour average), PM_{10} (24-hour and annual averages), and $PM_{2.5}$ (24-hour average).	CEQA: **MM AQ-6 and MM AQ-7**	CEQA: Operations would be significant and unavoidable for NO_2 (federal 1-hour average), PM_{10} (24-hour and annual averages), and $PM_{2.5}$ (24-hour average).
		NEPA: Operations would be significant for PM_{10} (24-hour and annual averages).	NEPA: **MM AQ-6 and MM AQ-7**	NEPA: Operations would be significant and unavoidable for PM_{10} (24-hour and annual averages).

Table 3.2-93: Summary Matrix of Potential Impacts and Mitigation Measures for Air Quality Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Mitigation Measures	Residual Impacts after Mitigation
	AQ-5: The proposed Project would not generate on-road traffic that would contribute to an exceedance of the 1-hour or 8-hour CO standards.	CEQA: Less than significant	CEQA: No mitigation is required	CEQA: Less than significant
		NEPA: Less than significant	NEPA: No mitigation is required	NEPA: Less than significant
	AQ-6: The proposed Project would not create an objectionable odor at the nearest sensitive receptor.	CEQA: Less than significant	CEQA: No mitigation is required	CEQA: Less than significant
		NEPA: Less than significant	NEPA: No mitigation is required	NEPA: Less than significant
	AQ-7: The proposed Project would expose receptors to significant levels of TACs.	CEQA: Less than significant	CEQA: No mitigation is required	CEQA: Less than significant
		NEPA: Construction and operation would be significant for individual cancer risk and population cancer burden.	NEPA: **MM AQ-1 through MM AQ-7, LM AQ-1, and LM AQ-2**	NEPA: Less than significant
	AQ-8: The proposed Project would not conflict with or obstruct implementation of an applicable AQMP.	CEQA: Less than significant	CEQA: No mitigation is required	CEQA: Less than significant.
		NEPA: Less than significant	NEPA: No mitigation is required	NEPA: Less than significant
Alternative 1 – No Federal Action	**AQ-1:** Alternative 1 would not result in construction-related emissions that exceed an SCAQMD threshold of significance in Table 3.2-6.	CEQA: Construction would be significant for NO_X in 2018. Overlapping construction and operations would be significant for NO_X in 2018 and 2019.	CEQA: **MM AQ-1 through MM AQ-5**	CEQA: Less than significant.
		NEPA: No impact	NEPA: Mitigation is not applicable	NEPA: No impact
	AQ-2: Alternative 1 construction would result	CEQA: Construction would be significant for construction NO_2	CEQA: **MM AQ-1 through MM AQ-5**	CEQA: Construction would be significant and unavoidable for

Table 3.2-93: Summary Matrix of Potential Impacts and Mitigation Measures for Air Quality Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Mitigation Measures	Residual Impacts after Mitigation
	in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.2-7.	(federal 1-hour average). Overlapping construction and operations would be significant for PM_{10} (annual average).		construction NO_2 (federal 1-hour average). Overlapping construction and operations would be significant and unavoidable for PM_{10} (annual average).
		NEPA: No impact.	NEPA: Mitigation is not applicable	NEPA: No impact.
	AQ-3: Alternative 1 would result in operational emissions that exceed an SCAQMD threshold of significance in Table 3.2-8.	CEQA: Operations would be significant for NO_X in 2019, 2033, and 2038 and CO and VOC in 2033 and 2038.	CEQA: **MM AQ-6 and MM AQ-7**	CEQA: Operations would be significant and unavoidable for CO and VOC in 2033 and 2038.
		NEPA: No impact	NEPA: Mitigation is not applicable	NEPA: No impact.
	AQ-4: Alternative 1 operations would result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.2-9.	CEQA: Operations would be significant for NO_2 (federal 1-hour average), PM_{10} (24-hour and annual averages), and $PM_{2.5}$ (24-hour average).	CEQA: **MM AQ-6 and MM AQ-7**	CEQA: Operations would be significant and unavoidable for NO_2 (federal 1-hour average), PM_{10} (24-hour and annual averages), and $PM_{2.5}$ (24-hour average).
		NEPA: No impact	NEPA: Mitigation is not applicable	NEPA: No impact
	AQ-5: Alternative 1 would not generate on-road traffic that would contribute to an exceedance of the 1-hour or 8-hour CO standards.	CEQA: Less than significant	CEQA: No mitigation is required	CEQA: Less than significant
		NEPA: No impact	NEPA: Mitigation is not applicable	NEPA: No impact
	AQ-6: Alternative 1 would not create an objectionable odor at the nearest sensitive receptor.	CEQA: Less than significant	CEQA: No mitigation is required	CEQA: Less than significant
		NEPA: No impact	NEPA: Mitigation is not applicable	NEPA: No impact
	AQ-7: Alternative 1 would	CEQA: Less than significant	CEQA: No mitigation is	CEQA: Less than significant

Table 3.2-93: Summary Matrix of Potential Impacts and Mitigation Measures for Air Quality Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Mitigation Measures	Residual Impacts after Mitigation
	not expose receptors to significant levels of TACs.		required	
		NEPA: No impact	NEPA: Mitigation is not applicable	NEPA: No impact
	AQ-8: Alternative 1 would not conflict with or obstruct implementation of an applicable AQMP.	CEQA: Less than significant	CEQA: No mitigation is required	CEQA: Less than significant
		NEPA: Less than significant	NEPA: Mitigation is not applicable	NEPA: Less than significant
Alternative 2 – No Project	**AQ-1:** Alternative 2 would not result in construction-related emissions that exceed an SCAQMD threshold of significance in Table 3.2-6.	CEQA: No impact	CEQA: No mitigation is required	CEQA: No impact
		NEPA: Not applicable	NEPA: Mitigation is not applicable	NEPA: Not applicable
	AQ-2: Alternative 2 construction would not result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.2-7.	CEQA: No impact	CEQA: No mitigation is required	CEQA: No impact
		NEPA: Not applicable	NEPA: Mitigation is not applicable	NEPA: Not applicable
	AQ-3: Alternative 2 would result in operational emissions that exceed an SCAQMD threshold of significance in Table 3.2-8.	CEQA: Operations would be significant for NO_X in 2019, 2033, and 2038 and CO and VOC in 2033 and 2038.	CEQA: Mitigation is not applicable	CEQA: Operations would be significant and unavoidable for NO_X in 2019, 2033, and 2038 and CO and VOC in 2033 and 2038.
		NEPA: Not applicable	NEPA: Mitigation is not applicable	NEPA: Not applicable
	AQ-4: Alternative 2 operations would result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in	CEQA: Operations would be significant for PM_{10} (24-hour and annual averages).	CEQA: Mitigation is not applicable	CEQA: Operations would be significant and unavoidable for PM_{10} (24-hour and annual averages).
		NEPA: Not applicable	NEPA: Mitigation is not applicable	NEPA: Not applicable

Table 3.2-93: Summary Matrix of Potential Impacts and Mitigation Measures for Air Quality Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Mitigation Measures	Residual Impacts after Mitigation
	Table 3.2-9.			
	AQ-5: Alternative 2 would not generate on-road traffic that would contribute to an exceedance of the 1-hour or 8-hour CO standards.	CEQA: Less than significant	CEQA: No mitigation is required	CEQA: Less than significant
		NEPA: Not applicable	NEPA: Mitigation is not applicable	NEPA: Not applicable
	AQ-6: Alternative 2 would not create an objectionable odor at the nearest sensitive receptor.	CEQA: Less than significant	CEQA: No mitigation is required	CEQA: Less than significant
		NEPA: Not applicable	NEPA: Mitigation is not applicable	NEPA: Not applicable
	AQ-7: Alternative 2 would not expose receptors to significant levels of TACs.	CEQA: Less than significant	CEQA: Mitigation is not applicable	CEQA: Less than significant
		NEPA: Not applicable	NEPA: Mitigation is not applicable	NEPA: Not applicable
	AQ-8: Alternative 2 would not conflict with or obstruct implementation of an applicable AQMP.	CEQA: Less than significant	CEQA: No mitigation is required	CEQA: Less than significant
		NEPA: Not applicable	NEPA: Mitigation is not applicable	NEPA: Not applicable
Alternative 3 – Reduced Project: Reduced Wharf Improvements	**AQ-1:** Alternative 3 would result in construction-related emissions that exceed an SCAQMD threshold of significance in Table 3.2-6.	CEQA: Construction would be significant for NO_X in 2018 and 2019 and for VOC in 2019. Overlapping construction and operations would be significant for NO_X in 2019.	CEQA: **MM AQ-1 through MM AQ-5**	CEQA: Construction would be significant and unavoidable for NO_X in 2018 and 2019 and VOC in 2019. Overlapping construction and operations would be significant and unavoidable for NO_X in 2019.
		NEPA: Construction would be significant for NO_X in 2018 and 2019 and for VOC in 2019. Overlapping construction and operations would be significant for NO_X and VOC in 2019.	NEPA: **MM AQ-1 through MM AQ-5**	NEPA: Construction would be significant and unavoidable for NO_X in 2018 and 2019 and VOC in 2019. Overlapping construction and operations would be significant and unavoidable for NO_X and VOC

Table 3.2-93: Summary Matrix of Potential Impacts and Mitigation Measures for Air Quality Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Mitigation Measures	Residual Impacts after Mitigation
				in 2019.
	AQ-2: Alternative 3 construction would result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.2-7.	CEQA: Maximum off-site ambient air pollutant concentrations would be significant for NO_2 (federal 1-hour average). Overlapping construction and operations would be significant for PM_{10} (24-hour and annual average).	CEQA: **MM AQ-1 through MM AQ-5**	CEQA: Maximum off-site ambient air pollutant concentrations would be significant and unavoidable for NO_2 (federal 1-hour average). Overlapping construction and operations would be significant and unavoidable for PM_{10} (24-hour and annual average).
		NEPA: Maximum off-site ambient air pollutant concentrations would be significant for NO_2 (federal 1-hour average). Overlapping construction and operations would be significant for NO_2 (federal 1-hour average).	NEPA: **MM AQ-1 through MM AQ-5**	NEPA: Maximum off-site ambient air pollutant concentrations would be significant and unavoidable for NO_2 (federal 1-hour average). Overlapping construction and operations would be significant and unavoidable for NO_2 (federal 1-hour average).
	AQ-3: Alternative 3 would result in operational emissions that exceed an SCAQMD threshold of significance in Table 3.2-8.	CEQA: Operations would be significant for NO_X, CO and VOC in 2033 and 2038.	CEQA: **MM AQ-6, MM AQ-7, LM AQ-1, and LM AQ-2**	CEQA: Operations would be significant and unavoidable for CO and VOC in 2033 and 2038.
		NEPA: Operations would be significant for NO_X in 2019, 2026, 2033, and 2038; $PM_{2.5}$, CO, and VOC in 2033 and 2038.	NEPA: **MM AQ-6, MM AQ-7, LM AQ-1, and LM AQ-2**	NEPA: Operations would be significant and unavoidable for NO_X in 2026, 2033, and 2038 and CO in 2033 and 2038.
	AQ-4: Alternative 3 operations would result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in	CEQA: Operations would be significant for NO_2 (federal 1-hour average), PM_{10} (24-hour and annual averages), and $PM_{2.5}$ (24-hour average).	CEQA: **MM AQ-6 and MM AQ-7**	CEQA: Operations would be significant and unavoidable for NO_2 (federal 1-hour average), PM_{10} (24-hour and annual averages), and $PM_{2.5}$ (24-hour average).

Table 3.2-93: Summary Matrix of Potential Impacts and Mitigation Measures for Air Quality Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Mitigation Measures	Residual Impacts after Mitigation
	Table 3.2-9.	NEPA: Operations would be significant for PM_{10} (24-hour and annual averages).	NEPA: **MM AQ-6 and MM AQ-7**	NEPA: Operations would be significant and unavoidable for PM_{10} (24-hour and annual averages).
	AQ-5: Alternative 3 would not generate on-road traffic that would contribute to an exceedance of the 1-hour or 8-hour CO standards.	CEQA: Less than significant	CEQA: No mitigation is required	CEQA: Less than significant
		NEPA: Less than significant	CEQA: No mitigation is required	NEPA: Less than significant
	AQ-6: Alternative 3 would not create an objectionable odor at the nearest sensitive receptor.	CEQA: Less than significant	CEQA: No mitigation is required	CEQA: Less than significant
		NEPA: Less than significant	NEPA: No mitigation is required	NEPA: Less than significant
	AQ-7: Alternative 3 would expose receptors to significant levels of TACs.	CEQA: Less than significant	CEQA: No mitigation is required	CEQA: Less than significant
		NEPA: Construction and operation would be significant for individual cancer risk.	NEPA: **MM AQ-1 through MM AQ-7, LM AQ-1, and LM AQ-2**	NEPA: Less than significant
	AQ-8: Alternative 3 would not conflict with or obstruct implementation of an applicable AQMP.	CEQA: Less than significant	CEQA: No mitigation is required	CEQA: Less than significant.
		NEPA: Less than significant	NEPA: No mitigation is required	NEPA: Less than significant
Alternative 4 – Reduced Project: No Backland Improvements	**AQ-1:** Alternative 4 would result in construction-related emissions that exceed an SCAQMD threshold of significance in Table 3.2-6.	CEQA: Construction would be significant for NO_X in 2018 and 2019 and for VOC in 2019. Overlapping construction and operations would be significant for NO_X in 2019.	CEQA: **MM AQ-1 through MM AQ-5**	CEQA: Construction would be significant and unavoidable for NO_X in 2018 and 2019 and VOC in 2019. Overlapping construction and operations would be significant and unavoidable for NO_X in 2019.

Table 3.2-93: Summary Matrix of Potential Impacts and Mitigation Measures for Air Quality Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Mitigation Measures	Residual Impacts after Mitigation
		NEPA: Construction would be significant for NO_X in 2018 and 2019 and for VOC in 2019. Overlapping construction and operations would be significant for NO_X and VOC in 2019.	NEPA: **MM AQ-1 through MM AQ-5**	NEPA: Construction would be significant and unavoidable for NO_X in 2018 and 2019 and VOC in 2019. Overlapping construction and operations would be significant and unavoidable for NO_X in 2019.
	AQ-2: Alternative 4 construction would result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.2-7.	CEQA: Maximum off-site ambient air pollutant concentrations would be significant for NO_2 (federal 1-hour average). Overlapping construction and operations would be significant for PM_{10} (annual average).	CEQA: **MM AQ-1 through MM AQ-5**	CEQA: Maximum off-site ambient air pollutant concentrations would be significant and unavoidable for NO_2 (federal 1-hour average). Overlapping construction and operations would be significant and unavoidable for PM_{10} (annual average).
		NEPA: Maximum off-site ambient air pollutant concentrations would be significant for NO_2 (federal 1-hour average). Overlapping construction and operations would be significant for NO_2 (federal 1-hour average).	NEPA: **MM AQ-1 through MM AQ-5**	NEPA: Maximum off-site ambient air pollutant concentrations would be significant and unavoidable for NO_2 (federal 1-hour average). Overlapping construction and operations would be significant and unavoidable for NO_2 (federal 1-hour average).
	AQ-3: Alternative 4 would result in operational emissions that exceed an SCAQMD threshold of significance in Table 3.2-8.	CEQA: Operations would be significant for NO_X and CO in 2033 and 2038.	CEQA: **MM AQ-6, MM AQ-7, LM AQ-1, and LM AQ-2**	CEQA: Operations would be significant and unavoidable for CO in 2033 and 2038.
		NEPA: Operations would be significant for NO_X in 2019, 2026, 2033, and 2038.	NEPA: **MM AQ-6, MM AQ-7, LM AQ-1, and LM AQ-2**	NEPA: Operations would be significant and unavoidable for NO_X in 2026, 2033, and 2038.
	AQ-4: Alternative 4 operations would result in off-site ambient air	CEQA: Operations would be significant for PM_{10} (24-hour and annual averages).	CEQA: **MM AQ-6 and MM AQ-7**	CEQA: Operations would be significant and unavoidable for PM_{10} (24-hour and annual

Table 3.2-93: Summary Matrix of Potential Impacts and Mitigation Measures for Air Quality Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Mitigation Measures	Residual Impacts after Mitigation
	pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.2-9.			averages).
		NEPA: Operations would be significant for NO_2 (federal 1-hour and state annual average) and PM_{10} (24-hour and annual averages).	NEPA: **MM AQ-6 and MM AQ-7**	NEPA: Operations would be significant and unavoidable for NO_2 (federal 1-hour and state annual average) and PM_{10} (24-hour and annual averages).
	AQ-5: Alternative 4 would not generate on-road traffic that would contribute to an exceedance of the 1-hour or 8-hour CO standards.	CEQA: Less than significant	CEQA: No mitigation is required	CEQA: Less than significant
		NEPA: Less than significant	NEPA: No mitigation is required	NEPA: Less than significant
	AQ-6: Alternative 4 would not create an objectionable odor at the nearest sensitive receptor.	CEQA: Less than significant	CEQA: No mitigation is required	CEQA: Less than significant
		NEPA: Less than significant	NEPA: No mitigation is required	NEPA: Less than significant
	AQ-7: Alternative 4 would not expose receptors to significant levels of TACs.	CEQA: Less than significant	CEQA: No mitigation is required	CEQA: Less than significant
		NEPA: Less than significant	NEPA: No mitigation is required	NEPA: Less than significant
	AQ-8: Alternative 4 would not conflict with or obstruct implementation of an applicable AQMP.	CEQA: Less than significant	CEQA: No mitigation is required	CEQA: Less than significant.
		NEPA: Less than significant	NEPA: No mitigation is required	NEPA: Less than significant
Alternative 5 – Expanded On-Dock Railyard:	**AQ-1:** Alternative 5 would result in construction-related emissions that exceed an SCAQMD	CEQA: Construction would be significant for NO_X in 2018 and 2019 and for VOC in 2019. Overlapping construction and	CEQA: **MM AQ-1 through MM AQ-5**	CEQA: Construction would be significant and unavoidable for NO_X in 2018 and 2019 and VOC in 2019. Overlapping

Table 3.2-93: Summary Matrix of Potential Impacts and Mitigation Measures for Air Quality Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Mitigation Measures	Residual Impacts after Mitigation
Wharf and Backland Improvements with an Expanded TICTF	threshold of significance in Table 3.2-6.	operations would be significant for NO_X in 2019.		construction and operations would be significant and unavoidable for NO_X in 2019.
		NEPA: Construction would be significant for NO_X in 2018 and 2019 and for VOC in 2019. Overlapping construction and operations would be significant for $PM_{2.5}$, NO_X, and VOC in 2019.	NEPA: **MM AQ-1 through MM AQ-5**	NEPA: Construction would be significant and unavoidable for NO_X in 2018 and 2019 and VOC in 2019. Overlapping construction and operations would be significant and unavoidable for NO_X and VOC in 2019.
	AQ-2: Alternative 5 construction would result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.2-7.	CEQA: Maximum off-site ambient air pollutant concentrations would be significant for NO_2 (federal and state 1-hour average). Overlapping construction and operations would be significant for PM_{10} (24-hour and annual average).	CEQA: **MM AQ-1 through MM AQ-5**	CEQA: Maximum off-site ambient air pollutant concentrations would be significant and unavoidable for NO_2 (federal 1-hour average). Overlapping construction and operations would be significant and unavoidable for PM_{10} (24-hour and annual average).
		NEPA: Maximum off-site ambient air pollutant concentrations would be significant for NO_2 (federal 1-hour average). Overlapping construction and operations would be significant for NO_2 (federal 1-hour average).	NEPA: **MM AQ-1 through MM AQ-5**	NEPA: Maximum off-site ambient air pollutant concentrations would be significant and unavoidable for NO_2 (federal 1-hour average). Overlapping construction and operations would be significant and unavoidable for NO_2 (federal 1-hour average).
	AQ-3: Alternative 5 would result in operational emissions that exceed an SCAQMD threshold of	CEQA: Operations would be significant for NO_X in 2019, 2033, and 2038 and CO and VOC in 2033 and 2038.	**CEQA: MM AQ-6, MM AQ-7, LM AQ-1, and LM AQ-2**	CEQA: Operations would be significant and unavoidable for CO and VOC in 2033 and 2038.

Table 3.2-93: Summary Matrix of Potential Impacts and Mitigation Measures for Air Quality Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Mitigation Measures	Residual Impacts after Mitigation
	significance in Table 3.2-8.	NEPA: Operations would be significant for NO_X in 2019, 2026, 2033, and 2038; VOC in 2026, 2033, and 2038; and $PM_{2.5}$ and CO in 2033 and 2038.	NEPA: **MM AQ-6, MM AQ-7, LM AQ-1, and LM AQ-2**	NEPA: Operations would be significant and unavoidable for NO_X in 2026, 2033, 2038 and CO and VOC in 2033 and 2038.
	AQ-4: Alternative 5 operations would result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.2-9.	CEQA: Operations would be significant for NO_2 (federal 1-hour average), PM_{10} (24-hour and annual averages), and $PM_{2.5}$ (24-hour average).	CEQA: **MM AQ-6 and MM AQ-7**	CEQA: Operations would be significant and unavoidable for NO_2 (federal 1-hour average), PM_{10} (24-hour and annual averages), and $PM_{2.5}$ (24-hour average).
		NEPA: Operations would be significant for PM_{10} (24-hour and annual averages).	NEPA: **MM AQ-6 and MM AQ-7**	NEPA: Operations would be significant and unavoidable for PM_{10} (24-hour and annual averages).
	AQ-5: Alternative 5 would not generate on-road traffic that would contribute to an exceedance of the 1-hour or 8-hour CO standards.	CEQA: Less than significant	CEQA: No mitigation is required	CEQA: Less than significant
		NEPA: Less than significant	NEPA: No mitigation is required	NEPA: Less than significant
	AQ-6: Alternative 5 would not create an objectionable odor at the nearest sensitive receptor.	CEQA: Less than significant	CEQA: No mitigation is required	CEQA: Less than significant
		NEPA: Less than significant	NEPA: No mitigation is required	NEPA: Less than significant
	AQ-7: Alternative 5 would expose receptors to significant levels of TACs.	CEQA: Less than significant	CEQA: No mitigation is required	CEQA: Less than significant
		NEPA: Construction and operation would be significant for individual cancer risk and	NEPA: **MM AQ-1 through MM AQ-7, LM AQ-1, and LM AQ-2**	NEPA: Less than significant

Table 3.2-93: Summary Matrix of Potential Impacts and Mitigation Measures for Air Quality Associated with the Proposed Project and Alternatives

Alternative	Environmental Impacts	Impact Determination	Mitigation Measures	Residual Impacts after Mitigation
		population cancer burden.		
	AQ-8: Alternative 5 would not conflict with or obstruct implementation of an applicable AQMP.	CEQA: Less than significant	CEQA: No mitigation is required	CEQA: Less than significant.
		NEPA: Less than significant	NEPA: No mitigation is required	NEPA: Less than significant

3.2.4.7 Mitigation Monitoring

The mitigation monitoring program below is applicable to the proposed Project under CEQA and NEPA and other alternatives as noted below.

Impact AQ-1: The proposed Project would result in construction-related emissions that exceed an SCAQMD threshold of significance in Table 3.2-6. (*Also applies to Impact AQ-1 for Alternatives 1 and 3 through 5)* **Impact AQ-2:** Proposed project construction would result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.2-7. (*Also applies to Impact AQ-2 for Alternatives 1 and 3 through 5)* **Impact AQ-7:** The proposed Project would expose receptors to significant levels of TACs. *(Also applies to Impact AQ-7 for Alternatives 3 and 5)*	
Mitigation Measure	**MM AQ-1. Harbor Craft Used during Construction.** Harbor craft used during construction must be equipped with U.S. Environmental Protection Agency (EPA) Tier 3 engine standards or cleaner at all times during construction.
Timing	During specified construction phases.
Methodology	LAHD will include MM AQ-1 in the contract specifications for construction. LAHD will monitor implementation of mitigation measures during construction.
Responsible Parties	LAHD.
Residual Impacts	Significant and unavoidable
Mitigation Measure	**MM AQ-2. On-Road Trucks Used during Construction.** On-road trucks shall comply with EPA 2010 on-road emission standards or better, unless contractor can reasonably demonstrate that such equipment is unavailable to the satisfaction of LAHD.
Timing	During specified construction phases.
Methodology	LAHD will include MM AQ-2 in the contract specifications for construction. LAHD will monitor implementation of mitigation measures during construction.
Responsible Parties	LAHD.
Residual Impacts	Significant and unavoidable
Mitigation Measure	**MM AQ-3. Non-Road Construction Equipment** (except vessels, harbor craft, on-road trucks, and dredging equipment). All non-road construction equipment greater than 50 hp must meet EPA Tier 4 emission standards, unless contractor can reasonably demonstrate that such equipment is unavailable to the satisfaction of LAHD.
Timing	During specified construction phases.
Methodology	LAHD will include MM AQ-3 in the contract specifications for construction. LAHD will monitor implementation of mitigation measures during construction.
Responsible Parties	LAHD.
Residual Impacts	Significant and unavoidable

Mitigation Measure	**MM AQ-4. Cargo Ships Used During Construction.** All ships and barges used primarily to deliver construction-related materials or cranes shall comply with the expanded Vessel Speed Reduction Program (VSRP) of 12 knots between 40 nautical miles (nm) from Point Fermin and the Precautionary Area.
Timing	During specified construction phases or crane deliveries.
Methodology	LAHD will include MM AQ-4 in the contract specifications for construction. LAHD will monitor implementation of mitigation measures during construction. For crane deliveries, LAHD will include this mitigation measure in lease agreements with tenants.
Responsible Parties	Everport, LAHD.
Residual Impacts	Significant and unavoidable
Mitigation Measure	**MM AQ-5. General Construction Mitigation Measure.** For MM AQ-1 through MM AQ-4, if a CARB-certified technology becomes available that is as good as or better than the existing measure in terms of emissions performance, the technology could replace the existing technology if approved by LAHD.
Timing	During specified construction phases.
Methodology	LAHD will include MM AQ-5 in the contract specifications for construction. LAHD will monitor implementation of mitigation measures during construction.
Responsible Parties	LAHD
Residual Impacts	Significant and unavoidable
Impact AQ-3: The proposed Project would result in operational emissions that exceed an SCAQMD threshold of significance in Table 3.2-8. (*Also applies to Impact AQ-3 for Alternatives 1 and 3 through 5)* **Impact AQ-7:** The proposed Project would expose receptors to significant levels of TACs. (*Also applies to Impact AQ-7 for Alternatives 3 and 5)*	
Mitigation Measure	**MM AQ-6. Vessel Speed Reduction Program (VSRP).** Starting January 1, 2019 and thereafter, 95 percent of Evergreen ships calling at the Everport Container Terminal shall be required to comply with the expanded VSRP at 12 knots between 40 nm from Point Fermin and the Precautionary Area. Starting January 1, 2026, 95 percent of all ships calling at the Everport Container Terminal will follow this requirement. Alternative Compliance Plans will be considered where a different speed that would result in fewer emissions compared to the current speed limits. Any alternative compliance plan shall be submitted to LAHD at least 90 days in advance for approval and shall be supported by data that demonstrates the ability of the alternative compliance plan for the specific vessel and type to achieve emissions reductions comparable to or greater than those achievable by compliance with VSRP. The alternative compliance plan shall be implemented once written notice of approval is granted by the LAHD.
Timing	During operation.
Methodology	LAHD will include this mitigation measure in lease agreements with tenants.
Responsible Parties	Everport, LAHD.
Residual Impacts	Significant and unavoidable.

Mitigation Measure	**MM AQ-7. Alternative Maritime Power (AMP).** By 2020 or upon substantial completion of construction, 85 percent of Evergreen ships calling at the Everport Terminal must use AMP. By 2026, 95 percent of all ship calls at the Everport Container Terminal must use AMP or approved equivalent under the CARB Shore-Power Regulation. The equivalent alternative technology must, at a minimum, meet the emissions reductions that would be achieved from AMP.
Timing	During operation.
Methodology	LAHD will include this mitigation measure in lease agreements with tenants.
Responsible Parties	Everport, LAHD.
Residual Impacts	Significant and unavoidable.
Lease Measure	**LM AQ-1. Replacement of Equipment and Review of New Technology.** When the tenant needs to replace or turnover equipment in its fleet, the tenant shall meet with the LAHD to determine if something is feasible or technologically available that may result in fewer emissions. If any kind of technology becomes available and is shown to be as good as or better than the existing measure in terms of emissions reduction performance, the technology could replace the requirements of other mitigation measures pending approval by LAHD. LAHD shall require the tenant to review any new emissions-reduction technology for feasibility and report back to LAHD every five years beginning five years after lease agreement if no new purchase or equipment turnover occurs sooner as noted in the abovementioned paragraph. If LAHD and tenant determine the technology is feasible in terms of cost and operations, the tenant shall work with LAHD to implement such technology.
Timing	During operation.
Methodology	LAHD will include this lease measure in lease agreements with tenants.
Responsible Parties	Everport, LAHD.
Residual Impacts	Significant and unavoidable.
Lease Measure	**LM AQ-2: Priority Access System.** A priority access system shall be evaluated to identify one or more ways to provide preferential access to zero- and near-zero-emission trucks. The tenant shall provide a report to LAHD on preferential access system options by January 1, 2020.
Timing	During operation.
Methodology	LAHD will include this lease measure in lease agreements with tenants.
Responsible Parties	Everport, LAHD.
Residual Impacts	Significant and unavoidable.
Impact AQ-4: Proposed project operations would result in off-site ambient air pollutant concentrations that exceed a SCAQMD threshold of significance in Table 3.2-9. (*Also applies to Impact AQ-4 for Alternatives 1 and 3 through 5)*	
Mitigation Measure	See Mitigation Measures MM AQ-6 and MM AQ-7 above.
Residual Impacts	Significant.

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3.2.5 Significant Unavoidable Impacts

3.2.5.1 Construction Impacts

Emissions from proposed project construction would exceed significance thresholds for NO_X and VOC under CEQA; after mitigation, emissions would remain significant and unavoidable for NO_X and VOC. Emissions from proposed project construction would exceed significance thresholds for NO_X and VOC under NEPA; after mitigation, emissions would remain significant and unavoidable for NO_X and VOC. Impact determinations would be the same for Alternatives 3 through 5 as for the proposed Project.

Emissions from the proposed Project's overlapping construction and operations would exceed significance thresholds for NO_X under CEQA; after mitigation, emissions would remain significant and unavoidable for NO_X. Emissions from the proposed Project's overlapping construction and operations would exceed significance thresholds for NO_X, $PM_{2.5}$, and VOC under NEPA; after mitigation, emissions would remain significant and unavoidable for NO_X and VOC. Impact determinations would be the same for Alternative 5 as for the proposed Project.

Emissions from Alternative 1 construction would exceed significance thresholds for NO_X under CEQA; after mitigation, emissions would be less than significant. Emissions from Alternative 2 overlapping construction and operations would exceed significance thresholds for NO_X under CEQA; after mitigation, emissions would be less than significant. Alternative 1 would have the same conditions as the NEPA baseline; therefore, there would be no impacts under NEPA.

Emissions from Alternative 3's overlapping construction and operations would exceed significance thresholds for NO_X under CEQA; after mitigation, emissions would remain significant and unavoidable for NO_X. Emissions from Alternative 3's overlapping construction and operations would exceed significance thresholds for NO_X and VOC under NEPA; after mitigation, emissions would remain significant and unavoidable for NO_X and VOC.

Emissions from Alternative 4's overlapping construction and operations would exceed significance thresholds for NO_X under CEQA; after mitigation, emissions would remain significant and unavoidable for NO_X. Emissions from Alternative 4's overlapping construction and operations would exceed significance thresholds for NO_X and VOC under NEPA; after mitigation, emissions would remain significant and unavoidable for NO_X.

Construction of the proposed Project would exceed the federal 1-hour NO_2 ambient air threshold under CEQA; after mitigation, impacts would remain significant and unavoidable for the federal 1-hour NO_2. Construction of the proposed Project would exceed the federal 1-hour NO_2 ambient air threshold under NEPA; after mitigation, impacts would remain significant and unavoidable for the federal 1-hour NO_2. Impact determinations would be the same for Alternatives 3 through 5 as for the proposed Project. Impact determinations under CEQA would be the same for Alternative 1 as for the proposed Project.

Overlapping construction and operations of the proposed Project would exceed the annual PM_{10} ambient air threshold under CEQA; after mitigation, impacts would remain significant and unavoidable for the annual PM_{10}. Overlapping construction and operations of the proposed Project would exceed the federal 1-hour NO_2 ambient air thresholds under NEPA; after mitigation, impacts would remain significant and unavoidable for the federal 1-hour NO_2. Impact determinations would be the same for Alternatives 3 through 5 as for the proposed Project. Impact determinations under CEQA would be the same for Alternative 1 as for the proposed Project.

3.2.5.2 Operational Impacts

Emissions from proposed project operation would exceed significance thresholds for NO_X in 2019, 2033, and 2038 and CO and VOC in 2033 and 2038 under CEQA; after mitigation, emissions would remain significant and unavoidable for CO and VOC in 2033 and 2038. Emissions from proposed project operation would exceed significance thresholds for NO_X in 2019, 2026, 2033, and 2038, for VOC in 2026, 2033, and 2038, and for CO and $PM_{2.5}$ in 2033 and 2038 under NEPA; after mitigation, emissions would remain significant and unavoidable for NO_X in 2026, 2033, and 2038 and for CO and VOC in 2033 and 2038. Impact determinations would be the same for Alternative 5 as for the proposed Project. Impact determinations under CEQA would be the same for Alternative 1 as for the proposed Project. Alternative 1 would have the same conditions as the NEPA baseline; therefore, there would be no impacts under NEPA.

Emissions from Alternative 2 operation would exceed significance thresholds for NO_X in 2019, 2033, and 2038 and for CO and VOC in 2033 and 2038 under CEQA. Mitigation is not required because there would be no discretionary action under CEQA for Alternative 2. Emissions would remain significant and unavoidable for NO_X in 2019, 2033, and 2038 and for CO and VOC in 2033 and 2038 under CEQA. Alternative 2 is not analyzed under NEPA.

Emissions from Alternative 3 operation would exceed significance thresholds for NO_X, CO, and VOC in 2033 and 2038 under CEQA; after mitigation, emissions would remain significant and unavoidable for CO and VOC in 2033 and 2038. Emissions from Alternative 3 operation would exceed significance thresholds for NO_X in 2019, 2026, 2033, and 2038 and for $PM_{2.5}$, CO, and VOC in 2033, and 2038 under NEPA; after mitigation, emissions would remain significant and unavoidable for NO_X in 2026, 2033, and 2038 and for CO in 2033 and 2038.

Emissions from Alternative 4 operation would exceed significance thresholds for NO_X and CO in 2033 and 2038 under CEQA; after mitigation, emissions would remain significant and unavoidable for CO in 2033 and 2038. Emissions from Alternative 4 operation would exceed significance thresholds for NO_X in 2019, 2026, 2033, and 2038 under NEPA; after mitigation, emissions would remain significant and unavoidable for NO_X in 2026, 2033, and 2038.

Operation of the proposed Project would exceed the federal 1-hour NO_2, the 24-hour and annual PM_{10}, and the 24-hour $PM_{2.5}$ ambient air thresholds under CEQA; after mitigation, impacts would remain significant and unavoidable for the federal 1-hour NO_2, the 24-hour and annual PM_{10}, and the 24-hour $PM_{2.5}$. Operation of the proposed Project would exceed the 24-hour and annual PM_{10} ambient air thresholds under NEPA; after mitigation, impacts would remain significant and unavoidable for the 24-hour and annual

PM_{10}. Impact determinations would be the same for Alternatives 3 and 5 as for the proposed Project. Impact determinations under CEQA would be the same for Alternative 1 as for the proposed Project. Alternative 1 would have the same conditions as the NEPA baseline; therefore, there would be no impacts under NEPA.

Operation of the Alternative 2 would exceed the 24-hour and annual PM_{10} ambient air thresholds under CEQA. Mitigation is not required because there would be no discretionary action under CEQA for Alternative 2. Impacts would remain significant and unavoidable for the 24-hour and annual PM_{10}. Alternative 2 is not analyzed under NEPA.

Operation of Alternative 4 would exceed the 24-hour and annual PM_{10} ambient air thresholds under CEQA; after mitigation, impacts would remain significant and unavoidable for the 24-hour and annual PM_{10}. Operation of the proposed Project would exceed the federal 1-hour and state annual NO_2 and 24-hour and annual PM_{10} ambient air thresholds under NEPA; after mitigation, impacts would remain significant and unavoidable for the federal 1-hour and state annual NO_2 and 24-hour and annual PM_{10}.

3.2.5.3 Health Impacts

There would be no significant unavoidable health impacts under CEQA or NEPA for the proposed Project or any project alternative. Mitigation would reduce all significant impacts to less-than-significant levels.

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