3.5 Greenhouse Gas Emissions

3.5.1 Section Summary

This section analyzes whether construction and operational activities associated with the West Harbor Modification Project (Proposed Project) would affect greenhouse gas (GHG) impacts as they relate to climate change. In addition, potential consequences of sea level rise (SLR) at the Project Site are discussed. The SLR discussion is presented for informational purposes and is not intended to produce an impact determination for the Proposed Project or its Alternatives.

Section 3.5, *Greenhouse Gas Emissions*, includes the following:

- A description of the existing setting as it relates to GHG emissions and climate change;
- A discussion of regulations and policies regarding GHG that are applicable to the Proposed Project;
- A discussion of the analysis methodology;
- Potential GHG impacts associated with construction and operation of the Proposed Project and its Alternatives;
- A description of Project Features (PF) and Mitigation Measures (MM-) proposed to reduce significant impacts, as applicable;
- Residual impacts after mitigation and significance under the California Environmental Quality Act (CEQA); and
- An informational discussion of SLR.

Key points of Section 3.5, *Greenhouse Gas Emissions*, include the following:

- The Proposed Project would be consistent with plans and policies intended to reduce GHG emissions and climate change impacts;
- Proposed Project GHG emissions would be much lower than and would not add substantially to impacts identified as significant in the *2009 San Pedro Waterfront (*SPW*) Environmental Impact Statement (*EIS*)/Environmental Impact Report (*EIR*)* (2009 SPW EIS/EIR) (Port 2009);
- Mitigation measures identified in the 2009 SPW EIS/EIR and summarized in Section 3.5.5, *Previous Mitigation Measures Applicable to the Proposed Project*, would reduce Proposed Project emissions and associated impacts;
- Additional mitigation measures discussed in Section 3.5.8, *New Mitigation Measures Applicable to the Proposed Project*, would further reduce GHG impacts; and
- The Proposed Project would not change the determination of significance made in the 2009 SPW EIS/EIR or *2016 Addendum to the 2009 San Pedro Waterfront Project Environmental Impact Statement/Environmental Impact Report for the San Pedro Public Market (*SPPM*) Project* (2016

SPPM Addendum) (ICF 2016), and residual impacts concluded to be significant in those documents would remain significant and unavoidable

3.5.2 Introduction

The Proposed Project would implement modifications on 2.5 acres of the 6.4-acre Discovery Sea Amusement Area in the southern portion of the Project Site. Improvements would also be made to the 22-acre overflow parking lot area at 208 E. 22nd Street.

This section describes the environmental and regulatory setting for GHG. It also describes GHG impacts that may result from implementation of the Proposed Project and provides mitigation measures, where feasible.

3.5.3 Environmental Setting

The Project Site is located in the Harbor District of the City of Los Angeles (City) in the southwestern coastal area of 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 15,500 square kilometers (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.

3.5.3.1 Greenhouse Gases

GHGs are gases that trap heat in the atmosphere. The term GHGs includes gases that contribute to the natural greenhouse effect, such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), as well as gases that are human-made and emitted through the use of modern industrial products, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFC), and sulfur hexafluoride (SF_6). These last three families of gases, although not naturally present in the atmosphere, have properties that also cause them to trap infrared radiation when they are present in the atmosphere. Together, these six gases are the major GHGs that the Kyoto Accords recognizes (United Nations 1997). There are other GHGs that are not recognized by the Kyoto Accords, due either to the smaller role that they play in climate change or the uncertainties surrounding their effects. Atmospheric water vapor, for example, is not recognized by the Kyoto Accords because there is not an obvious correlation between water vapor concentrations and specific human activities. Water vapor appears to act as a positive feedback mechanism; higher temperatures lead to higher water concentrations, which in turn cause more global warming (IPCC 2013).

GHGs have long atmospheric lifetimes (i.e., 1 year to several thousand years) and therefore remain in the atmosphere for time periods long enough to allow them to be dispersed around the globe. GHGs are therefore considered to be global pollutants, and GHG impacts on global climate change are inherently cumulative.

The effect each of these gases has on global warming is a combination of the volume of their emissions and their 100-year global warming potential (GWP). A unitless quantity, GWP indicates, on a pound-for-pound basis, how much a gas will contribute to global warming relative to how much warming would be caused by the same mass of CO_2. CH_4 and N_2O are substantially more potent than

CO_2, with GWPs (100-year horizon) of 28 and 298, respectively (IPCC 2007).[1] In emissions inventories, GHG emissions are typically reported in terms of metric tons (1 metric ton is equivalent to 1,000 kilograms) of carbon dioxide equivalents (CO_2e), which are calculated as the product of the mass emitted of a given GHG and its specific GWP. In this document, the unit *metric tons* is used to report GHG emissions.

The most important GHG in human-induced global warming is CO_2. Although many gases have much higher GWPs than CO_2, CO_2 is emitted in vastly higher quantities and accounts for approximately 78 percent of the GWP of all GHGs emitted by the United States (EPA 2023). Fossil-fuel combustion, especially for the generation of electricity and powering of motor vehicles, has led to substantial increases in CO_2 emissions and thus substantial increases in global atmospheric CO_2 concentrations over the last century. The Intergovernmental Panel on Climate Change (IPCC's) S*ixth Assessment Synthesis Report* (IPCC 2023) identified that the global annual average CO_2 concentration reached 410 parts per million in 2019. This value represents an increase of about 46 percent since the pre-industrial era. The buildup of CO_2 in the atmosphere is a result of increased emissions and the relatively long lifespan of CO_2 in the atmosphere of 50 to 200 years.

Concentrations of the second-most prominent GHG, CH_4, have also increased due to human activities such as agriculture, degradation of waste in landfills, cattle farming, and natural-gas mining. In 2019, the atmospheric level of CH_4 was more than double the pre-industrial level, up to 1,886 parts per billion as compared to 715 parts per billion (IPCC 2013, 2023). CH_4 has a relatively short atmospheric lifespan of only 12 years, but a higher GWP potential than CO_2.

N_2O concentrations have increased from about 270 parts per billion in pre-industrial times to about 332 parts per billion by 2019 (IPCC 2014, 2023). Most of this increase can be attributed to agricultural practices (e.g., soil and manure management), as well as fossil-fuel combustion and the production of some acids. N_2O has a 120-year atmospheric lifespan, meaning that, in addition to its relatively large GWP, its influence is long lasting, which increases its role in global warming.

3.5.3.2 Climate Change

GHGs differ from criteria pollutants in that GHG emissions do not cause direct adverse human health effects. Rather, the direct environmental effect of GHG emissions is the increase in global temperatures, which in turn has numerous indirect effects on the environment.

Current predictions suggest that California will experience longer and more extreme heat waves, greater frequency of heat waves, and longer dry periods. More specifically, California's *Fourth Climate Change Assessment* (State of California 2019) forecasted that California could witness the following:

- Temperature increases of 2.7 degrees Fahrenheit (°F) to 8.8°F by the 2040–2100 time period for a scenario associated with high GHG emissions;
- Temperature increases of 2.5°F to 5.6°F by the 2040–2100 time period for a scenario associated with moderate GHG emissions;

[1] GWP values used in this analysis reflect the Intergovernmental Panel on Climate Change's 2*007 Fourth Assessment Report*. Although the Assessment Report has been revised several times since 2007, most recently in 2021, EPA will continue using the *2007 Fourth Assessment Report* for reporting the GHG inventory until 2024, at which point the *2013 Fifth Assessment Report* will be used (EPA 2023).

- Reductions in snowpack to less than two-thirds of the historical average by 2050 and to less than half or even one-third by 2100; and
- Increased fire risk, resulting in estimated burned-area increases of 77 percent to 178 percent by the end of the century, and increases in extreme wildfire frequency of 50 percent.

Data from the Cal-Adapt tool (California Energy Commission 2023) indicate that the harbor area could experience the following changes:

- Temperature increases of 3.2°F to 3.9°F by mid-century (2035–2064) and 4.2°F to 7.0°F by the end of the century (2070–2099);
- Increases in the annual number of extreme-heat days (i.e., days above the historical 98th-percentile temperature of 93.7°F) of 3 to 4 days by mid-century and 5 to 12 days by the end of the century; and
- Small increases in the annual maximum 1-day precipitation of approximately 0.15 and 0.23 inches by the end of the century relative to the historical baseline (1961–1990) value of 1.63 inches.

The California Coastal Commission's (CCC) *2018 Sea Level Rise Policy Guidance* (2018 CCC Guidance) (2018) presented a compilation of tide-gauge predictions that project SLR increases in the City compared to a baseline year of 2000. At the time of this Subsequent EIR (SEIR), the CCC released a draft of the *2024 Sea Level Rise Policy Guidanc*e (2024 CCC Guidance) (2024). The following information reflects the 2018 CCC Guidance and notes changes introduced in the 2024 CCC Guidance.

- Low-Risk Scenario
  - **2018 CCC Guidance**: +0.5 feet by 2030, and +1.0 feet by 2050
  - **2024 CCC Guidance**: Downgraded near predictions and added future predictions: +0.2 feet by 2030, +0.4 feet by 2050, and +0.6 feet by 2100
- Medium-High Risk (or Intermediate-High) Scenario
  - **2018 CCC Guidance**: +0.7 feet by 2030 and +1.8 feet by 2050
  - **2024 CCC Guidance**: Downgraded near predictions and added future predictions: +0.4 feet by 2030, +0.9 feet by 2050, and +4.5 feet by 2100
- Extreme-Risk (or High) Scenario
  - **2018 CCC Guidance**: +1.0 feet by 2030, and +2.6 feet by 2050
  - **2024 CCC Guidance**: Downgraded near predictions and added future predictions: +0.4 feet by 2030, +1.1 feet by 2050, and +6.3 feet by 2100

In addition, the California Ocean Protection Council (OPC) recently updated its *2018 State of California Sea Level Rise Guidance Update* (2018 OPC Guidance); the *State of California Sea Level Rise Guidance: 2024 Science and Policy Update* (2024 OPC Guidance) reflects the latest scientific understanding of SLR and presents lower SLR predictions compared to the 2018 OPC Guidance, as follows (relative to a 2000 baseline).

- **Low-Risk Scenario**: +0.2 feet by 2030, +0.4 feet by 2050, and +0.7 feet by 2100
- **Intermediate Low–Risk Scenario**: +0.3 feet by 2030, +0.5 feet by 2050, and +1.3 feet by 2100
- **Intermediate-Risk Scenario**: +0.3 feet by 2030, +0.7 feet by 2050, and +2.8 feet by 2100
- **Intermediate High–Risk Scenario**: +0.4 feet by 2030, +0.9 feet by 2050, and +4.5 feet by 2100
- **High-Risk Scenario**: +0.4 feet by 2030, +1.1 feet by 2050, and + 6.3 feet by 2100

Both the CCC and OPC Guidance documents discussed above recognize the uncertainty of SLR projections, particularly beyond 2050.

The *Port of Los Angeles Sea Level Rise Adaptation Study* (2018 Port SLR Adaption Study) (Port 2018) assessed potential SLR impacts on Port of Los Angeles (Port) infrastructure and assets and concluded the following; findings of the study are discussed in 3.5.9, *Sea Level Rise*.

- Mean sea levels have already risen 4 inches in the past 100 years.
- SLR is a significant risk that challenges the long-term viability of Port assets.
- If left unmitigated, SLR will temporarily affect business operations, international cargo may move elsewhere, and community/commercial or natural-habitat assets could be destroyed.

3.5.4 Regulatory Setting

Sources of air emissions in California are regulated by the U.S. Environmental Protection Agency (EPA), the California Air Resources Board (CARB), and South Coast Air Quality Management District (SCAQMD). In addition, regional and local jurisdictions play a role in GHG management. This section provides a summary of existing rules, regulations, and policies that potentially apply to the Proposed Project, but is not intended to present an all-inclusive listing of applicable requirements.

3.5.4.1 Federal Regulations

Greenhouse Gas Standards for Light-Duty Vehicles

In 1975, Congress enacted the Energy Policy and Conservation Act, which established the first fuel-economy standards for on-road motor vehicles in the United States (i.e. the Corporate Average Fuel Economy [CAFE] standards). Pursuant to the act, EPA and the National Highway Traffic Safety Administration (NHTSA) are responsible for establishing additional vehicle standards. In August 2012, standards were adopted for Model Years 2017 through 2025 for passenger cars and light-duty trucks. According to EPA, a Model Year 2025 vehicle would emit one-half of the GHG emissions from a Model Year 2010 vehicle. The State of California (state) streamlines its vehicle-efficiency standards through 2025 with the federal standards through the Advanced Clean Cars Program.

In 2019, EPA issued a final rule, the Safer Affordable Fuel-Efficient Vehicle Rule, which established new fuel-economy standards for light-duty vehicle fleets for the years 2021–2026 and rescinded the California waiver under the Federal Clean Air Act allowing California to issue its own motor vehicle–emission standards for GHGs. The rule was judicially challenged, and on March 9, 2022, EPA reinstated California's authority under the Clean Air Act to implement its own GHG-emission standards and zero-emission vehicle (ZEV) sales mandate.

These standards apply to vehicle manufacturers and would not require specific action on the part of the Proposed Project.

Greenhouse Gas Standards for Medium- and Heavy-Duty Vehicles

In 2011, EPA, in coordination with NHSTA, issued Phase 1 GHG emission and fuel-economy standards for medium- and heavy-duty trucks manufactured in Model Years 2014 to 2018. In 2016, EPA and NHTSA jointly issued Phase 2 standards for medium- and heavy-duty vehicles through Model Year 2027, designed to further improve fuel efficiency and reduce CO_2 emissions.

In April 2023, EPA announced a proposal to revise existing standards to reduce GHG emissions from heavy-duty vehicles in Model Year 2027 and set new, more-stringent standards for Model Years 2028–2032. This proposed program, known as *Phase 3*, would apply to heavy-duty vocational vehicles (e.g., delivery trucks, refuse haulers, public utility trucks, transit, shuttle, school buses) and tractors (i.e., day cabs and sleeper cabs on tractor-trailer trucks).

These standards apply to vehicle manufacturers and would not require specific action on the part of the Proposed Project.

3.5.4.2 State Regulations and Agreements

California has enacted a variety of laws that relate to climate change, many of which set aggressive goals for GHG reductions within the state and are based on Executive Orders (EOs) issued by state governors. The discussion below provides an overview of the CARB and California Governor's Office of Planning and Research documents, and of the primary EOs and legislation that relates to climate change, which may affect GHG emissions associated with the Proposed Project. Many of the plans, policies, and regulations in this section apply to state agencies and local governments and would not require specific action on the part of the Proposed Project; they are included here to highlight the GHG framework in California.

Executive Order S-3-05, Assembly Bill 32, 2008 Scoping Plan, and 2014 Scoping Plan Update

In 2005, EO S-03-05 established the following state targets: (1) Year 2000 levels by 2010; (2) Year 1990 levels by 2020; and (3) 80 percent below 1990 levels by 2050. EO S-3-05 established state targets and directed the state legislature to develop legislation to address those targets.

In 2006, Assembly Bill (AB) 32 codified the first two targets of EO S-3-05 into state law. AB 32 directed state regulatory agencies to develop rules and regulations to meet the 2020 state targets, required CARB to develop and enforce regulations for the reporting and verification of statewide GHG emissions, and required CARB to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG reductions.

In 2008, CARB adopted its *AB 32 Climate Change Scoping Plan* (2008 Scoping Plan) (CARB 2008), which set forth the framework for facilitating the state's AB 32 GHG goals. The 2008 Scoping Plan's GHG-reduction actions included direct regulations, compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms, such as a cap-and-trade system. In 2014, CARB adopted an update to the 2008 Scoping Plan (2014 Scoping Plan Update) that built on the 2008 Scoping Plan with new strategies to achieve the third AB 32 state target, 1990 emission levels by 2020.

The 2008 Scoping Plan and 2014 Scoping Plan Update envisioned that reductions in GHG emissions would come from virtually all sectors of the economy and be accomplished through a combination of policies, planning, direct regulations, market approaches, incentives, and voluntary efforts. These efforts target GHG-emission reductions from cars and trucks, electricity production, fuels, and other sources.

Executive Order B-30-15, Senate Bill 32, and 2017 Scoping Plan Update

In April 2015, EO B-30-15 established an interim, statewide GHG emissions–reduction target of 40 percent below 1990 levels by 2030 and directed the state legislature to develop legislation to address this state target. This interim target was established in order to ensure that the state meets the EO S-3-05 target of reducing GHG emissions to 80 percent below 1990 levels by 2050.

In 2016, Senate Bill (SB) 32 codified the EO B-30-15 target and directed state regulatory agencies to develop rules and regulations to meet the target. CARB adopted the *Scoping Plan for Achieving California's 2030 Greenhouse Gas Target* (2017 Scoping Plan Update) (CARB 2017) to align with the EO B-30-15 target. The 2017 Scoping Plan Update focused on the transportation sector, aiming to reduce its significant contribution to GHG emissions; measures included expanding ZEV adoption, improving public transit, promoting sustainable land-use planning, and encouraging alternative fuels and vehicle technologies. The 2017Scoping Plan Update also highlighted the importance of expanding renewable-energy generation and improving energy efficiency across sectors and developed strategies to promote energy efficiency and low-carbon technologies. The 2017 Scoping Plan Update also introduced strategies to reduce short-lived climate pollutants, such as methane and black carbon, which have significant near-term warming effects.

Executive Order B-55-18, AB 1279, and 2022 Scoping Plan Update

In 2018, EO B-55-18 established the following GHG emission–reduction targets for California state agencies: (1) Carbon neutrality by 2045; and (2) 85-percent reduction below 1990 levels by 2045. AB 1279 codified these targets.

In 2022, CARB released the *2022 Scoping Plan for Achieving Carbon Neutrality* (2022 Scoping Plan Update) (CARB 2022) to assess progress toward achieving the SB 32 2030 target of 40-percent below 1990 emission levels and lay out a path for achieving carbon neutrality in 2045, to align with EO B-55-18 and AB 1279. The 2022 Scoping Plan Update expands on earlier plans with a target of reducing anthropogenic emissions to 85-percent below 1990 levels by 2045. The 2022 Scoping Plan Update also incorporated an approach to decarbonize every sector of the economy and reduce petroleum demand by 94 percent.

Senate Bill 100 and Renewable Performance Standard

In 2018, SB 100 established that 100 percent of all electricity in California must be obtained from renewable- and zero carbon–energy resources by December 31, 2045. SB 100 also created new standards for the state's Renewable Portfolio Standards (RPS) goals to increase electricity from renewable sources from 50 percent to 60 percent by 2030 with specific interim targets.

Low Carbon Fuel Standard

CARB identified the Low Carbon Fuel Standard (LCFS) as a Discrete Early Action item under AB 32 and adopted the standard in 2009 (17 California Code of Regulations [CCR] 95480–95490). The LCFS intended to reduce GHG emissions by reducing the carbon intensity of transportation fuels used in California by 10 percent by 2020. CARB extended the LCFS program to 2030, making changes to the design and implementation of the program, including doubling the statewide carbon intensity–reduction to 20 percent by 2030. The extension also added new crediting opportunities to promote ZEV adoption and advanced technologies to achieve decarbonization in the transportation sector. Carbon intensity is a measure of the GHG emissions associated with the various production, distribution, and use steps in the lifecycle of a transportation fuel. This program applies to fuel providers and would not require specific action on the part of the Proposed Project.

California Air Resources Board Mobile Source Strategy

The *2016 Mobile Source Strategy* (CARB 2016) calls for an increased deployment of zero-emissions trucks, primarily for "last mile" delivery trucks, and includes measures to reduce total light-duty vehicle miles traveled (VMT) by 15 percent compared to business-as-usual in 2050. Statewide, the 2016 Mobile Source Strategy is anticipated to result in a 45-percent reduction in GHG emissions from mobile sources and a 50-percent reduction in the consumption of petroleum-based fuels. The 2016 Mobile Source Strategy is complementary to the Advanced Clean Trucks Program, Advanced Clean Fleets Program, and Advanced Clean Cars Program, discussed below.

Advanced Clean Truck Program

CARB developed, and the Office of Administrative Law (OAL) approved, the Advanced Clean Truck Program in 2021. The program is intended to increase the penetration of zero-emission heavy-duty trucks into the market. A key feature is a ZEV-truck sales mandate that would begin in 2024 and increase to up to 75 percent ZEV by 2035, depending on truck gross vehicle weight rating (GVWR). This program applies to vehicle sales and would not require specific action on the part of the Proposed Project.

Advanced Clean Cars Program

In 2022, CARB adopted, and OAL approved, Advanced Clean Cars II regulations, imposing the next level of low-emission and ZEV standards for vehicle Model Years 2026–2035. The program aims to help meet federal ambient air quality ozone standards and California's carbon-neutrality targets. A key feature is a ZEV passenger car, truck, and sports utility vehicle sales mandate that would ramp up to 100-percent ZEV sales by 2035. This program applies to vehicle sales and would not require specific action on the part of the Proposed Project.

Idling Restrictions

CARB set regulations to restrict idling from commercial vehicles (CCR Title 13 § 2485) and off-road equipment, such as construction equipment (CCR Title 13 § 2449), to 5 minutes, primarily to control airborne toxic emissions from diesel-fuel combustion. However, idling restrictions have the co-benefit of also reducing GHG emissions.

Senate Bill 375 – Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy Connect SoCal

Pursuant to SB 375 (the Sustainable Communities and Climate Protection Act of 2008), the Southern California Association of Government (SCAG) prepared and, on April 7, 2016, adopted, the *2016–2040 Regional Transportation Plan/Sustainable Communities Strategy* (SCAG 2016). The Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) was the culmination of a multi-year effort involving parties across the SCAG region and contained, among other policies, a regional commitment for the broad deployment of zero- and near zero–emission transportation technologies in the 2020–2040 timeframe and clear steps to move toward this objective.

In 2022, the RTP/SCS was updated as *Connect SoCal* (SCAG 2022), which set forth the long-range regional plan, policies, and strategies for transportation improvements and regional growth throughout the SCAG region through the horizon year of 2045. *Connect SoCal* includes regional growth forecasts, financial plans, and a strategic plan to support identified transportation projects and facilitate coordinated implementation of those projects. One of the plan's guiding principles is to encourage transportation investments that will result in improved air quality and public health and reduced GHG emissions.

3.5.4.3 Local Rules and Regulations

City of Los Angeles Policies

City policies and plans typically apply to City agencies and local governments, or are Port-wide actions that would not require specific action on the part of the Proposed Project; they are included here to highlight the GHG framework in California.

General Plan

The *Mobility Element* of the City's *General Plan 2035* (City of Los Angeles 2015a) contains general policies and objectives related to GHGs. Specifically, one of the document's overall policies calls for the City to target GHG reductions through the development of more-sustainable transportation systems. One of the goals articulated in *General Plan 2035*, Chapter 5, *Clean Environments and Healthy Communities*, is to meet a 19 percent per capita GHG reduction by 2035, consistent with the SCAG RTP/SCS (i.e., *Connect SoCal*).

The Sustainable City pLAn / LA Green New Deal pLAn

In 2015, the City developed the *Sustainable City pLAn* (City of Los Angeles 2015b), which outlined the City's long-term sustainability goals and targets across various sectors, including energy, transportation, water, waste, and environmental justice, through 2035. The pLAn was revised in 2019

as the City's *Green New Deal pLAn* (City of Los Angeles 2019); it extends the roadmap through 2050. The 2019 Plan sets targets, milestones, and initiatives for various sectors. Some key features include 100-percent renewable energy by 2045, 100-percent net zero–carbon new buildings by 2050, and 100-percent ZEVs by 2050 (City of Los Angeles 2019).

Port of Los Angeles Policies

Port Climate Action Plan

The *Green LA Plan* (City of Los Angeles 2007) directed the Port to develop an individual Climate Action Plan (CAP) (City of Los Angeles Harbor Department 2007) that was consistent with the goals of the *Green LA Plan* to explore opportunities for reducing GHG emissions from municipal operations (e.g., Port buildings, Port workforce operations). The CAP outlines specific steps that the Los Angeles Harbor Department (LAHD) has taken and will take regarding global climate change. These steps include specific actions for energy audits, green building policies, onsite photovoltaic solar energy, green-energy procurement, tree planting, water conservation, alternative-fuel vehicles, increased recycling, and green procurement.

Port of Los Angeles Actions to Reduce Greenhouse Gas Emissions by 2050

In September 2014, LAHD prepared *Actions to Reduce Greenhouse Gas Emissions by 2050* (LAHD 2014) and submitted the report to the City. The report presents a summary of the actions being undertaken by LAHD to reduce GHG emissions associated with LAHD operations and establishes its leadership role in helping the maritime industry reduce emissions occurring in the Port area. The report shows that quantifiable progress has been made in reducing GHG emissions from 1990 to 2013 and outlines actions/strategies that are either being implemented or evaluated for possible implementation, in an effort to continue to reduce GHG emissions. Although not a legal mandate, the report establishes a Port-wide goal of 35-percent reduction by 2035 and 80-percent reduction by 2050, relative to 1990 levels.

San Pedro Bay Ports Clean Air Action Plan

The Port, in conjunction with the Port of Long Beach and with the cooperation of SCAQMD, CARB, and EPA, adopted the *San Pedro Bay Ports Clean Air Action Plan* (CAAP) in 2006 (Port of Los Angeles and Port of Long Beach 2006), and adopted an updated CAAP in 2010 (Port of Los Angeles and Port of Long Beach 2010), and in 2017 (Port of Los Angeles and Port of Long Beach 2017). The CAAP is a sweeping plan designed to reduce the health risks posed by air pollution from all port-related emissions sources, including ships, trains, trucks, terminal equipment, and harbor craft. In addition, a major goal of the CAAP is to advance energy efficiency and transition to zero emissions at the Ports in support of the City's GHG reduction goals. The CAAP and CAAP updates apply to Port-wide sources and would not require specific action on the part of the Proposed Project.

Los Angeles Harbor District Sustainable Construction Guidelines

The LAHD adopted the *LAHD Sustainable Construction Guidelines* (SCG) (Port 2008, 2009). As part of LAHD's overall environmental goals and CAAP strategies, any construction at the Port must follow the SCG. The guidelines reinforce and require sustainability measures under construction contracts, addressing a variety of emission sources that operate at the Port. In addition, the SCG

include best management practices (BMPs) based on CARB-verified best-available control technology (BACT), designed to reduce air emissions from construction sources. The SCG would apply to all sources, such as construction equipment and construction trucks, associated with the Proposed Project.

Additional Rules, Regulations and Policies

In addition to the above, many rules, regulations, and policies, discussed in *Air Quality*, Section 3.2.4, *Regulatory Setting*, which reduce fuel consumption and increase energy efficiency, would have the co-benefit of also reducing GHG emissions.

3.5.5 Previous Mitigation Measures Applicable to the Proposed Project

The 2009 SPW EIS/EIR concluded that impacts from GHGs would be significant, and mitigation measures were included to reduce potential impacts. The 2016 SPPM Addendum incorporated mitigation measures from the 2009 SPW EIS/EIR that were considered applicable to the SPPM Project. Of the 21 mitigation measures with the potential to reduce GHG emissions identified in the 2009 SPW EIS/EIR, six were considered applicable to the 2016 SPPM Addendum. Of the six mitigation measures identified in the 2016 SPPM Addendum, five would be applicable to the Proposed Project and are discussed below. The 2009 SPW EIS/EIR Mitigation Monitoring and Reporting Program (MMRP) can be found in Table 3.2-141 of the 2009 SPW EIS/EIR, and the 2016 SPPM Addendum MMRP can be found in Appendix B of the 2016 SPPM Addendum. The numbering systems from the 2009 SPW EIS/EIR and 2016 SPPM Addendum have been retained for consistency and clarity.

The following mitigation measures, identified in the 2009 SPW EIS/EIR and 2016 SPPM Addendum, are applicable to the Proposed Project.

- **MM-AQ-3:** *Fleet Modernization for On-Road Trucks During Construction*;
- **MM-AQ-4:** *Fleet Modernization for Construction Equipment*;
- **MM-AQ-6:** *Best Management Practices*;
- **MM-AQ-7:** *General Mitigation Measure During Construction*; and
- **MM-AQ-27:** *Light-Emitting Diode (LED) Light Bulbs.*[2]

Other mitigation measures identified in the 2009 SPW EIS/EIR and 2016 SPPM Addendum are not applicable to the Proposed Project. For a full description of each mitigation measure identified above, as certified in the 2009 SPW EIS/EIR and 2016 SPPM Addendum, please refer to Section 3.2, *Air Quality*, of this SEIR.

[2] **MM AQ-27** in the 2009 SPW EIS/EIR specified compact fluorescent light bulbs. The Proposed Project proposes modification to allow for the use of more energy-efficient LED light bulbs instead of the obsolete compact fluorescent light bulbs. This proposed modification is discussed in Section 3.2.5.

3.5.6 New Mitigation Measures Applicable to the Proposed Project

MM-AQ-31: Zero-Emission Shuttle Buses.

To the extent commercially available for rent, the Tenant shall use zero-emission shuttle buses from Port-owned parking lots to the Project Site during ticketed amphitheater events.

This mitigation measure is identified in Section 3.2, *Air Quality*, and is quantified in both the Air Quality section and this GHG section.

3.5.7 Methodology

The baseline for GHG analysis are conditions that existed at the time the 2009 SPW EIS/EIR was certified and those that were identified in Section 3.8.1, *Environmental Setting*, of that document. This section describes the calculation methodology used to quantify GHG emissions from construction and operation of the Proposed Project. The following sources of emissions were considered in the analysis.

- Construction Sources
  - Diesel construction equipment (engine exhaust)
  - Diesel construction vehicles (engine exhaust)
  - Worker vehicles (engine exhaust)
- Operational Sources
  - Patron/visitor and worker vehicles (exhaust)
  - Other vehicles – delivery vehicles, food trucks (exhaust)
  - Emergency diesel generator and natural gas use (e.g., for heating) (engine exhaust)
  - Diesel tugboats used to position firework barges (engine exhaust)
  - Firework displays
  - Indirect GHG emissions from electricity use on site

The calculation methodology is very similar to the methodology described in Section 3.2, *Air Quality*, in its consideration of emission-source activity and choice of software models. GHG emissions were estimated within California as required by CEQA. Table 3.2-4 in Section 3.2 summarizes operational emission sources and activities, which apply to both air quality and GHG analyses.

In addition, potential consequences of SLR are discussed below in Section 3.5.9, *Sea Level Rise*. The discussion is presented for informational purposes, and no significance determination is made regarding SLR. The discussion is based on the 2018 Port SLR Adaption Study.

3.5.7.1 Construction

Construction activities would result in GHG emissions from fuel combustion in off-road construction equipment, construction vehicles, and worker vehicles. Construction of the Amphitheater and 208 E.

22nd Street Parking Lot is anticipated to begin in 2025 and take up to 15 months to complete. Installation of a large Ferris wheel would occur following construction of the Amphitheater and the 208 E. 22nd Street Parking Lot. Construction of the Amphitheater would include minor demolition of concrete and/or asphalt, minor grading, construction of underground utilities, concrete paving, and construction of small ancillary buildings. Construction of the 208 E. 22nd Street Parking Lot would include demolition of several small buildings, grading, and asphalt paving. A 175-foot-diameter Ferris wheel would be constructed off site, transported in sections, and installed at the Project Site. Although a 100-foot-diameter Ferris wheel was analyzed in the 2016 SPPM Addendum, the Proposed Project proposes the installation and operation of a larger Ferris wheel, with a diameter of up to 175 feet. The installation of the larger Ferris wheel was therefore conservatively included in the Proposed Project analysis. Installation of the Ferris wheel would include construction of underground utilities, possibly pile driving, construction and erection of the amusement attractions, and concrete paving. Construction elements are discussed in detail in Chapter 2, *Existing Setting and Proposed Project Description*.

The construction schedule and equipment utilization are provided in Appendix B, Table B1, *California Emissions Estimator Model (CalEEMod) Output*. The actual construction schedule may differ from the one used in the analysis, depending on the requirements of the Proposed Project's construction contractor. Delay of construction activities would not likely result in greater impacts than what was analyzed. This is due to the implementation of increasingly stringent regulatory requirements and the turnover to cleaner equipment in future years as compared to the analysis.

The California Air Pollution Control Officers Association's (CAPCOA), CalEEMod, version 2022.1.1.28, was used to quantify emissions from proposed construction activities (CAPCOA 2024). The CalEEMod model is approved by the SCAQMD and is well suited to many land development projects. The model uses emission factors for off-road equipment and on-road vehicles from the CARB emissions inventory. The construction schedule and equipment utilization provided by the project proponent and LAHD's Engineering Division were used as CalEEMod input. CalEEMod default values were used in instances where equipment utilization was unavailable from the project proponent or LAHD.

Construction emissions were calculated for each year of construction and amortized over the life of the Proposed Project, defined as 30 years, per SCAQMD Guidance (SCAQMD 2010). Although the *2019 Addendum to the San Pedro Waterfront Project Environmental Impact Report for the San Pedro Public Market Project* (2019 SPPM Addendum) (ICF 2019) extended the lease to 2082, construction emissions were conservatively amortized over 30 years, per SCAQMD methodology.

3.5.7.2 Operation

Annual GHG emissions of CO_2, CH_4, and N_2O were calculated and added to amortized construction emissions. Emissions were calculated based on the operational activity information provided by the project proponent and vehicle counts discussed in Section 3.8, *Transportation*. Table 3.2-4 in *Air Quality* Section 3.2.4, *Methodology*, summarizes operational emission sources and activities.

The combined annual operational and amortized construction CO_2, CH_4, and N_2O emissions were converted to CO_2e, which allows for the comparison of emissions from different gases based on their relative contribution to global warming. The following GWPs from the IPCC's *Fourth Assessment Report* (2007) were used in the analysis: CO_2: 1, CH_4: 28, N_2O: 298. The use of the *Fourth*

Assessment Report is consistent with the CalEEMod model used to calculate construction emissions and is consistent with California's State GHG Inventory.

Vehicles

Patrons/visitors and workers would use personal vehicles to transit to and from the venue, and shuttle services would be available for patrons using offsite parking lots during events at the Amphitheater. Tractor-trailer rigs would be used to transport temporary seating and other equipment to and from the Project Site, and delivery and food trucks would provide supplies and food during events. A small number of delivery trucks may be used to provide supplies, but these would be insubstantial when compared with the other vehicles. Vehicles would emit GHG emissions from engine exhaust.

GHG emissions were calculated by multiplying the VMT by pollutant-specific emission factors. VMT is the same as metric as that used in calculating criteria pollutants in Section 3.2, *Air Quality*, and is not repeated here (see Table 3.2-4).

Emission factors relate the amount of pollutants released into the atmosphere to a unit of activity or product. These factors are determined through scientific measurements and analysis, often based on comprehensive studies or databases that collect data from various sources. Emission factors associated with vehicle exhaust were calculated using CARB's Emission Modeling for Air Quality Compliance (EMFAC) 2021 emissions inventory model (CARB 2021). Emission factors were calculated by dividing the EMFAC total exhaust emissions by the EMFAC VMT. Emission factors are presented in Appendix B, Table B3, and EMFAC model output is presented in Table B4.

Natural Gas Combustion

Natural gas would be used in concession operations and would result in GHG combustion-exhaust emissions. Annual emissions were calculated by multiplying the anticipated natural-gas use by pollutant-specific emission factors. Annual natural-gas use was provided by the project proponent and is presented in Section 3.2, *Air Quality*, Table 3.2-4. CO_2 emission factors were obtained from The Climate Registry (TCR), *2022 Emission Default Emission Factors*, Table 1.1 (TCR 2022). CH_4 and N_2O emission factors were obtained from TCR's Table 1.10. Emission factors are summarized in Appendix B, Table B6.

Emergency Generator

A 500-horsepower (hp) diesel generator would be used at the Project Site in the event of emergencies. Maintenance testing and incidental operation of the generator would result in GHG emissions from engine exhaust. Emissions were calculated by multiplying the generator-rated power by activity, load factor, and pollutant-specific emission factors. Generator power and activity are described in Section 3.2, *Air Quality*, Table 3.2-4. Load factors are presented in Appendix B, Table B7. Emission factors were obtained from CalEEMod 2021, Appendix G, Table G-40, and are presented in Appendix B, Table B7.

Tugboats

Two tugboats would be used to position one fireworks barge during firework events. Fireworks would be launched from a single launch site, as described in the *Fireworks* section, below. The analysis assumes all-diesel tugboats, which are typical at the Port. The use of tugboats would result in

GHG emissions from engine exhaust. Emissions were calculated by multiplying the number of tugboat engines by engine activity, engine power, load factor, pollutant-specific emission factors, and the number of firework events per year.

Tugboats typically operate two propulsion and two auxiliary engines. Although all engines do not always operate at the same time, the analysis conservatively assumed operation of both propulsion engines simultaneously for 2 hours for each firework event; this is sufficient time to transport the barge to and from the launch location and position the barge. Once the barge is in position, propulsion engines would be turned off. Both auxiliary engines were assumed to operate for 3 hours during each firework event: during barge transport; barge positioning; and during the time the barge is at the launch site. Tugboat activity is summarized in Section 3.2, *Air Quality*, Table 3.2-4, and detailed in Appendix B, Table B8.

Tugboat engine characteristics, activity and load factors are also discussed in Section 3.2, and activity is summarized in Table 3.2-4. Engine power was obtained from the Port's *2021 Emissions Inventory* (Port 2021). Load factors and emission factors were obtained from the Port's *2022 Emissions Inventory Methodology Report* (Port 2022b). Appendix B, Table B8, presents engine size, activity, load factors, and emission factors.

Tugboat engines are subject to EPA engine-emission standards, which, although enacted to reduce criteria pollutants and diesel exhaust, contribute to a small reduction in GHG, likely due to fuel efficiency of newer engines. The analysis assumed the use of tugboats with Tier 3 engines, which are available at the Port. Emission factors for Tier 3 engines were obtained from EPA Exhaust Emission Standards (EPA 2020) and are summarized in Appendix B, Table B8, and detailed in Table B9. CARB's Harbor Craft regulation, discussed in greater detail in Section 3.2.4.2, was revised in 2022 and requires cleaner upgrades and newer technology for in-use harbor craft to reduce engine exhaust emissions than what was assumed in the analysis (CARB 2022). Although CARB's revised regulatory requirements for harbor craft operating at the Port began in 2023, this analysis conservatively does not take credit for associated emission reductions. The revised regulation includes compliance exceptions and extensions that make it difficult to predict the harbor-craft fleet mix in future years. Therefore, the analysis assumed compliance with CARB's regulation as adopted in 2010, prior to its 2022 revision.

Fireworks

The Proposed Project anticipates 25 firework events per year. Fireworks would be launched from a single launch site, located approximately 1,000 feet south of Berths 47–48 in the Outer Harbor.

Firework activity and air pollutant–calculation methodology are discussed in detail Section 3.2, *Air Quality* (see Section 3.2.6.2, *Operations*). GHG emissions were calculated in the same way as were air pollutants, by scaling the analysis of firework displays in the *2017 San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project* (San Diego 2017). The San Diego Bay project quantified GHG pollutant emissions from several different-sized firework displays. The closest type of display to the Proposed Project would be "Summer Pops" displays, which use approximately 100 pounds of fireworks. Calculation details are presented in Appendix B, Table B12.

3.5.8 Thresholds of Significance

CEQA Guidelines Appendix G (CCR Title 14, Division 6, Chapter 3 §§ 15000–15387) recommends that significance criteria established by the applicable air quality management district or air pollution control district be relied on to make determinations of significance and recommends consideration of the following in assessing impacts. In addition, CEQA also affords the lead agency discretion to evaluate the significance of GHG emissions quantitatively or qualitatively, to select the model or methodology it considers appropriate for doing so, provided it supports its decision with substantial evidence, and recommends consideration of the following in assessing GHG impacts.

Would the Proposed Project:

1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions?

The CEQA guidelines do not specify significance thresholds, thus allowing lead agencies discretion in how to address and evaluate significance based on these criteria. To provide guidance to local lead agencies in determining significance for GHG emissions in CEQA documents, SCAQMD adopted a threshold of 10,000 metric tons per year (mty) of CO_2e for industrial projects in 2008. At that time, SCAQMD staff also developed an interim GHG significance threshold for nonindustrial (i.e., commercial and land development) projects of 3,000 mty of CO_2e emissions per year. The SCAQMD Governing Board did not formally adopt the 3,000 mty non-industrial threshold, and LAHD has chosen not to rely on it for determination of significance. Quantified emissions have been included as an informational item.

Although, the Initial Study (IS)/Notice of Preparation (NOP) addressed the second guidance recommendation and determined that the Proposed Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, LAHD has chosen to assess GHG impacts with consideration to this guidance recommendation. Therefore, Proposed Project activities were assessed for their consistency with plans, policies, and regulations intended to reduce GHG emissions.

In summary, the LAHD has, per CEQA Guidelines Section 15064.4(a)—which calls for a good faith effort to describe and quantify emissions—calculated emissions associated with Proposed Project activities and assessed significance based on the Proposed Project's consistency with plans, policies, and regulations intended to reduce GHG emissions. Based on the above, the Proposed Project would have a significant impact related to GHGs if it would result in the following.

- **Impact GHG-1**. Would the Proposed Project result in construction and operational activities that conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?

Finally, CEQA Guidelines Section 15126.2(a) identifies the need to evaluate potential impacts of locating development in areas that are vulnerable to climate-change effects. The EIR "should evaluate any potentially significant impacts of locating development in other areas susceptible to hazardous conditions (e.g., floodplains, coastlines, wildfire risk areas)" (CEQA Guidelines Section 15126.2[a]).

Although no quantitative significance thresholds are defined for evaluating the potential impacts of locating development in areas that are vulnerable to climate-change effects, the analysis addresses this evaluation qualitatively below, under Section 3.5.9, *Sea Level Rise*.

Impact GHG-1. Would the Proposed Project result in construction and operational activities that conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?

Summary of 2009 San Pedro Waterfront Project Environmental Impact Statement/Environmental Impact Report Findings

Consideration of GHG impacts was added to the CEQA Guidelines Appendix G in March 2010, per requirements of SB 97. Because the 2009 SPW EIS/EIR was prepared and certified prior to 2010, the 2009 SPW EIS/EIR assessed GHG impacts prior to the incorporation of GHG considerations in the CEQA guidelines. The 2009 SPW EIS/EIR conservatively established that any GHG emissions exceeding the CEQA baseline constituted significance and determined that SPW activities would result in significant impacts related to GHG (**Impact AQ-9** of 2009 SPW EIS/EIR).

The 2009 SPW EIS/EIR concluded that although mitigation measures would reduce emissions, impacts would remain significant and unavoidable for GHG (2009 SPW EIS/EIR, Table 3.2-43).

Summary of 2016 San Pedro Waterfront Project Addendum to the San Pedro Waterfront Project Environmental Impact Report for the San Pedro Public Market Project Findings

The 2016 SPPM Addendum determined that activities would not result in new significant impacts, substantially increase the severity of previously analyzed impacts, nor require new mitigation measures that had not already been evaluated in the 2009 SPW EIS/EIR. The 2016 SPPM Addendum concluded that the SPPM Project would not result in a substantial change from findings in the 2009 SPW EIS/EIR.

Impacts of the Proposed Project

Table 3.5-1. Greenhouse Gas Plan, Policy, and Regulatory Evaluation

Plan or Policy	Evaluation of Project and Build Alternatives
EPA/NHTSA CAFE Standards	
CAFE Standards are GHG-emission and fuel-economy standards for passenger cars and light-duty trucks.	**No Conflict.** The standards require automakers to achieve increasingly lower emission levels and higher fuel economy over time. Vehicles used by patrons and employees would be subject to the CAFE standards. No element of the Proposed Project or Alternative 2 – Half-Capacity Amphitheater Alternative would conflict with the standards.

Plan or Policy	Evaluation of Project and Build Alternatives
EPA/NHTSA Standards for Medium- and Heavy-Duty Vehicles	
Phase 1, 2, and 3 set GHG emission and fuel economy standards for medium- and heavy-duty vehicles.	**No Conflict.** The standards require vehicle manufacturers to achieve increasingly lower emission levels and higher fuel economy over time. Medium- and heavy-duty vehicles, such as construction vehicles, operational equipment, and delivery vehicles, would be subject to these standards. No element of the Proposed Project or Alternative 2 – Half-Capacity Amphitheater Alternative would conflict with the standards.
EO S-3-05 (2005) and AB 32	
EO S-3-05 established the following GHG emission-reduction targets for California state agencies, and AB 32 codified these targets. • Year 2000 levels by 2010 • Year 1990 levels by 2020 • 80% below 1990 levels by 2050.	**No Conflict.** The Proposed Project and Alternative 2 – Half-Capacity Amphitheater Alternative would not impede the state's achievement of targets set in EO S-3-05 and AB 32. EO S-3-05 and AB 32 established statewide goals, but did not identify measures directly applicable at a project level. The Proposed Project would facilitate state goals by ensuring compliance with all applicable CARB and City regulatory requirements intended to reduce GHG emissions. No element of the Proposed Project or Alternative 2 – Half-Capacity Amphitheater Alternative would impede the state's progress toward GHG reduction targets.
CARB's 2008 and 2014 Scoping Plans	
CARB's 2008 Scoping Plan developed a general framework for meeting AB 32 targets and a more specific roadmap for achieving the first AB 32 target. CARB's 2014 Scoping Plan developed additional strategies to achieve the second AB 32 target.	**No Conflict.** CARB's 2008 and 2014 Scoping Plan measures were primarily designed to achieve 2000 GHG levels by 2010 and 1990 levels by 2020, respectively. California GHG emissions dropped below the 1990 level in 2016, 4 years ahead of schedule. The Proposed Project and Alternative 2 – Half-Capacity Amphitheater Alternative would begin construction in 2024 and would not have a bearing on the state's achievement of these targets.
EO B-30-15 (2015) and SB 32	
EO B-30-15 established the following GHG emission-reduction target for California state agencies: 40% below 1990 levels by 2030. SB 32 codified this target.	**No Conflict.** The Proposed Project and Alternative 2 – Half-Capacity Amphitheater Alternative would not impede the state's achievement of targets set in EO B-30-15 and SB 32. EO B-30-15 and SB 32 established statewide goals, but did not identify measures directly applicable at a project level. The Proposed Project would facilitate state goals by ensuring compliance with all applicable CARB and City regulatory requirements intended to reduce GHG emissions. No element of the Proposed Project or Alternative 2 – Half-Capacity Amphitheater Alternative would impede the state's progress toward GHG-reduction targets.

Plan or Policy	Evaluation of Project and Build Alternatives
CARB's 2017 Scoping Plan	
CARB's 2017 Scoping Plan developed strategies to achieve EO B-30-15 and SB 32 targets. 2017 Scoping Plan measures identified below, although not directly applicable at a project level, are most relevant to the Proposed Project and Alternative 2 – Half-Capacity Amphitheater Alternative.	**No Conflict.** The Proposed Project and Alternative 2 – Half-Capacity Amphitheater Alternative would not impede the state's progress toward measures identified in CARB 2017 Scoping Plan, as discussed below.
CARB 2017-1. Reduce GHG Emissions in the Electricity Sector via 50% RPS: Double energy efficiency in natural-gas and electricity use.	**No Conflict.** Electricity would be sourced from the Los Angeles Department of Water and Power (LADWP), a California publicly owned utility subject to the RPS, which requires increasing renewable-energy procurement targets over time, thus reducing GHG emissions from electricity generation. Therefore, electricity used at the Project Site would comply with state electricity sector GHG-reduction strategies. No element of the Proposed Project or Alternative 2 – Half-Capacity Amphitheater Alternative would impede the state's progress toward reduction of GHG emissions from the electricity sector. In addition, **MM-AQ-27** would require the use of all LED lights, which would reduce electricity use.
CARB 2017-2. Low Carbon or Alternative Fuels (LCFS): Transition to cleaner/less-polluting fuels with a lower carbon footprint; 20% reduction in carbon intensity by 2030.	**No Conflict.** The Proposed Project's and Alternative 2 – Half-Capacity Amphitheater Alternative's primary source of GHG emissions would be from fuel use associated with patron/visitor vehicles. Patrons/visitors, workers, and other vehicle drivers would use California fuels that are subject to the LCFS regulations, which would be expected to reduce GHG emissions as low carbon fuel availability use increases statewide. No element of the Proposed Project or Alternative 2 – Half-Capacity Amphitheater Alternative would impede the state's progress toward transition to low-carbon or alternative fuels. Furthermore, **MM-AQ-31** would require the use of zero-emission shuttle buses, thereby reducing the use of carbon-based fuels and facilitating the state's progress toward transition to low carbon or alternative fuels.
CARB 2017-3. Mobile Source Strategy: Reduce GHGs and other pollutants from the transportation sector through transition to zero-emission and low-emission vehicles, cleaner transit systems, and reduction of VMT.	**No Conflict.** Similar to CARB 2017-2, above, the Proposed Project and Alternative 2 – Half-Capacity Amphitheater Alternative vehicle use would be subject to state vehicle regulations and requirements that are designed to accelerate the transition to zero-emission and low-emission vehicles. No element of the Proposed Project or Alternative 2 – Half-Capacity Amphitheater Alternative would impede the state's progress toward transition to low- or zero-emission vehicles. In addition, **MM-AQ-31** would require the use of zero-emission

Plan or Policy	Evaluation of Project and Build Alternatives
	shuttle buses, thereby facilitating the state's transition to zero-emission transit. Furthermore, the Proposed Project and Alternative 2 – Half-Capacity Amphitheater Alternative would reduce project-related VMT by incentivizing ridesharing and providing designated drop-off/pick-up locations outside of the main parking area and a grace period for drivers to exit the paid parking in a timely manner. Travel options, including public transit–trip planning and rideshare options, would be provided at the time of advance-ticket purchase, thereby promoting the use of public transit and ridesharing, consistently with CARB's Mobile Source Strategy. No element of the Proposed Project or Alternative 2 – Half-Capacity Amphitheater Alternative would impede the state's VMT-reduction goals. Refer to Section 3.8, *Transportation*, for a list of transportation-related measures.
EO B-55-18 (2018), SB 100, and RPS	
EO B-55-18 established the following GHG emission–reduction targets for California state agencies: (1) Carbon neutrality by 2045; and (2) 85% reduction below 1990 levels by 2045. AB 1279 codified these targets. SB 100 (2018) established that 100% of all electricity in California must be obtained from renewable and zero-carbon energy resources by December 31, 2045. SB 100 also created new standards for the RPS goals to increase electricity from renewable sources from 50% to 60% by 2030, with specific interim targets.	**No Conflict.** The Proposed Project and Alternative 2 – Half-Capacity Amphitheater Alternative would not impede the state's compliance with EO B-55-18, SB 100, and RPS. EO B-55-18 and SB 100 established statewide goals, but did not identify measures directly applicable at a project level. The Proposed Project would facilitate state goals by ensuring compliance with all applicable CARB and City regulatory requirements intended to reduce GHG emissions. No element of the Proposed Project or Alternative 2 – Half-Capacity Amphitheater Alternative would impede the state's progress toward GHG-reduction targets. Furthermore, electricity would be sourced from LADWP, a California publicly owned utility subject to the RPS, which requires increasing renewable energy–procurement targets over time, thus reducing GHG emissions from electricity generation. Therefore, electricity used at the Project Site would comply with state electricity-sector GHG-reduction strategies. No element of the Proposed Project or Alternative 2 – Half-Capacity Amphitheater Alternative would impede the state's progress toward reduction of GHG emissions from the electricity sector.
CARB's 2022 Scoping Plan	
CARB's 2022 Scoping Plan developed strategies to achieve EO B-55-18 targets.	**No Conflict.** The Proposed Project and Alternative 2 – Half-Capacity Amphitheater Alternative would not impede the state's compliance with CARB's 2022 Scoping Plan, as discussed below.

Plan or Policy	Evaluation of Project and Build Alternatives
CARB 2022-1: • **Transportation Technology**: 100% ZEV sales of light-duty vehicles by 2035 and medium heavy-duty vehicles by 2040. • **Transportation Fuels**: Reduction and replacement of fossil-fuel production and consumption. • **VMT**: Reduce VMT per capita 25% below 2019 levels by 2030 and 30% below 2019 levels by 2045.	**No Conflict.** Similar to 2017-2 above, the Proposed Project's and Alternative 2 – Half-Capacity Amphitheater Alternative's vehicle use and associated fuels would be subject to state vehicle regulations and requirements designed to accelerate the transition to ZEVs. No element of the Proposed Project or Alternative 2 – Half-Capacity Amphitheater Alternative would impede the state's progress toward transitioning to low-emission vehicles or ZEVs and low-carbon and alternative fuels. In addition, **MM-AQ-31** would require the use of zero-emission shuttle buses, thereby helping to facilitate the state's progress toward implementation of zero-emission technology. Furthermore, the Proposed Project and Alternative 2 – Half-Capacity Amphitheater Alternative would reduce project-related VMT by incentivizing ridesharing and providing designated drop-off/pick-up locations outside of the main parking area and a grace period for drivers to exit the paid parking in a timely manner. Travel options, including public transit–trip planning and rideshare options, would be provided at the time of advance-ticket purchase, thereby promoting the use of public transit and ridesharing consistent with CARB's strategies. Section 3.8, *Transportation,* identifies measures designed to reduce VMT. No element of the Proposed Project or Alternative 2 – Half-Capacity Amphitheater Alternative would impede the state's VMT-reduction goals.
CARB 2022-2. Clean Electricity Grid: • Double statewide energy-efficiency savings in electricity and fossil-gas end uses by 2030. • Achieve 90%, 95%, and 100% renewable and zero-carbon retail sales by 2035, 2040, and 2045, respectively.	**No Conflict.** Similar to CARB 2017-1 above, electricity would be sourced from LADWP, which is subject to the RPS requirements. Therefore, electricity used at the Project Site would comply with state electricity-sector GHG-reduction strategies. No element of the Proposed Project or Alternative 2 – Half-Capacity Amphitheater Alternative would impede the state's progress toward renewable energy goals. In addition, **MM-AQ-27** requires the use of all LED lights, which would reduce electricity use.
CARB 2022-4. Short-Lived Climate Pollutants: • **Landfill Methane**: Reduce disposal to landfills. • **Black Carbon**: Reduce fuel combustion associated with transportation emissions.	**No Conflict.** • **Landfill Methane**: California's Mandatory Commercial Recycling Program requires that recyclable waste be separated from trash and transported to a recycling center. The program is implemented by the City. The Proposed Project and Alternative 2 – Half-Capacity Amphitheater Alternative would be subject to and comply with recycling requirements that are designed to divert waste from landfills. No element of the Proposed Project or Alternative 2 – Half-Capacity

Plan or Policy	Evaluation of Project and Build Alternatives
	Amphitheater Alternative would impede the state's progress toward landfill-diversion goals. • **Black Carbon**: Similar to CARB 2017-2, above, vehicles associated with the Proposed Project and Alternative 2 – Half-Capacity Amphitheater Alternative would use California fuels that are subject to LCFS regulations, which would be expected to reduce GHG emissions as low-carbon fuel availability use increases statewide. No element of the Proposed Project or Alternative 2 – Half-Capacity Amphitheater Alternative would impede the state's progress toward reducing transportation fuel combustion. In addition, **MM-AQ-31** would require the use of zero-emission shuttle buses, which would further the state's progress toward reducing carbon-based fuel combustion.
Advanced Clean Truck/Advanced Clean Car Regulations	
CARB established ZEV sales mandates to increase the penetration of ZEV trucks and automobiles into the market.	**No Conflict.** These regulations set sales mandates. Vehicles used by patrons and employees and trucks used during construction and operation would be subject to the state's sales mandates and, as such, would not conflict with these regulations. No element of the Proposed Project or Alternative 2 – Half-Capacity Amphitheater Alternative would conflict with the standards.
Limited Idling Time for Commercial Vehicles (13 CCR § 2485) and Off-Road Equipment (13 CCR § 2449)	
Both regulations restrict idling to 5 minutes.	**No Conflict.** Construction-equipment idling would comply with the idling restriction via the LAHD *Sustainable Construction Guidelines* imposed on the construction contractor.
SB 375 2020–2045 Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy	
The SCS is a required element of the RTP and provides a plan for meeting GHG emissions–reduction targets set forth by CARB. CARB has determined that SCAG's reduction target for per-capita vehicular emissions to be 8% by 2020 and 19% by 2035, relative to 2005.	**No Conflict.** The Proposed Project and Alternative 2 – Half-Capacity Amphitheater Alternative would reduce project-related VMT by incentivizing ride sharing, providing designated drop-off/pick-up locations outside of the main parking area, and establishing a grace period for drivers to exit the paid parking area in a timely manner. Travel options, including public transit–trip planning and rideshare options, would be provided at the time of advance-ticket purchase, thereby promoting the use of public transit and ridesharing, consistently with CARB's strategies. Section 3.8, *Transportation*, identifies measures designed to reduce VMT. No element of the Proposed Project or Alternative 2 – Half-Capacity Amphitheater Alternative would impede the region's compliance with SCS requirements.

Plan or Policy	Evaluation of Project and Build Alternatives
City of Los Angeles General Plan, Mobility Plan 2035	
The *Mobility Plan 2035* provides the policy foundation for achieving a transportation system that balances the needs of all road users. Among its goals, the following are pertinent to GHG reduction.	**No Conflict.** No element of the Proposed Project or Alternative 2 – Half-Capacity Amphitheater Alternative would impede the City's achievement of *Mobility Plan 2035* targets, as discussed below.
Mobility-1. Target GHG reductions through a more sustainable transportation system.	**No Conflict.** The Proposed Project and Alternative 2 – Half-Capacity Amphitheater Alternative would reduce project-related VMT by incentivizing ride sharing, providing designated drop-off/pick-up locations outside of the main parking area, and establishing a grace period for drivers to exit the paid parking area in a timely manner. Travel options, including public transit–trip planning and rideshare options, would be provided at the time of advance-ticket purchase, thereby promoting the use of public transit and ridesharing, consistently with CARB's strategies. Section 3.8, *Transportation*, identifies measures designed to reduce VMT (listed in Table 3.9-6). No element of the Proposed Project or Alternative 2 – Half-Capacity Amphitheater Alternative would impede the City's compliance with *Mobility Plan 2035*.
Mobility-2. Encourage the adoption of low- and zero-emission fuel sources, new mobility technologies, and supporting infrastructure.	**No Conflict.** Similar to 2017-2, above, the Proposed Projects and Alternative 2 – Half-Capacity Amphitheater Alternative vehicle use and associated fuels would be subject (where feasible) to state vehicle regulations and requirements that are designed to accelerate the transition to ZEVs (please refer to the TDM measures listed in Table 3.9-6).
City of Los Angeles Green New Deal Sustainability pLAn (2019)	
This Plan set the following goals for 2050: zero-carbon grid, transportation, and buildings, zero waste, and zero wasted water. Goals and measures identified below, although not directly applicable at a project level, are most relevant to the Proposed Project and Alternative 2 – Half-Capacity Amphitheater Alternative	**No Conflict.** The Proposed Project and Alternative 2 (Half-Capacity Amphitheater) would not impede the City's achievement of pLAn goals as discussed below.
pLAn-1. Renewable Energy: LADWP will supply 55% renewable energy by 2025, 80% by 2036m and 100% by 2045.	**No Conflict.** Similar to CARB 2017-1, above, electricity would be sourced from LADWP, which is subject to the RPS requirements. Therefore, electricity used at the Project Site would not conflict with the Plan's renewable-energy strategies. Therefore, no element of the Proposed Project or Alternative 2 – Half-Capacity Amphitheater Alternative would impede the City's progress toward renewable-energy goals.

Plan or Policy	Evaluation of Project and Build Alternatives
pLAn-2. Local Water: Sourcing water locally uses less energy than purchasing water. • Source 70% of the City's water locally, and capture 150,000 acre-feet per year of stormwater by 2035. • Recycle 100% of all wastewater for beneficial reuse by 2035. Reduce potable water-use per capita by 22.5% by 2025, 25% by 2035, and maintain or reduce 2035 per-capita water use through 2050.	**No Conflict.** Water would be sourced from LADWP, which is subject to the state and City requirements. The proposed Amphitheater lawn area would utilize a FieldTurf™ product or equivalent, which is specially designed for festivals and event spaces. This material would be vacuumed regularly and intermittently washed down (approximately four times per year), thereby reducing water use and associated energy use that is typically associated with grass fields.
pLAn-3. Mobility and Public Transit: • Increase the percentage of all trips made by walking, biking, micro-mobility/matched rides, or transit to at least 35% by 2025 and 50% by 2035 and maintain at least 50% by 2050. • Reduce VMT per capita by at least 13% by 2025, 39% by 2035, and 45% by 2050.	**No Conflict.** The Proposed Project and Alternative 2 – Half-Capacity Amphitheater Alternative would reduce project-related VMT by incentivizing ride sharing, providing designated drop-off/pick-up locations outside of the main parking area, and establishing a grace period for drivers to exit the paid parking area in a timely manner. Travel options, including public transit–trip planning and rideshare options, would be provided at the time of advance-ticket purchase, thereby promoting the use of public transit and ridesharing, consistently with CARB's strategies. Section 3.8, *Transportation*, identifies measures designed to reduce VMT (refer to Table 3.9-6). No element of the Proposed Project or Alternative 2 – Half-Capacity Amphitheater Alternative would impede the region's compliance with the City's Plan.
pLAn-4. ZEVs: • Increase the percentage of ZEVs in the City to 25% by 2025, 80% by 2035, and 100% by 2050. • Reduce port-related GHG emissions by 80% by 2050.	**No Conflict.** Similar to 2017-2 above, the Proposed Projects and Alternative 2 – Half-Capacity Amphitheater Alternative vehicle use would be subject to state vehicle regulations and requirements that are designed to accelerate the transition to zero-emission and low-emission vehicles. In addition, **MM-AQ-31** would require the use of zero-emission shuttle buses, which would facilitate the City's goal of increasing the use of ZEVs. Also, Section 3.8, *Transportation*, identifies measures designed to reduce VMT (refer to Table 3.9-6). Finally, although the Proposed Project and Alternative 2 – Half-Capacity Amphitheater Alternative would be located at the Port, neither would be a typical Port project that transports freight or products and, as such, would not utilize typical Port equipment nor modes of transportation that are the focus of this Plan goal. Notwithstanding, tugboats used to maneuver firework barges would be subject to CARB harbor-craft requirements and as such would not conflict with Plan measures.

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pLAn-5. Waste and Resource Recovery: • Increase landfill diversion rate to 90% by 2025, 95% by 2035; and 100% by 2050. • Reduce municipal solid-waste generation per capita by at least 15% by 2030, including phasing out single-use plastics by 2028. • Eliminate organic waste going to landfills by 2028. Increase the proportion of waste products and recyclables productively reused and/or repurposed within the County to at least 25% by 2025 and 50% by 2035.	**No Conflict**. California's Mandatory Commercial Recycling Program requires that recyclable waste be separated from trash and transported to a recycling center. The program is implemented by the City. The Project and Alternative 2 – Half-Capacity Amphitheater Alternative would be subject to and comply with recycling requirements designed to divert waste from landfills.
pLAn-6. Urban Ecosystems and Resilience: Increase tree canopy in areas of greatest need by at least 50% by 2028.	**No Conflict.** The Proposed Project would develop a landscaping plan in compliance with municipal codes.
City of Los Angeles Ordinances	
City of Los Angeles Construction and Demolition (C&D) Waste Recycling Ordinance	**No Conflict.** The City approved a citywide construction- and demolition-waste recycling ordinance in 2010. This ordinance requires all mixed C&D waste generated within City limits be taken to City-certified C&D waste processors. This would include demolition waste generated by the Proposed Project and Alternative 2 – Half-Capacity Amphitheater Alternative. The Los Angeles Sanitation District (LASAN) is responsible for the C&D waste-recycling policy. All haulers and contractors responsible for handling C&D waste must obtain a Private Waste Hauler Permit from LASAN prior to collecting, hauling, or transporting C&D waste, and C&D waste can only be taken to City-certified C&D processing facilities. The Proposed Project and Alternative 2 – Half-Capacity Amphitheater Alternative would comply with City's C&D Ordinance.
Solid Waste Integrated Resources Plan (SWIRP) 2014	
Landfill-1. Landfill diversion goal of 90% by 2025 and 97% by 2030.	**No Conflict.** California's Mandatory Commercial Recycling Program requires that recyclable waste be separated from trash and transported to a recycling center. The program is implemented by the City. The Project and Alternative 2 – Half-Capacity Amphitheater Alternative would be subject to and comply with recycling requirements designed to divert waste from landfills.
City of Los Angeles Green Building Code, Title 24	
Title 24 addresses the energy efficiency of construction projects, including new construction, remodeling, addition, and commercial buildings.	**No Conflict.** The Proposed Project would incorporate energy conservation measures in compliance with the California Building Standards Code, CCR Title 24, and

Plan or Policy	Evaluation of Project and Build Alternatives
	any other applicable federal, state, or local energy-efficiency requirements.
Port Climate Action Plan (2007)	
The Port's CAP addresses actions for energy audits, green-building policies, onsite photovoltaic solar energy, green-energy procurement, tree planting, water conservation, alternative-fuel vehicles, increased recycling, and green procurement.	**No Conflict.** The Proposed Project would incorporate **MM-AQ-27,** designed to reduce electricity use through the use of all-LED lighting. In addition, **PF-GHG-1** would require the Tenant to have entered into a binding contract with a third-party solar Tenant to construct and install solar-panel canopies (i.e., photovoltaic system) that is designed to generate approximately 1.4 megawatts (MW) of direct current (DC) electricity. Therefore, the Proposed Project and Alternative 2 – Half-Capacity Amphitheater Alternative would not impede the Port's achievement of CAP goals.
Port of Los Angeles Actions to Reduce GHG Emissions by 2050	
This LAHD plan addresses actions being undertaken to reduce GHG emissions at the Port.	**No Conflict. PF-GHG-1** would require the Tenant to have entered into a binding contract with a third-party solar Tenant to construct and install solar-panel canopies (i.e., photovoltaic system) that is designed to generate approximately 1.4 MW of DC electricity. The Proposed Project and Alternative 2 – Half-Capacity Amphitheater Alternative would not impede the Port's achievement of the actions.
San Pedro Bay Ports CAAP: 2007, 2010 Update, and 2017 Update	
The 2006 CAAP and 2010 Update were primarily designed to reduce criteria pollutants and air toxics. However, many of the CAAP strategies also would reduce GHG emissions. The CAAP 2017 Update furthers the goals of the previous CAAPs and includes the following targets pertinent to GHG reduction.	**No Conflict.** The Proposed Project and Alternative 2 – Half-Capacity Amphitheater Alternative would not impede the Port's achievement of CAAP goals.
• Reduce GHGs from port-related sources to 40% below 1990 levels by 2030. • Reduce GHGs from port-related sources to 80% below 1990 levels by 2050.	Specifically, **MM-AQ-31** would require the use of zero-emission shuttle buses, which would facilitate the City's goal of increasing the use of ZEVs. Also, Section 3.8, *Transportation*, identifies measures designed to reduce VMT (refer to Table 3.9-6). Finally, although the Proposed Project would be located at the Port, it would not be a typical Port project that transports freight or products and, as such, would not utilize typical Port equipment or modes of transportation that are the focus of the CAAP. Notwithstanding, tugboats used to maneuver firework barges would be subject to CARB harbor-craft requirements and, as such, would not conflict with CAAP measures.
LAHD 2009 Sustainable Construction Guidelines	
All construction at the Port must adhere to the LAHD's 2009 *Sustainable Construction Guidelines*. The guidelines reinforce and	**No Conflict.** The Proposed Project and Alternative 2 – Half-Capacity Amphitheater Alternative are required to

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require sustainability measures under construction contracts, addressing a variety of emission sources that operate at the Port during construction.	implement LAHD's *Sustainable Construction Guidelines* under a construction contract.

AB = Assembly Bill; C&D = construction and demolition; CAAP = Clean Air Action Plan; CAFE = Corporate Average Fuel Economy; CAP = Climate Action Plan; CARB = California Air Resources Board; City = City of Los Angeles; DC = direct current; EO = Executive Order; EPA = Environmental Protection Agency; GHG = greenhouse gas; LADWP = Los Angeles Department of Water and Power; LAHD = Los Angeles Harbor Department; LASAN = Los Angeles Sanitation District; LCFS = low-carbon fuel standard; LED = light-emitting diode; MW = megawatt; NHTSA = National Highway Traffic Safety Administration; Port = Port of Los Angeles; RPS = Renewables Portfolio Standard; RTP = Regional Transportation Plan; SB = Senate Bill; SCAG = Southern California Association of Governments; SCS = Sustainable Communities Strategy; TDM = transportation demand management; VMT = vehicle miles traveled; ZEV = zero-emission vehicle

GHG emissions associated with construction and operation were quantified and presented for informational purposes. GHG emissions would result primarily from engine exhaust, as summarized in Table 3.5-2, below. The table shows that automobile emissions, chiefly from patron vehicles, would be the main source of GHG emissions. In addition, emissions in Table 3.5-2 are substantially less than emissions calculated in the 2009 SPW EIS/EIR (2009 SPW EIS/EIR, Table 3.2-43). Proposed Project emissions would be less than 2 percent of the total GHG emissions and 5 percent of the CEQA increment of the 2037 analysis year in the 2009 SPW EIS/EIR.

Table 3.5-2. Greenhouse Gas Emissions (mty), Prior to Mitigation

Amortized Annual Construction	CO_2	CH_4	N_2O	CO_2e
Operation				
Patron and Worker Vehicles	2,291	0.0	0.0	2,313
Other Vehicles	282	0.0	0.0	303
Emergency Generator	39	0.0	0.0	39
Electricity	233	0.0	0.0	234
Natural Gas Use	41	0.0	0.0	41
Tugboats	27	0.0	0.0	27
Fireworks Display	1	–	–	1
Total				**2,990**

Source: Appendix B, *Air Quality Supporting Tables.*
Notes: Emissions may not add precisely due to rounding.
CO_2 = carbon dioxide; CO_2e = carbon dioxide equivalent, CH_4 = methane, mty = metric tons per year; N_2O = nitrogen dioxide

Previous Mitigation Measures Applicable to the Proposed Project

MM-AQ-3, **MM-AQ-4**, **MM-AQ-6**, and **MM-AQ-7** would be implemented, as described in Section 3.5.5, *Previous Mitigation Measures Applicable to the Proposed Project*.

New Mitigation Measures and Project Features Applicable to the Proposed Project

The following Project Feature is recommended to reduce emissions associated with the construction and operation of the proposed Amphitheater: **PF-GHG-1** is included here because it is a key feature of the Proposed Project that would contribute to reduced emissions generated by the Proposed Project.

PF-GHG-1: Install Solar Canopies over Main Parking Lot.

Prior to the opening of the Amphitheater, the Tenant, or a third-party solar Tenant through an agreement with the Tenant, will install solar-panel canopies (i.e., photovoltaic system) on the premises that is designed to generate approximately 1.4 megawatts (MW) of direct current (DC electricity. In the event Tenant's solar Tenant defaults and fails to deliver the solar improvements, Tenant will inform the Executive Director and use commercially reasonable efforts to identify and replace the solar Tenant on terms substantially similar to original solar contract.

GHG emissions potentially avoided through solar energy generation were estimated using the EPA's AVoided Emissions and geneRation Tool (AVERT) calculator tool. AVERT is designed to estimate the emission benefits of energy efficiency and renewable energy policies and programs.

In addition, **MM-AQ-31** is described in detail in Section 3.5.8, *New Mitigation Measures Applicable to the Proposed Project*, and was quantified in the analysis.

Table 3.5-3 presents GHG emissions following quantification of **PF-GHG-1** and **MM-AQ-31**. The table shows that emissions associated with the shuttle buses (i.e., *Other Vehicles* category) would be reduced. Table 3.5-3 also shows GHG emissions that would be potentially avoided from solar-power generation.

Table 3.5-3. Greenhouse Gas Emissions (mty), With Mitigation and Project Feature

Amortized Annual Construction	CO_2	CH_4	N_2O	CO_2e
Operation				
Patron and Worker Vehicles	2,291	0.0	0.0	2,313
Other Vehicles	115	0.0	0.0	118
Emergency Generator	39	0.0	0.0	39
Electricity	233	0.0	0.0	234
Natural-Gas Use	41	0.0	0.0	41
Tugboats	27	0.0	0.0	27
Fireworks Display	1	–	–	1
Avoided Emissions – Solar Power	-1,197	–	–	-1,197
Total	–	–	–	**1,608**

Source: Appendix B, *Air Quality Supporting Tables*.
Notes: Emissions may not add precisely due to rounding.
CO_2 = carbon dioxide; CO_2e = carbon dioxide equivalent, CH_4 = methane, mty = metric tons per year; N_2O = nitrogen dioxide

Significance After Mitigation

The Proposed Project would not result in activities that would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. The Proposed Project would also not substantially increase emissions quantified in the 2009 SPW EIS/EIR or 2016 SPPM Addendum. Residual impacts identified in the 2009 SPW EIS/EIR and 2016 SPPM Addendum would remain significant and unavoidable.

3.5.9 Sea-Level Rise

While not required by CEQA, consideration of the Proposed Project's vulnerability to SLR and potential consequences are presented for informational purposes.

The 2009 SPW EIS/EIR only briefly discussed SLR as part of the environmental setting in the *Regional Climate and Meteorology* section of Section 3.2, *Air Quality*. Based on scientific information available at the time, the 2009 SPW EIS/EIR indicated that California may experience SLR of 6 to 20 inches or more in 25 years. The 2016/2019 Addenda did not discuss SLR.

Climate science has progressed since the time of the 2009 SPW EIS/EIR and 2016/2019 Addenda. The most relevant studies of SLR for the Proposed Project area are as follows:

- 2018 CCC Guidance and 2024 CCC Guidance;
- 2024 OPC Guidance; and
- 2018 Port SLR Adaptation Study.

The 2018 Port SLR Adaptation Study, developed by the Port to assess the potential impacts of rising sea levels on the Port's infrastructure and operations, is particularly relevant to the Project Site because it was developed to identify Port areas that are projected to be exposed to SLR, provide an overview of the Port's asset vulnerabilities, and present a suite of adaptation and resiliency strategies. The projections in the 2018 Port SLR Adaptation Study are presented in Table 3.5-4.

Table 3.5-4. Regional Sea-Level Rise Projections, Los Angeles

Year	Projection	SLR Range
2030	+5.8 inches ± 2 inches (+0.32 feet to +0.65 feet)	2–11.8 inches
2050	+11.2 inches ± 3.5 inches (+0.64 feet to +1.2 feet)	5.0–23.9 inches
2100	+36.7 inches ± 9.8 inches (+2.24 feet to +3.88 feet)	17.4–65.6 inches

Source: Port 2018, Table 2-1.
SLR = sea-level rise

It should be noted that the 2018 Port SLR Adaptation Study was based on tidal-gauge predictions that predated the 2018 CCC Guidance and the 2018 OPC Guidance. However, the SLR predictions in the 2018 Port SLR Adaptation Study are, depending on the risk scenario and year, either within the range of the 2018 CCC Guidance and the 2018 OPC Guidance, or predict SLR higher than the 2018 CCC Guidance and the 2018 OPC Guidance. Therefore, the SLR effects predicted in the 2018 Port SLR Adaptation Study remain a conservative tool for evaluating SLR effects at the Port and in the Proposed Project area.

With regards to the Proposed Project area, Figure E-4 of the 2018 Port SLR Adaptation Study shows predicted inundation and flooding in the Port. The study defines inundation as permanent, occurring during normal, daily tide cycles, and flooding as temporary, occurring during elevated water levels associated with storm tides, such as a 100-year storm event. Figure E-4 shows that if SLR of 37 inches were to occur, then the Amphitheater, outdoor lawn area, and adjacent parking area may experience 2 to 4 feet of temporary flooding during a storm surge by 2100. If SLR of 66 inches were to occur, the same areas may experience 2 feet of permanent inundation. Figure E-4 also shows that a small portion of the 208 E. 22nd Street Parking Lot may be temporarily flooded up to 2 feet by 2100 (i.e., 37-inches SLR and storm surge) and that flooding would occur over a larger area and increase to between 2 to 4 feet by 2100 (i.e., 66-inches SLR and storm surge).

The 2018 Port SLR Adaptation Study also identified governance strategies that address Port-wide planning and design documents, strategies that address SLR initiatives (e.g., feasibility studies, collaboration with other agencies), and infrastructure strategies that address physical vulnerabilities.

The 2018 Port SLR Adaptation Study included SLR adaptation strategies that were developed to consider, evaluate further, and implement to protect against SLR. Two SLR adaptation strategies are specific to the Proposed Project area, previously known as Ports O' Call Village. Both strategies account for an exposure scenario of a 37-inch+ storm surge. The first strategy proposed to elevate electrical equipment at SD Pump Plant #681 to be above the planning-flood elevation, and alternatively, provide a temporary, 3-foot-tall, 230-linear-foot-long flood barrier to protect pump-station flood pathways. The second strategy proposed to provide temporary, asset-specific flood protection at Berth 77 of the Ports O' Call infrastructure with a 3-foot-tall, 2,800-linear-foot long barrier. The Proposed Project's current lease is set to expire in 2082, and the proposed SLR strategies discussed above are specific to the 2100 scenario of 37+ inches of SLR with storm surge. Therefore, the proposed strategies are not applicable to the Proposed Project.

It is important to note that although inundation and flooding scenarios may affect the Project Site by 2100, the Proposed Project is intended for recreational use, would have no industrial uses, would not store hazardous materials on site, and, if flooded, would be unlikely to affect water resources or nearby communities.

3.5.10 Summary of Impacts Determinations

Chapter 5 presents a discussion of project alternatives. In summary, Alternative 1 is the No Project Alternative and Alternative 2 is the Half-Capacity Amphitheater Alternative. Under Alternative 1, implementation of the Proposed Project elements would not occur, and the area would be developed under the approved 2009 SPW EIS/EIR and 2016 SPPM Addendum. This alternative would not add to impacts identified in the 2009 SPW EIS/EIR or the 2016 SPPM Addendum.

Under Alternative 2, all Proposed Project improvements would be implemented, but the Amphitheater would have only half the seating capacity of the Proposed Project. Alternative 2 would add to impacts already deemed significant in the 2009 SPW EIS/EIR and 2016 SPPM Addendum. However, impacts would be less than under the Proposed Project, and Alternative 2 would not substantially increase the severity of impacts identified in the 2009 SPW EIS/EIR and the 2016 SPPM Addendum. Alternative 2 would not change the determination of significance made in the 2009 SPW EIS/EIR or the 2016 SPPM Addendum.

Table 3.5-5 presents a summary of impact determinations for the Proposed Project related to GHG.

Table 3.5-5. Summary Matrix of Potential Impacts on Greenhouse Gases Associated with the Proposed Project

Environmental Impacts	Impact Determination	Mitigation Measure(s) and Project Features	Impact After Mitigation
Proposed Project			
Impact GHG-1: Would the Proposed Project result in construction and operational activities that conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?	The 2009 SPW EIS/ EIR finding of a significant impact remains unchanged for the Proposed Project.	**PF-GHG-1**, **MM-AQ-3**, **MM-AQ-4**, **MM-AQ-6**, and **MM-AQ-7**, from the 2009 SPW EIS/EIR would apply to the Proposed Project. Revised **MM-AQ-27** and new **MM-AQ-31** also would apply.	No new or substantially more severe significant impacts would occur. Implementation of **PF-GHG-1**, **MM-AQ-3**, **MM-AQ-4**, **MM-AQ-6**, **MM-AQ-7**, **MM-AQ-27**, and **MM-AQ-31** would reduce impacts, but impacts would remain significant.
Alternative 1 – No Project Alternative			
Impact GHG-1: Would the Proposed Project result in construction and operational activities that conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?	The 2009 SPW EIS/ EIR finding of a significant impact remains unchanged for Alternative 1.	**MM-AQ-3, MM-AQ-4, MM-AQ-6,** and **MM-AQ-7**, from the 2009 SPW EIS/EIR would apply to Alternative 1.	No new or substantially more severe significant impacts would occur. Implementation of **MM-AQ-3** through **MM-AQ-8** may reduce impacts, but impacts would remain significant.
Alternative 2 – Half-Capacity Amphitheater Alternative			
Impact GHG-1: Would the Proposed Project result in construction and operational activities that conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?	The 2009 SPW EIS/ EIR finding of a significant impact remains unchanged for Alternative 2.	**PF-GHG-1**, **MM-AQ-3, MM-AQ-4, MM-AQ-6**, and **MM-AQ-7** from the 2009 SPW EIS/EIR would apply to the Proposed Project. Revised **MM-AQ-27** and new **MM-AQ-31** also would apply.	No new or substantially more severe significant impacts would occur. Implementation of **PF-GHG-1**, **MM-AQ-3**, **MM-AQ-4**, **MM-AQ-6**, **MM-AQ-7**, **MM-AQ-27**, and **MM-AQ-31** would reduce impacts, but impacts would remain significant.

EIR = Environmental Impact Report; EIS = Environmental Impact Statement; GHG = greenhouse gas; SPPM = San Pedro Public Market; SPW = San Pedro Waterfront

3.5.11 Mitigation Monitoring Program

The mitigation monitoring program outlined in Table 3.5-6 is applicable to the Proposed Project. **PF-GHG-1** is also included here.

Table 3.5-6. Mitigation Monitoring Program

MM-AQ-3: ***Fleet Modernization for On-Road Trucks During Construction.*** 1. Trucks hauling materials such as debris or fill will be fully covered while operating off Port property. 2. Idling will be restricted to a maximum of 5 minutes when not in use. 3. Tier Specifications: • From January 1, 2024, to December 31, 2026: All on-road heavy-duty diesel trucks with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater used on site or to transport materials to and from the site shall comply with 2012 emission standards, or newer, where available. • Post January 1, 2027: All on-road heavy duty diesel trucks used on site or to transport materials to and from the site shall comply with 2015 emission standards, or newer, where available. • A copy of each unit's certified U.S. Environmental Protection Agency (USEPA) rating, Best Available Control Technology (BACT) documentation, and CARB or South Coast Air Quality Management District (SCAQMD) operating permit shall be provided at the time of mobilization of each applicable unit of equipment.	
Timing	Throughout all construction phases.
Methodology	This measure will be incorporated into the LAHD and Tenant contract specifications for all construction work to reduce the impact of construction diesel emissions. The contractor(s) will submit an Environmental Compliance Plan for review and approval by LAHD prior to beginning of any construction activity. The contractor will adhere to these specifications and Compliance Plan throughout construction phases. Enforcement will include oversight by the LAHD project/construction manager or designated building inspectors to ensure compliance with contract specifications.
MM-AQ-4: ***Fleet Modernization for Construction Equipment.*** 1. Construction equipment will incorporate, where feasible, emissions savings technology such as hybrid drives and specific fuel economy standards; 2. Idling will be restricted to a maximum of 5 minutes when not in use; and 3. Tier Specifications: All offroad diesel-powered construction equipment greater than 50 hp will meet the Tier 4 emission standards, where available. In addition, all construction equipment will be outfitted with BACT devices certified by CARB. Any emissions-control device used by the contractor will achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions–control strategy for a similarly sized engine**,** as defined by CARB regulations. A copy of each unit's certified tier specification, BACT documentation, and CARB or SCAQMD operating permit will be provided at the time of mobilization of each applicable unit of equipment. Construction-equipment measures will be met, unless one of the following circumstances exist and the contractor is able to provide proof that any of these circumstances exists. • A piece of specialized equipment is unavailable in a controlled form within the state of California, including through a leasing agreement;	

• A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the project, but the application process is not yet approved, or the application has been approved, but funds are not yet available; and/or • A contractor has ordered a control device for a piece of equipment planned for use on the project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must attempt to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the project has the controlled equipment available for lease.	
Timing	Throughout all construction phases.
Methodology	This measure will be incorporated into LAHD and Tenant contract specifications for all construction work to reduce the impact of construction diesel emissions. The contractor(s) will submit an Environmental Compliance Plan for review and approval by LAHD prior to beginning of any construction activity. The contractor will adhere to these specifications and Compliance Plan throughout construction phases. Enforcement will include oversight by the LAHD project/construction manager or designated building inspectors to ensure compliance with contract specifications.
MM-AQ-6: ***Best Management Practices*** The following types of measures are required on construction equipment (including on-road trucks). • Use diesel-oxidation catalysts and catalyzed diesel-particulate traps; • Maintain equipment according to manufacturers' specifications; • Restrict idling of construction equipment to a maximum of 5 minutes when not in use; and • Install high-pressure fuel injectors on construction-equipment vehicles.	
Timing	Throughout all construction phases.
Methodology	This measure will be incorporated into the LAHD and Tenant contract specifications for all construction work to reduce the impact of construction diesel emissions. The contractor(s) will submit an Environmental Compliance Plan for review and approval by LAHD prior to beginning of any construction activity. The contractor will adhere to these specifications and Compliance Plan throughout construction phases. Enforcement will include oversight by the LAHD project/construction manager or designated building inspectors to ensure compliance with contract specifications.
MM-AQ-7: ***General Mitigation Measure During Construction*** For any of the above mitigation measures (**MM-AQ-3** through **MM-AQ-6**), if a CARB-certified technology were to become available and was shown to be as good as or better in terms of emissions performance than the existing measure, then the new technology could replace the existing measure, pending approval by the LAHD.	
Timing	Throughout all construction phases.
Methodology	This measure will be incorporated into the LAHD and Tenant contract specifications. The contractor(s) will submit an Environmental Compliance Plan for review and approval by LAHD prior to beginning of any construction activity, which would include any proposed new technology.
MM-AQ-27: ***Compact Fluorescent Light Bulbs*** All buildings and exterior lighting will use LED light bulbs.	
Timing	Throughout all operational phases.

Methodology	This measure will be incorporated into the Tenant's lease. Enforcement will include oversight by the LAHD Environmental Management and Real Estate Divisions. Annual staff reports will be made available to the Board at a regularly scheduled public Board Meeting.
MM-AQ-31: ***Zero-Emission Shuttle Buses.*** To the extent commercially available for rent, the Tenant shall use zero-emission shuttle buses from Port-owned parking lots to the Project Site during ticketed amphitheater events.	
Timing	Throughout all operational phases.
Methodology	This measure will be incorporated into the Tenant's lease. Enforcement will include oversight by the LAHD Environmental Management and Real Estate Divisions. Annual staff reports will be made available to the Board at a regularly scheduled public board meeting. The Tenant will comply with the measure through contracts and/or agreements with selected vendors. In the event zero-emission shuttle buses are not commercially available within the local and greater Los Angeles region, written verification from the Tenant will be provided to LAHD on an annual basis.
PF-GHG-1: ***Install Solar Canopies over Main Parking Lot.*** Prior to the opening of the Amphitheater, the Tenant will have entered into a binding contract with a third-party solar developer to construct and install solar-panel canopies (i.e., photovoltaic system) that are designed to generate approximately 1.4 megawatts (MW) of direct current (DC) electricity. In the event Tenant's solar developer defaults and fails to deliver the solar improvements, Tenant will inform the Executive Director and use commercially reasonable efforts to identify and replace the solar developer on terms substantially similar to original solar contract.	
Timing	Prior to the opening of the Amphitheater
Methodology	This measure will be incorporated into the Tenant's lease. Enforcement will include oversight by the LAHD Environmental Management and Real Estate Divisions.

BACT = Best Available Control Technology; CARB = California Air Resources Board; DC = direct current; GVWR = gross vehicle weight rating; LAHD = Los Angeles Harbor Department; LED = light-emitting diode; MW = megawatt; Port = Port of Los Angeles; SCAQMD = South Coast Air Quality Management District; USEPA = U.S. Environmental Protection Agency