

Chapter 4 Cumulative Analysis

CHAPTER SUMMARY

This chapter evaluates the potential for the Revised Project, together with other past, present, and reasonably foreseeable future projects in the geographic scope of each resource area, to make a cumulatively considerable contribution to a new or substantially more severe significant cumulative impact.

Chapter 4, Cumulative Analysis, provides the following:

- A description of the requirements under CEQA that apply to the cumulative impact analysis;
- A description of the past, present, and foreseeable future projects in the surrounding area;
- A discussion of the methodology used to determine whether the Revised Project would make a cumulatively considerable contribution to a new, or substantially more severe significant cumulative impact;
- An impact analysis of the cumulative impacts related to the Revised Project; and
- A description of any mitigation measures proposed to reduce any potential impacts and residual cumulative impacts, as applicable.

Key Points of Chapter 4:

The Revised Project would make a cumulatively considerable contribution to a significant cumulative impact related to Air Quality and Meteorology. Mitigation measures would be applied to the Revised Project that would reduce the magnitude of impacts, but the Revised Project would, after mitigation, continue to make cumulatively considerable contributions to significant cumulative impacts related to emissions of carbon monoxide, nitrogen oxides, and volatile organic compounds, and to ambient offsite concentrations of NO₂ and PM₁₀. The Revised Project's air emissions after mitigation would result in cumulatively considerable contributions to significant cumulative impacts related to public health (cancer risk, chronic and acute hazard indices, and population cancer burden).

The Revised Project's future emissions of greenhouse gases (GHGs) would exceed applicable significance criteria. Accordingly, the Revised Project would, before mitigation, make a cumulatively considerable contribution to a significant cumulative impact. However, MM GHG-2, requiring the Tenant to purchase and retire GHG offset credits equivalent to those emissions, would reduce the Revised Project's impacts under CEQA to less than significant. Accordingly, after mitigation, the Revised Project would not make a cumulatively considerable contribution to a significant cumulative impact.

4.1 Introduction

This chapter presents CEQA’s requirements for a cumulative impact analysis and analyzes the potential for the Revised Project to make a considerable contribution to a new or substantially more severe significant cumulative impact when combined with other past, present, and reasonably foreseeable future projects, compared to the cumulative impacts disclosed in the 2008 EIS/EIR and the 2019 SEIR. Following the presentation of the requirements related to the cumulative impact analyses and a description of the related projects (Sections 4.1.1 and 4.1.2, respectively), the analysis in Section 4.2 addresses the two resource areas (air quality and greenhouse gases) analyzed in this Draft RSEIR.

4.1.1 Requirements for Cumulative Impact Analysis

The State CEQA Guidelines (14 California Code of Regulations [CCR] 15130) require a reasonable analysis of the cumulatively considerable impacts of a proposed project. Cumulative impacts are defined by CEQA as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts” (State CEQA Guidelines Section 15355).

Cumulative impacts are further described as follows:

- (a) The individual effects may be changes resulting from a single project or a number of separate projects.
- (b) The cumulative impacts from several projects are the changes in the environment, which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (40 CFR Section 1508.7 and State CEQA Guidelines, Section 15355(b)).

Furthermore, according to State CEQA Guidelines Section 15130(a)(1):

As defined in Section 15355, a “cumulative impact” consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. An EIR should not discuss impacts which do not result in part from the project evaluated in the EIR.

In addition, as stated in the State CEQA Guidelines, Section 15064(i)(5):

The mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project’s incremental effects are cumulatively considerable.

Therefore, the following cumulative impact analysis focuses on whether the impacts of the Revised Project make a cumulatively considerable contribution to a significant cumulative impact within the context of impacts caused by other past, present, or future projects. The cumulative impact scenario considers other projects proposed within the area defined for each resource that would have the potential to contribute to cumulatively considerable impacts.

For this Draft RSEIR, related area projects with a potential to contribute to cumulative impacts were identified using the “projection” methodology. The cumulative analysis of air quality impacts uses projections from the South Coast Air Basin 2016 Air Quality

1 Management Plan (SCAQMD, 2016) and the SCAQMD’s *Multiple Air Toxics Exposure*
2 *Study in the South Coast AQMD* (MATES-V; SCAQMD 2021).

3 **4.1.2 Projects Considered in the Cumulative Analysis**

4 **4.1.2.1 History of the Project Area**

5 As described in more detail in Section 4.1.2 of the 2019 SEIR, the CS Terminal site was
6 formerly used by Chevron USA for a marine oil terminal and tank farm and by Todd
7 Pacific Shipyard for a shipbuilding and maintenance facility. Following decommissioning
8 and demolition of the shipyard and oil terminal in the 1990s, the property underwent a
9 series of remediation and reclamation activities and was used temporarily for
10 construction staging and storage related to cargo handling. Section 1.2.3 describes the
11 events associated with the development of the site into a container terminal, culminating
12 in the 2001 lease with China Shipping to operate that terminal and the commencement of
13 terminal operations in 2004, which have continued to the present.

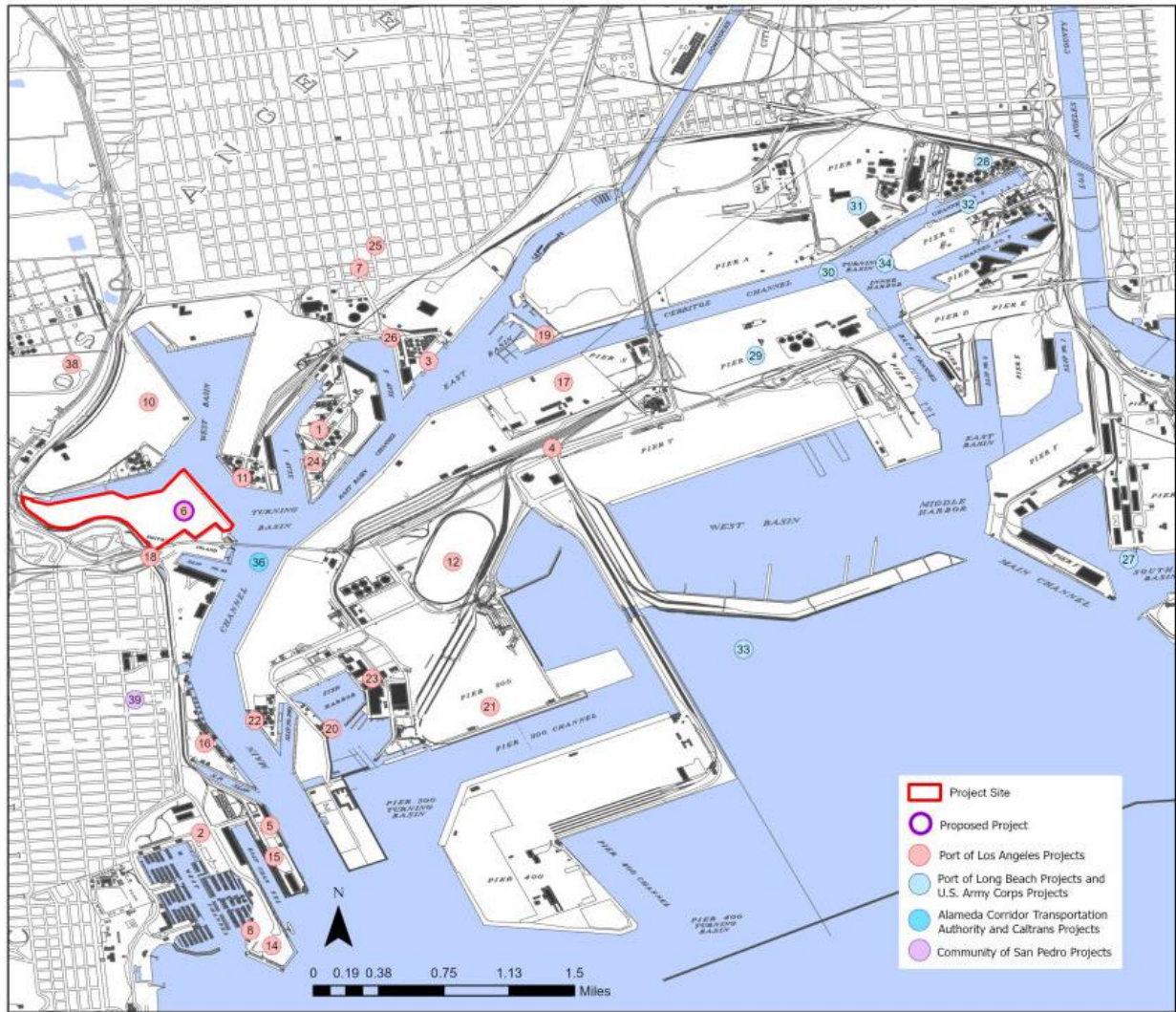
14 **4.1.2.2 Current and Future Projects**

15 A total of 36 current or reasonably foreseeable future projects (approved or proposed)
16 were identified within the general vicinity of the Revised Project that could contribute to
17 cumulative impacts. The locations of most of those projects are shown in Figure 4-1 with
18 project summaries to follow in Table 4-1 (some projects are located beyond the
19 boundaries of the map, others have no specific geographic location, and missing numbers
20 are projects not relevant to this RSEIR).

21 For the purposes of this Draft RSEIR, the timeframe of current or reasonably anticipated
22 projects extends from 2024 through 2045, and the vicinity is defined as the area over
23 which effects of the Revised Project could contribute to cumulative effects, which differs
24 for each resource area.

25

1 **Figure 4-1. Locations of Related and Cumulative Projects**



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Table 4-1: Related and Cumulative Projects

No. in Figure	Project Title and Location	Project Description	Project Status
Port of Los Angeles Projects			
1	Berth 163-164 [Nustar-Valero] Marine Oil Terminal Wharf Improvements Project	The proposed project involves demolishing the existing 19,000-square-foot timber wharf and constructing a new, steel and concrete loading platform, access trestles, mooring and berthing structures, and necessary utilities to comply with the Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS). The project also consists of a 30 year lease for the facility.	Initial Study (IS)/Mitigated Negative Declaration (MND) approved September 2021. Project is in design and construction is anticipated in 2028.
2	Cabrillo Way Marina Project	The proposed project includes developing, operating, and maintaining a marina, hotels, boater and visitor-serving club and meeting facilities, restaurants, retail buildings, and commercial areas at 2293 Miner Street. This project was evaluated in the West Channel/Cabrillo Marina Phase II Development Project (Cabrillo Way Marina) Final Supplemental Environmental Impact Report certified in December 2003.	Environmental review in process.
3	Berths 191-194 (Ecocem) Low-Carbon Cement Processing Facility	Construction and operation of a dry bulk terminal for vessel unloading, raw material milling, and storage and loading onto trucks of low-carbon construction binder.	Final Environmental Impact Report (FEIR) certified March 2025. Construction pending.
4	Navy Way Interchange Project	Construction of roadway improvements at SR-47/Navy Way to eliminate traffic signal and movement conflicts. The project would augment an existing partial interchange at SR 47/Seaside Avenue/Navy Way by removing the last traffic signal and at-grade intersection between I-710 and I-110, adding a new auxiliary lane and a new collector-distributor road, and implementing traffic channelization improvements.	Draft IS/MND released Oct 2024. Project is in design.
5	Westway Decommissioning	Decommissioning of the Westway Terminal along the Main Channel (Berths 70–71). Work includes decommissioning and removing 136 storage tanks with total capacity of 593,000 barrels and remediation of the site.	Decommissioning completed in 2013. Remedial action plan under development with LARWQCB.
6	Berths 97–109, China Shipping Development Project (Revised Project)	Development of the China Shipping Terminal Phase I, II, and III including wharf construction, landfill and terminal construction, and backland development, including operation under a revised project to modify certain mitigation measures.	Construction completed in 2014. Final Supplemental EIR (FSEIR) completed in 2019. This is the Revised Project.
7	Wilmington Waterfront Master Plan (Avalon Boulevard Corridor Project)	Planned development intended to provide waterfront access and promote development specifically along Avalon Boulevard. Project elements include a promenade, waterfront park, pedestrian bridge, location for the Wilmington Youth Sailing and Aquatic Center, public pier, and other visitor serving uses.	Waterfront promenade completed in 2025. Next phase of construction on the Avalon Pedestrian Bridge and Promenade Gateway is anticipated in 2025-2028.
8	Berth 44 Boatyard Project	The proposed project includes redevelopment of the former San Pedro Boatworks site at 2945 Miner Street. Project components include demolition of existing structures and buildings on site; grading; paving; and constructing concrete pads, docks, gangways, slips, underground utilities, water treatment systems, storm drain, fencing, lighting, and buildings to support boatyard operations.	NOP/IS released in January 2024. EIR in preparation.

Table 4-1: Related and Cumulative Projects

No. in Figure	Project Title and Location	Project Description	Project Status
10	Berths 121-131 Container Terminal Improvements Project	Demolish existing wharf at Berths 126-129, construct a new wharf, install up to 10 new wharf cranes, reconstruct the shoreline, dredge and dispose of up to 310,000 cy of sediments to deepen the berth, expand the existing on-dock railyard and install electric-powered RMG cranes for railcar loading/unloading.	NOI/NOP released in 2014. EIR/EIS in preparation. Project is in design.
11	Berths 148-151 (Phillips 66) Marine Oil Terminal Improvement Project	Various wharf and seismic ground improvements that are required in order to comply with MOTEMS and a new 20-year entitlement with two additional 10-year options.	NOP/IS released February 2023. EIR in preparation. Project is in design.
12	Terminal Island Maritime Support Facility	Development and operation of a maritime support facility on an approximately 80-acre LAXT loop site on Terminal Island.	NOP/IS released in December 2023. EIR in preparation. Project is in design.
13	Maintenance Dredging	Maintenance dredging is the routine removal of accumulated sediment from channel beds to maintain the design depths of navigation channels, harbors, marinas, boat launches, and port facilities. This is conducted regularly for navigational purposes (at least once every five years).	Continuous, but intermittent on average every 3–5 years.
14	Outer Harbor Cruise Terminal and Outer Harbor Park	Construction of two new cruise terminals that would total up to 200,000 square feet (approximately 100,000 square feet each) and parking at Berths 45–47 and 49–50 in the Outer Harbor. The terminals would be designed to accommodate the berthing of a Freedom Class or equivalent cruise vessel (1,150 feet in length). A proposed Outer Harbor Park would encompass approximately 6 acres at the Outer Harbor. This project was evaluated in the San Pedro Waterfront Project EIS/EIR certified in September 2009.	Draft Request for Proposal for future development released January 2023. Project is in design with construction anticipated in 2026-2028.
15	City Dock No. 1 Marine Research Project (AltaSea)	This project includes development of a marine research center within a 28-acre area located between Berths 57–72. This project would change the break bulk areas east of East Channel (Berths 57–72) to institutional uses.	Phase I development in progress since 2017.
16	West Harbor Modification Project (formerly San Pedro Public Market)	This project includes redevelopment of the 30 acres formerly known as the Ports O' Call Village, with up to 300,000 square feet of visitor-serving commercial uses and up to a 75,000-square-foot conference center as approved in the 2009 EIS/EIR. This project would involve changing the industrial uses along Harbor Boulevard to commercial. This project also includes a waterfront promenade and 3 acres of open space. As revised by the EIR Addenda in 2016 and 2019 and analyzed in a Subsequent EIR in 2024, the project includes development of an 108,000 square foot outdoor amphitheater, a 2.5 acre entertainment venue with a 100-foot diameter Ferris wheel and an approximately 150-foot tall by 50-foot wide tower attraction tower, and other visitor-serving commercial uses.	Construction of promenade, town square, floating docks, and landscape/hardscape improvements completed. Construction of restaurant buildings to be completed in 2025. Draft Subsequent EIR released November 2024 for new phases of development. Conceptual planning and design in progress by private developer.

Table 4-1: Related and Cumulative Projects

No. in Figure	Project Title and Location	Project Description	Project Status
17	SA Recycling Amendment to Permit No. 750 Project	The Proposed Project is located at 901 New Dock Street on Terminal Island, 90731. The proposed Project seeks an amendment to Permit No. 750 to allow for an up to 10-year extension of existing operations, with up to 5 additional years for use of the site as a non-operational restoration period for any necessary closure and remediation activities to restore the property.	Final Subsequent Environmental Impact Report (FSEIR) approved by the BOHC in April 2024. Project is in operation.
18	SR-47/Vincent Thomas Bridge & Front St./Harbor Blvd. Interchange Reconfiguration	Reconfigure the existing interchange at State Route 47/Vincent Thomas Bridge and Harbor Boulevard/Front Street to improve safety and operation for vehicles exiting the highway. Improvements also include modifications of the eastbound entrance ramps and modification of Harbor Boulevard and Front Street approaching and between the ramp termini.	Project is under construction through 2026.
19	Port of Los Angeles and Port of Long Beach Goods Movement Workforce Training Facility	The proposed project includes development of an approximately 20-acre site at 1440 Anchorage Road for a goods movement workforce training facility.	NOP/IS released in February 2024. EIR in preparation. Project is in design with construction anticipated in 2027-2029.
20	Al Larson Boat Shop Improvement Project	Modernization of existing boat yard and 30-year lease extension. This project was evaluated in a Final EIR approved in 2009.	Project on hold.
21	Berths 302–306 [APL now known as Fenix Marine] Container Terminal Project	Improvements and expansion of the existing terminal, including the addition of cranes, modifications to the main gate, converting an existing dry container storage unit to a refrigerated unit, and the expansion of the terminal onto 41 acres adjacent to the existing terminal. The revised project includes continued operations with minor modifications to the terminal and a 15-year lease extension through 2043. This project was evaluated in a Final EIR in 2012 and an Addendum in 2016.	Expansion project on hold, revised project ongoing.
22	Berths 238-239 [PBF Energy] Marine Oil Terminal Improvement Project	Demolition of the existing Berth 238 loading platform and construction of a new platform and associated mooring structures at Berth 238, and installation of landside improvements.	Construction anticipated in 2025-2027.
23	Star-Kist Cannery Facility	Demolition of 14-acre site for future use as cargo support or container chassis storage.	Construction anticipated in 2025-2026.
24	Berths 167-169 [Shell] Marine Oil Terminal Wharf Improvements Project	Various wharf and seismic ground improvements that are required in order to comply with MOTEMS, as well as other landside elements and a new 30-year lease. This project was evaluated in a Final EIR approved in 2018.	Construction anticipated through 2026.
25	Avalon and Fries Street Segments Closure Project	Physical closure of segments of Avalon Boulevard and Fries Avenue by installing street modifications that include cul-de-sacs, curbs and gutters, and fencing and signage.	Construction pending.

Table 4-1: Related and Cumulative Projects

No. in Figure	Project Title and Location	Project Description	Project Status
26	Berths 187-191 (Vopak) Liquid Bulk Terminal Wharf Improvements and Cement Terminal Project	Various wharf and improvements that are required in order to comply with MOTEMS, improvements to an adjacent wharf to facilitate resumption of cement terminal operations on the site, and a new 30-year entitlement.	NOP/IS issued July 2022. EIR in preparation. Project is in design.
Port of Long Beach Projects			
27	Piers G & J Terminal Redevelopment Project, Port of Long Beach	Redevelopment of two existing marine container terminals into one terminal. The Piers G and J redevelopment project is in the Southeast Harbor Planning District area of the Port of Long Beach. The project will develop a marine terminal of up to 315 acres by consolidating two existing terminals on Piers G and J and several surrounding parcels. Construction occurs in four phases and includes approximately 53 acres of landfills, dredging, concrete wharves, rock dikes, and road and railway improvements.	Approved project. Construction ongoing.
28	Pier B Rail Yard Expansion (On-Dock Rail Support Facility)	Expansion of the existing Pier B Rail Yard in two phases, including realignment of the adjacent Pier B Street and utility relocation.	FEIR certified February 2018. Construction underway through 2032.
29	Pier S Battery Energy Storage System Project	Construction and operation of a 70-megawatt (MW) battery energy storage system (BESS) on approximately 2.9 acres of the existing, privately-owned power generation site on Pier S.,	Draft IS/MND released December 2024.
30	Southern California Edison Transmission Tower Replacement Project	Replace a series of transmission towers across the Cerritos Channel.	FEIR certified in 2017. Construction completed in August 2021. Demolition of old towers underway.
31	Toyota Facility Improvements Project	Construction of a new consolidated Vehicle Processing and Distribution Center, Hydrogen Call and Generator Facility, and Fueling Station. Demolition of some existing facilities.	Project construction completed and in operation.
32	World Oil Tank Installation Project	Installation and operation of two 25,000-barrel petroleum storage tanks.	FEIR certified September 2024. Construction pending.
33	Pier Wind	Development of a 400-acre terminal to construct and assemble large offshore floating wind turbines and a 30-acre transport corridor to transport turbines for offshore wind projects in Northern and Central California coastal waters. The project would construct new land at the port and dredge approximately 50 million cubic yards for wharf construction, sinking basin, wet storage areas, and concrete piers adjacent to the transportation corridor.	NOP/IS issued January 2024. Draft EIS/EIR in preparation.

Table 4-1: Related and Cumulative Projects

No. in Figure	Project Title and Location	Project Description	Project Status
Army Corps of Engineers			
34	Deep Draft Navigation and Main Channel Deepening Project	Dredge up to 10 million cubic yards of material to deepen channels, basins, and standby areas to improve waterborne transportation efficiencies and navigational safety for vessel operations at the Port of Long Beach. A new dredge substation may be constructed to provide electricity to dredge equipment.	FEIR/EIS released 2022.
Alameda Corridor Transportation Authority and Caltrans Projects			
36	SR-47 Vincent Thomas Bridge Deck Replacement Project	Bridge repairs including replacement of bridge deck, median concrete barrier and guardrails, and upgrading of seismic sensors.	Construction anticipated in 2026-2028.
Community of San Pedro Projects			
38	John S. Gibson Truck and Chassis Parking Lot Project	Develop the 1599 John S. Gibson Boulevard 18.63-acre site with a short-term truck and chassis parking facility and related improvements. The site is expected to be used for short-term parking, as chassis with or without containers are not expected to be parked onsite over 24 hours. It includes paving of the site and striping of approximately 393 truck and chassis stalls. The project would be implemented in one development phase and would require a Port Master Plan Amendment.	IS/NOP was released in October 2023. DEIR released November 2024.
39	Pacific Corridors Redevelopment Project, San Pedro	Development of commercial/retail, manufacturing, and residential components. Construction underway of four housing developments and Welcome Park.	Project underway. Estimated 2032 completion year according to City of Los Angeles Planning Department.

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4.2 Cumulative Impact Analysis

The following sections analyze the cumulative impacts identified for each resource area relative to the Revised Project and the list of related projects identified in Table 4-1. The discussion of the impacts of past, present, and reasonably foreseeable future projects refers to the list of projects and reference numbers as shown in Table 4-1.

4.2.1 Air Quality and Meteorology

4.2.1.1 Scope of Analysis

The region of analysis for cumulative effects on regional air quality (AQ-3) is the SCAB. For localized effects of air quality (AQ-4), the SCAQMD typically assesses cumulative projects within one mile of a project site. For health effects (AQ-7), the area of influence includes the cumulative projects within the Port complex and their effects on the surrounding communities of San Pedro, Wilmington, and Long Beach.

As described in Section 3.1, Port of Los Angeles CEQA significance thresholds AQ-1 and AQ-2 are not included in this analysis because the Revised Project does not include any construction. Threshold AQ-5 (CO hotspot) has not been included because the Revised Project is not likely to make a significant contribution to a CO hotspot as described in Section 3.1. Thresholds AQ-6 (odor) and AQ-8 (conflict with regional plans) are not included because the screening analysis (see Appendix E1) concluded that the Revised Project could not have increased impacts above those identified in the 2008 EIS/EIR.

As described in Section 2.5.2.1 and Section 3.1.4.4, the Revised Project includes four air quality mitigation measures (MM AQ-9 Alternative Maritime Power; MM AQ-10 Vessel Speed Reduction Program; MM AQ-15 Clean-Diesel Yard Tractors; MM AQ-17 Container Yard Cargo Handling Equipment); and MM AQ-31 (At-Berth Regulations).

4.2.1.2 Methodology and Baseline for Cumulative Air Quality Impacts

Criteria Pollutant Impact Methodology

As described in Section 3.1, air quality within the SCAB has generally improved since the inception of air pollutant monitoring in 1976. The improvement is mainly due to lower-polluting on-road motor vehicles, more stringent regulation of industrial sources, and the implementation of emission reduction strategies by SCAQMD. This trend towards cleaner air has occurred despite continued population growth. However, stationary industrial and mobile emission sources and topographical/meteorological conditions that inhibit atmospheric dispersion combine to create adverse pollution effects in the SCAB. As discussed in Section 3.1.2.4 and shown in Table 3.1-2, the SCAB is an “extreme” nonattainment area for ozone (8-hour standard) and a nonattainment area for fine particulate matter (PM_{2.5}) (annual and 24-hour standard) in regard to the National Ambient Air Quality Standards (NAAQS). The SCAB is in attainment of the NAAQS for PM₁₀, carbon monoxide (CO), sulfur dioxide (SO₂), and nitrogen dioxide (NO₂). In regard to the California Ambient Air Quality Standards (CAAQS), the SCAB is presently in nonattainment for ozone, PM₁₀, PM_{2.5}, NO₂, and lead; is in attainment of the CAAQS for SO₂, CO, and sulfates; and is unclassified for hydrogen sulfide and visibility-reducing

1 particles (CARB 2013). The 2016 AQMP predicted attainment of all NAAQS within the
2 SCAB, including PM_{2.5} by 2025 and ozone by 2031 (SCAQMD 2016), but those
3 predictions were speculative, and the 2022 AQMP moved the prediction for ozone to
4 2037 (SCAQMD 2022).

5 The contribution of the Revised Project to cumulative impacts was assessed using
6 SCAQMD's guidance (SCAQMD 2003), which states that projects that exceed
7 SCAQMD's project-level significance thresholds are considered by SCAQMD to have
8 cumulatively considerable impacts. Conversely, projects that do not exceed the project-
9 level thresholds are generally not considered to have cumulatively considerable impacts.
10 Significance thresholds are presented in Section 3.1.4.3. SCAQMD guidance does not
11 distinguish between attainment and nonattainment pollutants, and this analysis assumes
12 that exceedance of any project-level threshold would also constitute a cumulatively
13 considerable impact.

14 **Toxic Air Contaminant Impact Methodology**

15 SCAQMD's MATES IV study (SCAQMD 2015) showed that the estimated cancer risk
16 in 2012 from toxic air contaminants in the San Pedro and Wilmington areas was
17 approximately 480 in a million on a population-weighted average basis. In the Diesel
18 Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long
19 Beach, CARB also identified elevated cancer risk due to operational emissions within
20 and near the ports due to port-area sources (CARB 2006). To reduce port-related cancer
21 risks in nearby communities, the Ports of Los Angeles and Long Beach approved port-
22 wide air pollution control measures through implementation of the CAAP, which had the
23 goal of reducing diesel particulate matter (DPM) emissions by 85% (SPBP, 2010). In
24 developing the San Pedro Bay Standards, the Port recognized the importance of ensuring
25 that new projects are designed to be consistent with the CAAP and with other applicable
26 regulations in order to allow the Port to meet long-term health risk and emission
27 reduction goals.

28 In addition, measures in the 2017 CAAP update include additional emissions reductions
29 associated with the five major port-related source categories: ocean-going vessels,
30 harborcraft, cargo-handling equipment, locomotives, and trucks. As reported in the Port's
31 2023 Emissions Inventory (LAHD 2024), progress on the CAAP measures has been
32 tracked since 2005. Due to the many emission reduction measures undertaken by the
33 Port, as well as statewide and federal regulations and standards, the 2023 emission
34 reduction standards were met for DPM, NOx, and SOx, despite the increase in cargo-
35 handling activity due to the 15% increase in cargo (as measured by TEUs) since 2005.
36 Specifically, the Port surpassed the 2023 DPM emission reduction standard (77%) with a
37 91% emission reduction in 2023. Progress on the CAAP health risk reduction was
38 determined by comparing the change in DPM mass emissions to the 2005 baseline. In
39 2023, with a 91% reduction, the Port met the 2020 Health Risk Reduction Standard
40 (85%).

41 The contribution of the Revised Project to cumulative health risk impacts was, for the
42 most part, assessed using SCAQMD's guidance (SCAQMD, 2003), which states that
43 exceedances of project-specific significance thresholds represent cumulatively
44 considerable impacts. Therefore, this analysis conservatively assumes that (for
45 Cumulative Impact AQ-7) any risk above the significance threshold would be a
46 cumulatively considerable impact.

Baseline for Cumulative Air Quality Impacts

As described in Sections 2.6 and 3.1.4.2, the baseline that is used for assessing the air quality and related impacts of the Revised Project in this Draft RSEIR consists of throughput and activity levels during 2008. This is referred to as the “2008 Actual Baseline.” This Draft RSEIR uses the 2008 Actual Baseline in determining the significance of incremental changes to the impacts disclosed in the 2008 EIS/EIR, due to changes to the project (i.e. proposed modifications to 2008 EIS/EIR Mitigation measures under the Revised Project) and changed circumstances/new information (i.e. incremental increase in terminal throughput, as shown in Table 2-2, due to the revised assessment of terminal capacity presented in the 2019 Draft RSEIR).

4.2.1.3 Cumulative Impact AQ-3: Would operation of the Revised Project produce a cumulatively considerable increase of a criteria pollutant that exceeds the SCAQMD threshold of significance in Table 3.16?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

Concurrent related projects at the Port and surrounding areas (see Table 4-1) would contribute to cumulatively significant impacts. For example, the adjacent Project #10 (Berths 121-131 Container Terminal Improvements Project) and nearby Project #26 (Berths 187-191 (Vopak) Liquid Bulk Terminal Wharf Improvements and Cement Terminal Project) would likely generate criteria pollutant emissions from vessels, drayage trucks, cargo handling equipment, and rail operations. The operational impacts of related projects would be cumulatively significant if their combined operational emissions would exceed the SCAQMD daily emission thresholds for operations. Because this almost certainly would be the case for all analyzed criteria pollutants and precursors, the related projects would result in a significant cumulative air quality criteria pollutant impact.

Contribution of the Revised Project (Prior to Mitigation)

Revised Project operational emissions would exceed SCAQMD significance thresholds for CO and VOCs in all analysis years and NO_x in 2026 and 2036; emissions of the remaining criteria pollutants would be below SCAQMD significance thresholds (Table 3.1-8). These impacts, combined with impacts from concurrent related projects, would be cumulatively significant. As a result, operational emissions would make a cumulatively considerable contribution to an existing significant cumulative impact for CO, VOCs, and NO_x.

Mitigation Measures and Residual Cumulative Impacts

As described in Section 3.1.4.4, no feasible mitigation beyond the measures included in the Revised Project is available to reduce operational emissions. Accordingly, operational emissions of CO, VOCs, and NO_x would continue to exceed SCAQMD significance thresholds. These impacts, when combined with impacts from concurrent related projects, would be cumulatively significant. The concurrent related projects would likely be required to implement air quality mitigation measures; however, those specific measures are not yet known in the EIRs currently under preparation as noted in Table 4-

1 1. Therefore, the Revised Project is assumed to make a cumulatively considerable and
2 unavoidable contribution to an existing significant cumulative impact.

3 **4.2.1.4 Cumulative Impact AQ-4: Would operation of the Revised** 4 **Project produce emissions that cumulatively exceed an** 5 **ambient air quality standard or substantially contribute to** 6 **an existing or projected air quality standard violation?**

7 **Impacts of Past, Present, and Reasonably Foreseeable Future** 8 **Projects**

9 Concurrent related projects at the Port and surrounding areas (see Table 4-1) would
10 contribute to cumulatively considerable impacts. The operational impacts of related
11 projects, based on their location and type, would be cumulatively significant if their
12 combined operations resulted in ambient pollutant concentrations exceeding the ambient
13 concentration thresholds. For example, the adjacent Project #10 (Berths 121-131
14 Container Terminal Improvements Project) and nearby project #'s 1, 3, 11, 24, and 26,
15 involving break bulk and liquid bulk marine terminals, would likely generate ambient
16 pollutant concentrations from vessels, drayage trucks, cargo handling equipment, and rail
17 operations. Although there is no way to be certain if a cumulative exceedance of the
18 thresholds would happen for any pollutant without performing dispersion modeling of the
19 other projects, it is reasonable to assume that cumulative air emissions are likely to
20 exceed the thresholds for PM₁₀, PM_{2.5}, and NO₂, and are unlikely to exceed the thresholds
21 for CO and SO₂. Consequently, operation of the related projects would result in a
22 significant cumulative air quality impact for PM₁₀, PM_{2.5}, and NO₂.

23 **Contribution of the Revised Project (Prior to Mitigation)**

24 Operation of the Revised Project would exceed the federal 1-hour NO₂ standard in 2026
25 and the annual and 24-hour PM₁₀ standards in 2026 through 2045. These impacts, when
26 combined with impacts from concurrent related projects based on the location and type,
27 would be cumulatively significant. As a result, without mitigation, impacts from project
28 operations would make a cumulatively considerable contribution to an existing
29 significant cumulative impact related to ambient NO₂ and PM₁₀ concentrations.

30 **Mitigation Measures and Residual Cumulative Impacts**

31 As described in Section 3.1.4.4., no feasible mitigation beyond the measures included in
32 the Revised Project is available to reduce operational emissions. Accordingly, operational
33 emissions of the Revised Project would continue to exceed significance thresholds for
34 federal 1-hour NO₂ and annual PM₁₀ concentrations. These impacts would combine with
35 impacts from concurrent related projects, which would already be cumulatively
36 significant. Therefore, the Revised Project would make a cumulatively considerable and
37 unavoidable contribution to an existing significant cumulative impact for NO₂ and PM₁₀.

4.2.1.5 Cumulative Impact AQ-7: Would the Revised Project make a cumulatively considerable contribution to exposure of receptors to significant levels of toxic air contaminants?

Impacts of Past, Present, and Reasonably Foreseeable Future Projects

As estimated in a series of studies (e.g., the SCAQMD MATES studies published in 2000, 2015, and 2021 [SCAQMD 2000, 2015a, 2021] and CARB’s Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach [CARB 2006]), health risks from air toxics in the port area are elevated above the risks in communities elsewhere in the SCAB. The CARB study attributed this to operational emissions from port-area sources within and near the Ports. At the same time, however, the MATES studies have documented substantial decreases in cancer risk to Port-area populations over the past 20 years. For example, the MATES V study (SCAQMD 2021) concluded that, “The air toxics cancer risk in the ports areas decreased by approximately 57% between MATES IV and MATES V. Overall, air toxics risk improved significantly, consistent with air toxic emissions reductions that occurred over the time period.” Despite these marked improvements, however, MATES V identified elevated levels of cancer risks in the port area. Based on this information, cancer risk from TAC emissions within the project region, including the past, present, and reasonably foreseeable future projects and the Revised Project, is considered a significant cumulative impact. Non-cancer impacts associated with past, present, and reasonably foreseeable projects in the project area are also assumed to have significant cumulative impacts.

The Port has approved port-wide air pollution control measures through their CAAP (SPBP 2006, 2010, 2017). Implementation of these measures would reduce the health risk impacts from the Revised Project and future projects at the Port. Currently adopted regulations and future rules proposed by CARB and EPA would also further reduce air emissions and associated cumulative health impacts from Port operations. The scope and framework of the 2017 CAAP Update continues to examine the five major mobile sources of air pollution in and around the ports and established new Bay-wide Standards for the future. The 2017 CAAP update also addresses zero emission technologies, greenhouse gas control strategies, energy efficiency strategies, and supply chain optimization.

As reported in the Port’s 2023 Emissions Inventory (LAHD August 2024), progress on the CAAP measures has been tracked since 2005. Due to the many emission reduction measures undertaken by the Port, as well as statewide and federal regulations and standards, the 2023 emission reduction standards were met for DPM, NO_x, and SO_x. Specifically, the Port surpassed the 2023 DPM emission reduction standard (77%) with a 91% emission reduction in 2023. The Port also met the 2020 Health Risk Reduction Standard (85%). Based on the progress reported to date since 2023, DPM emissions, which represent the main source of TACs, has shown a declining trend, with a 91% reduction since 2005, an 18% reduction since the 2017 CAAP update, and a 24% reduction over the prior year in 2022. In order to put the maritime industry-related emissions into context, the 2023 Emissions Inventory shows the Port’s overall contributions to total DPM emissions in the SCAB as 5.7%. Nevertheless, given the identified elevated cancer risk in the port area, emissions-related cancer and non-cancer impacts within the project region are considered to be cumulatively significant.

Contribution of the Revised Project (Prior to Mitigation)

A health risk assessment (HRA) evaluated four different types of health effects: individual cancer risk, acute non-cancer hazard index, chronic non-cancer hazard index, and population cancer burden. The HRA determined that the individual cancer risk, incremental chronic and acute hazard index impacts, and population cancer burden associated with operation of the Revised Project would be less than significant (and negative in the case of cancer risk) relative to the 2008 baseline. The HRA also determined that relative to the future floating baseline the individual cancer risk would be less than significant for residential and sensitive receptors but significant at 12.5 in a million (i.e., greater than 10 in one million) for occupational receptors (terminal workers) relative to the floating future baseline (Table 3.1-17); the other indices are not assessed against the future floating baseline. As a result, without mitigation, the Revised Project's contribution would be cumulatively considerable for cancer risk for occupational receptors.

The Revised Project would not increase non-cancer chronic or acute impacts, population cancer burden, or residential and sensitive receptor cancer risks above project-level significance thresholds; accordingly, those impacts would be less than significant. The operational impacts of related projects based on the location and type would be cumulatively significant if their combined operations resulted in TAC emissions exceeding an established threshold. For example, the adjacent Project #10 (Berths 121-131 Container Terminal Improvements Project) and nearby Project #'s 1, 3, 11, 24, and 26 involving break bulk and liquid bulk marine terminals would likely generate TAC emissions from vessels, drayage trucks, cargo handling equipment, and rail operations. Although there is no way to be certain if a cumulative exceedance of the thresholds would happen for TAC emissions without performing health risk dispersion modeling of the other projects, it is reasonable to assume that cumulative air emissions are likely to exceed the thresholds and related projects would be required to implement CAAP measures and similar air quality mitigation measures as applicable for the various source categories. However, based on the Revised Project's contribution (chronic and acute hazard indices ranging from 0.16 to 0.78, all below the SCAQMD significance threshold of 1.0 [Table 3.1-17] and the overall declining trend in DPM emissions portwide, which have exceeded the CAAP DPM emission reduction standard (77%) and the Baywide Health Risk Reduction Standard (85%), the Revised Project would not cause or make a cumulatively considerable contribution to significant cumulative non-cancer chronic and acute health impacts.

Mitigation Measures and Residual Cumulative Impacts

As described in Section 3.1.4.4, no feasible mitigation beyond the measures included in the Revised Project is available to reduce operational emissions of TACs. Therefore, the Revised Project would make a cumulatively considerable and unavoidable contribution to an existing significant cumulative impact for cancer risk for occupational receptors after mitigation.

4.2.2 Greenhouse Gas Emissions

Scientific evidence indicates a trend of warming global surface temperatures over the past century due at least partly to the generation of greenhouse gas (GHG) emissions from human activities, as further discussed in Section 3.6, Greenhouse Gas Emissions. Some observed changes include shrinking glaciers, thawing permafrost, and shifts in plant and animal ranges. Credible predictions of long-term impacts from increasing GHG levels in

1 the atmosphere include sea level rise, changes to weather patterns, changes to local and
2 regional ecosystems including the potential loss of species, and significant reductions in
3 winter snow packs. These and other effects could have environmental, economic, and
4 social consequences on a global scale. Emissions of GHGs contributing to global climate
5 change are attributable in large part to human activities associated with the
6 industrial/manufacturing, utility, transportation, residential, and agricultural sectors.
7 Therefore, the cumulative global emissions of GHGs contributing to global climate
8 change can be attributed to every nation, region, and city, and virtually every individual
9 on Earth. As described in Section 3.2.2.1, substantial increases in CO₂ emissions and thus
10 substantial increases in global atmospheric CO₂ concentrations (the major component of
11 greenhouse gases) have occurred over the last century. In 2022, the atmospheric CO₂
12 concentration peaked at 421 parts per million (ppm), exceeding the natural range over the
13 last 800,000 years (NOAA 2022). The buildup of CO₂ in the atmosphere is a result of
14 increased emissions and its relatively long lifespan in the atmosphere of 50 to 200 years
15 (NOAA 2022). In California alone, CO₂e emissions totalled approximately 448.11
16 million metric tons or 0.5 gigatonnes in 2011 (CARB 2016).

17 GHGs differ from criteria pollutants in that GHG emissions do not cause direct adverse
18 human health effects. Rather, their indirect impacts to human health via global warming
19 is a cause for concern. Elevated atmospheric temperatures are likely to contribute to the
20 increased occurrence of extreme weather events such as heat waves and precipitation
21 events. Rising temperatures related to human activities likely contributed to Arctic sea-
22 ice loss, an increase in upper ocean temperature, and global sea level rise (SLR) during
23 the latter half of the 20th century. As a result of continued growing concentrations of
24 GHGs in the atmosphere, the trends observed in the past century such as oceanic
25 warming and acidification, are expected to occur at a faster pace in the 21st century.
26 (IPCC 2013, 2014, 2023).

27 The 2008 EIS/EIR considered GHG under the air quality resource, as threshold AQ-9,
28 Potential Contribution to Global Climate Change, and found that the Approved Project
29 would make a cumulatively considerable and unavoidable contribution to global climate
30 change. The 2008 EIS/EIR did not propose any mitigation measures for that impact. The
31 GHG threshold considered below represents the current wording that incorporates recent
32 SCAQMD and OPR guidance.

33 **4.2.2.1 Methodology and Baseline for Cumulative GHG Impacts**

34 Section 3.2.4.1 describes how GHG emissions were calculated for operation of the
35 Revised Project. The major sources contributing to GHG emissions during Revised
36 Project operation consist of:

- 37 • container ships (transit, anchoring, and hoteling);
- 38 • tugboats assisting ships during harbor transit, turning, and docking;
- 39 • cargo-handling equipment (CHE) used for loading/unloading, stacking and
40 moving containers in the terminal;
- 41 • switching and linehaul locomotives used to move containers to and from the on-
42 dock and near-dock railyards; and
- 43 • drayage trucks used to pick up and drop off containers at various destinations
44 throughout the South Coast region.
- 45 • indirect GHG emissions from electricity consumption during operation of the
46 Revised Project.

1 In addition to evaluating the CO₂e emissions from the Revised Project, the potential
2 impact of SLR resulting from global climate change on the Revised Project was also
3 considered.

4 As described in Sections 2.6 and 3.2.4.3, the baseline that is used for assessing the GHG
5 impacts of the Revised Project in this Draft RSEIR consists of throughput and activity
6 levels during 2008, considering timely application of all mitigation measures which were
7 required to have been completed by that year in the 2008 EIS/EIR. This is referred to as
8 the “2014 Mitigated Baseline.” This Draft RSEIR’s HRA uses a 2019 baseline in
9 determining the significance of incremental changes to the impacts disclosed in the 2008
10 EIS/EIR, due to changes to the project (i.e., proposed modifications to 2008 EIS/EIR
11 Mitigation measures under the Revised Project) and changed circumstances/new
12 information (i.e., incremental increase in Terminal throughput as shown in Table 2-3, due
13 to a revised assessment of Terminal capacity.

14 Section 3.2.4.5 presents an informational discussion of GHG-reducing statewide,
15 regional, and local plans and policies.

16 **4.2.2.2 Cumulative Impact GHG-1: Would the Revised Project** 17 **make a cumulatively considerable contribution to a** 18 **significant cumulative impact due to GHG emissions?**

19 **Impacts of Past, Present, and Reasonably Foreseeable Future** 20 **Projects**

21 Past, present, and reasonably foreseeable future projects in the area (Table 4-1) have
22 generated and will continue to generate GHGs from the combustion of fossil fuels and the
23 use of coatings, solvents, refrigerants, and other products. Current and future projects will
24 incorporate a variety of GHG reduction measures in response to federal, state, and local
25 mandates and initiatives, and these measures are expected to reduce GHG emissions from
26 future projects. For example, the adjacent Project #10 (Berths 121-131 Container
27 Terminal Improvements Project) and nearby project #'s 1, 3, 11, 24, and 26 involving
28 break bulk and liquid bulk marine terminals would likely generate GHG emissions from
29 vessels, drayage trucks, cargo handling equipment, and rail operations. The 2017 CAAP
30 Update includes GHG emission reduction targets from port-related sources at 40% below
31 1990 levels by 2030 and 80% below 1990 levels by 2050. As reported in the Port’s 2023
32 Emissions Inventory (LAHD 2024), progress on the CAAP measures has been tracked
33 since 2005. Due to the many emission reduction measures undertaken by the Port, as well
34 as statewide and federal regulations and standards, GHG emissions have declined. As
35 reported in 2023, GHG emissions (measured as CO₂e in metric tons) has declined by
36 24% since 2005, 14% since the 2017 CAAP update, and 20% over the prior year in 2022.
37 However, because of the long-lived nature of GHGs in the atmosphere and the global
38 nature of GHG emissions impacts, no specific quantitative level of GHG emissions from
39 related projects in the region or state-wide has been identified below which no impacts
40 would occur. It is therefore conservatively assumed that the related projects represent a
41 significant cumulative impact.

42 **Contribution of the Revised Project (Prior to Mitigation)**

43 The challenge in assessing the significance of an individual project’s contribution to
44 global GHG emissions and associated global climate change impacts is to determine
45 whether a project’s GHG emissions, which are at a micro-scale relative to global

1 emissions, make a cumulatively considerable incremental contribution to a macro-scale
2 impact. SCAQMD developed a project-level significance threshold for GHGs. For the
3 purposes of this cumulative discussion, it is assumed that an exceedance of the project-
4 level threshold would result in a cumulatively considerable contribution to the overall
5 GHG burden.

6 Operational emissions of the Revised Project would exceed SCAQMD's threshold in all
7 analysis years. Impacts of the Revised Project would combine with impacts from related
8 projects, which would already be cumulatively significant. As a result, without
9 mitigation, impacts from Revised Project operation would make a cumulatively
10 considerable contribution to an existing significant cumulative impact related to GHG
11 and global climate change.

12 **Mitigation Measures and Residual Cumulative Impacts**

13 As described in Sections 2.5.2.2 and 3.1.4.4, no feasible mitigation beyond the measures
14 included in the Revised Project is available to reduce operational emissions or air
15 pollutants and whose effects can be quantified. Two mitigation measures specific to
16 GHGs have been included in the Revised Project (see Section 3.2.4.5): 2019 MM GHG-1
17 (Terminal LED Lighting) and new measure MM GHG-2 (GHG Reduction Offsets). MM
18 GHG-1 would reduce emissions of GHGs, but that reduction would not reduce the impact
19 to less than significant. MM GHG-2 would offset all GHG emissions in excess of the
20 SCAQMD significance threshold by purchasing and retiring GHG credits from a CARB-
21 approved registry. As a result, GHG emissions from the Revised Project would not make
22 a cumulatively considerable contribution to an existing significant cumulative impact
23 related to GHG and global climate change.

24 **4.3 Mitigation Monitoring**

25 For air quality impacts, mitigation measures MM AQ-9 Alternative Maritime Power,
26 MM AQ-10 Vessel Speed Reduction Program, 2019 MM AQ-15 Yard Tractor Emissions
27 Standards, MM 2019 AQ-17 Cargo-Handling Equipment Emissions Standards, and 2008
28 MM AQ-17 Cargo-Handling Equipment (the yard tractor pilot project provision), as well
29 as lease measures 2019 LM AQ-1 Cleanest Available Cargo-Handling Equipment, 2019
30 LM AQ-2 Priority Access for Drayage Trucks, and 2019 LM AQ-3 Zero Emission
31 Equipment Demonstration and Feasibility Assessment, would be implemented. Section
32 3.1.5 describes the implementation and compliance monitoring of these measures.

33 For greenhouse gas impacts, MM GHG-1 LED Lighting and MM GHG-2 GHG
34 Reductions Offsets would be implemented; Section 3.2.4.3 describes the implementation
35 and compliance monitoring of these measures.