EXHIBIT 5

WEST HARBOR MODIFICATION PROJECT
INITIAL STUDY/ NOTICE OF PREPARATION

APP#190529-080
SCH No: 2005061041

PREPARED FOR:

Environmental Management Division
Los Angeles Harbor Department
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THE PORT OF LOS ANGELES

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Acronyms and Abbreviations

2016 SPPM Addendum	Addendum to the SPW EIS/EIR for the SPPM Project
2019 SPPM Addendum	Second Addendum to the SPW EIS/EIR for the SPPM Project
AB	Assembly Bill
Amphitheater	6,200-seat outdoor amphitheater and entertainment lawn venue
BMP	best management practice
Board	Board of Harbor Commissioners
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CO_2e	carbon dioxide equivalent
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
GHG	greenhouse gas
GWh	gigawatt-hour
LADWP	Los Angeles Department of Water and Power
LAFD	Los Angeles Fire Department
LAHD	Los Angeles Harbor Department
LAPD	City of Los Angeles Police Department
LED	light-emitting diode
LEED	Leadership in Energy and Environmental Design
LID	low-impact development
MMRP	Mitigation Monitoring and Reporting Program
MS4	Municipal Separate Storm Sewer System
NAHC	Native American Heritage Commission
NOP	Notice of Preparation
PMP	Port Master Plan
Port	Port of Los Angeles
PRC	Public Resources Code
project	West Harbor Modification Project
RWQCB	Regional Water Quality Control Board
S.P. Slip	Southern Pacific Slip
SCAQMD	South Coast Air Quality Management District
SEIR	Supplemental Environmental Impact Report
SLF	Sacred Lands File
SPPM	San Pedro Public Market
SPW	San Pedro Waterfront
SWPPP	Stormwater Pollution Prevention Plan
Tower Attraction	tower attraction/observation deck

1.0 Project Overview and Background

1.1 Project Overview

The Los Angeles Harbor Department (LAHD), as the lead agency under the California Environmental Quality Act (CEQA), has prepared this Notice of Preparation (NOP) to inform responsible and trustee agencies, public agencies, and the public that a Supplemental Environmental Impact Report (SEIR) to the San Pedro Waterfront (SPW) Project Environmental Impact Statement/Environmental Impact Report (EIS/EIR), which was certified on September 29, 2009 (SCH# 2005061041), is being prepared for a proposed modification to the San Pedro Public Market (SPPM) Project, now known as the West Harbor Project, previously approved in May 2016. The proposed modification would include a 6,200-seat outdoor amphitheater and entertainment lawn venue (Amphitheater), and it would replace the previously analyzed 100-foot diameter Ferris wheel with a tower attraction/observation deck approximately 150 feet tall by 50 feet wide (Tower Attraction). In addition, modifications to previously approved mitigation measures are also being proposed to update certain requirements to current regulatory standards and to assess their effectiveness and need.

Enacted in 1970, CEQA (Public Resources Code [PRC] Section 21000, *et seq*.) and its implementing guidelines (State CEQA Guidelines, 14 California Code of Regulations [CCR] Section 15000, *et seq*.) require that all state and local government agencies consider the environmental consequences of projects over which they have discretionary authority prior to taking action on those projects. As authorized by Section 15050 of the State CEQA Guidelines, LAHD will serve as the lead agency for the environmental review.

An Initial Study Checklist is included with this NOP and has been prepared in accordance with current *City of Los Angeles Guidelines for the Implementation of the California Environmental Quality Act of 1970* (Article I), the State CEQA Guidelines, and CEQA, to assess the potential environmental impacts associated with the proposed modifications to the previously analyzed and approved SPPM Project and modifications to the previously approved mitigation measures.

In May 2016, LAHD approved an Addendum to the SPW EIS/EIR for the SPPM Project (2016 SPPM Addendum). A second Addendum was approved by LAHD in November 2019 (2019 SPPM Addendum). Since that time, the developer (Applicant) has proposed to expand the 500-seat outdoor amphitheater to 6,200 seats and also use the Amphitheater area as an entertainment lawn venue for public and private events and as a passive open park space when not otherwise programmed. In addition, the Applicant has proposed a Tower Attraction in lieu of the Ferris wheel and other entertainment attractions in the Discovery Sea Amusement Area previously analyzed in the 2016 SPPM Addendum. LAHD has also determined that certain mitigation measures approved in the Mitigation Monitoring and Reporting Program (MMRP) for the 2009 SPW EIS/EIR and 2016 SPPM Addendum may need to be updated or reanalyzed to determine their effectiveness and need in the areas of air quality, utilities and public services, and transportation.

1.2 Background and Previous Environmental Documentation

A Final EIS/EIR for the SPW Project was certified by the Board of Harbor Commissioners (Board) on September 29, 2009 (SCH No. 2005061041). It addressed potential impacts associated with implementation of the redevelopment of the SPW area. In May 2016, the Board approved the 2016 SPPM Addendum. The proposed West Harbor Modification Project, as more particularly described below, represents changes to the SPPM Project and SPW Project previously reviewed in accordance with CEQA. No changes are proposed that would affect any federal permits or require any federal approvals. Therefore, no National Environmental Policy Act (NEPA) evaluation is required for the proposed West Harbor Modification Project.

One of the primary objectives of the SPW Project was to provide enhanced visitor-serving commercial opportunities within the Ports O' Call area along the main channel. Many of the potentially significant environmental impacts identified in the SPW EIS/EIR were determined to be less than significant or were reduced to a less-than-significant level through either the adoption of mitigation measures or the incorporation of project revisions. Impacts related to aesthetics, air quality and meteorology, biological resources, geology, noise, recreation, ground transportation and circulation, and water quality sediments and oceanography, however, were identified as significant and unavoidable. For those impact areas, LAHD adopted a Statement of Overriding Considerations and an MMRP containing 91 mitigation measures to address these impacts, both during construction and operation of the SPW Project.

The SPPM Project included a more specific concept for the former Ports O' Call Village site. In May 2016, LAHD prepared the 2016 SPPM Addendum to address development of a smaller building area, the inclusion of a portion of the Town Square originally evaluated in the SPW EIS/EIR, reconfiguration of the waterfront promenade, extension of the proposed lease term from 30 years to 50 years, and possible modifications to the U.S. Army Corps of Engineers permits. The 2016 SPPM Addendum found that the SPPM Project would not result in any new significant impacts or a substantial increase in the severity of previously identified impacts that were analyzed in the SPW EIS/EIR. A revised MMRP identifying 28 mitigation measures that apply specifically to the SPPM Project was incorporated into the 2016 SPPM Addendum. The 2019 SPPM Addendum was prepared to extend the duration of the lease for an additional 16 years.

1.2.1 Previous Environmental Documents Incorporated by Reference

Consistent with State CEQA Guidelines Section 15150, the following documents were used in preparation of this NOP and Initial Study and are incorporated herein by reference.

- Port of Los Angeles. 2008. *San Pedro Waterfront Project Draft EIS/EIR (SCH No. 2005061041)*. September.
- Port of Los Angeles. 2009a. *San Pedro Waterfront Project Findings of Fact and Statement of Overriding Considerations*. September.

- Port of Los Angeles. 2009b. *San Pedro Waterfront Project Mitigation Monitoring Report and Program*. September.
- Port of Los Angeles. 2009c. *San Pedro Waterfront Project Final EIS/EIR (SCH No. 2005061041)*. September.
- Port of Los Angeles. 2016. *EIR Addendum to the San Pedro Waterfront Project Final EIR for the San Pedro Public Market Project (SCH No. 2005061041)*. May.
- Port of Los Angeles. 2019. *EIR Addendum to the San Pedro Waterfront Project Final EIR for the San Pedro Public Market 2 (SCH No. 2005061041)*. November.

1.3 Purpose and Use of a Supplemental EIR

Because the West Harbor Modification Project and modifications to previously approved mitigation measures represent changes to a project previously reviewed and approved under CEQA, the LAHD must determine whether additional environmental documentation is necessary to address the proposed changes. The LAHD has reviewed the application in accordance with Sections 15162 and 15163 of the State CEQA Guidelines to determine whether the proposed changes are within the scope of the previously certified SPW EIS/EIR, the 2016 SPPM Addendum, and the 2019 SPPM Addendum, or whether a subsequent or supplemental EIR may be required.

LAHD has determined that a supplemental EIR shall be prepared to address potentially significant environmental impacts associated with the proposed changes to the SPW and SPPM Projects.

Pursuant to CEQA, the LAHD will serve as the lead agency for the preparation of a Supplemental EIR for its consideration of the West Harbor Modification Project within its jurisdiction. Pursuant to CEQA Guidelines Section 15163, a supplement to an EIR need only contain the information necessary to make the previous EIR adequate for the project as revised. The Supplemental EIR shall be given the same kind of notice and public review as is given to a draft EIR under Section 15087 and may be circulated by itself without recirculating the previous Draft or Final EIR or Addendums (i.e., the 2009 SPW EIS/EIR, the 2016 SPPM Addendum, and the 2019 SPPM Addendum).

The LAHD has prepared, as part of this Initial Study/NOP, an Environmental Checklist in support of the Supplemental EIR documentation to identify the resource areas to be reanalyzed, in accordance with the current City of Los Angeles Guidelines for the Implementation of the California Environmental Quality Act of 1970, (Article I); the State CEQA Guidelines (Title 14, California Code of Regulations); and the California Public Resources Code (Section 21000, *et seq*.). The Supplemental EIR will contain only the information necessary to make the previously approved 2009 Final EIR adequate for the West Harbor Modification Project. When the agency decides whether to approve the project, the decision-making body, in this case the Board of Harbor Commissioners and LAHD, shall consider the previous EIR as revised by the supplemental EIR and shall make findings under Section 15091 for each significant effect shown in the previous EIR as revised (CEQA Guidelines Section 15163(e)).

2.0 Project Description

2.1 Project Objectives

Project objectives include enhancement and revitalization of the existing San Pedro Waterfront (SPW) area by including an outdoor concert amphitheater and entertainment lawn venue and Tower Attraction (hereinafter referred to as the West Harbor Modification Project) to attract visitors to the SPW area, thereby increasing the positive public visibility of San Pedro in general and the waterfront specifically. Additionally, the proposed West Harbor Modification Project has an objective to update previously adopted mitigation measures to reflect changes since their consideration.

2.2 Project Location

2.2.1 Regional Setting

The proposed West Harbor Modification Project is within the Port of Los Angeles (Port), which is in the San Pedro Bay in the city of Los Angeles, approximately 20 miles south of downtown Los Angeles. The Port is adjacent to the communities of San Pedro to the west, Wilmington to the north, the Port of Long Beach to the east, and the Pacific Ocean to the south. In total, the Port encompasses approximately 7,300 acres of land and water along 43 miles of waterfront. Figure 1 shows the regional location of the proposed West Harbor Modification Project area.

The West Harbor Modification Project is located in the southern portion of the West Harbor Project site, which comprises a total of approximately 42 acres, formerly the site of the Ports O' Call Village, located between the Los Angeles Harbor's Main Channel and Harbor Blvd. from Berths 73-Z to 83 within the Port (see Figure 1 for the project location).

2.2.2 Surrounding and Nearby Land Uses

The proposed West Harbor Modification Project site is within the SPW area. Steep bluffs to the northwest provide a natural physical edge between portions of the San Pedro community and the West Harbor Modification Project site. There are residences approximately 1,450 feet west of the West Harbor Modification Project site. Just southwest of the West Harbor Modification Project site, in the Southern Pacific Slip (S.P. Slip), is an active commercial fishing fleet. For over 100 years, the Port has been a premier location for commercial fishing. Today, although smaller than it once was, the commercial fishing fleet at the Port is intact, providing fresh fish to both U.S. and Asian markets. The Municipal Fish Market at Berth 72, and adjacent to the S.P. Slip, is associated with these fishing operations.

The Los Angeles Maritime Museum is located at Berth 84. Berths 91 to 93 to the north of the West Harbor Modification Project site are currently used by the World Cruise Center, which has been active at the Port for over 50 years (Port of Los Angeles 2020). The World Cruise Center comprises of two terminal buildings in an 18-acre dedicated cruise facility.

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Figure 1
Regional and Project Vicinity
West Harbor Modification Project

2.2.3 Existing General Plan Designation

The West Harbor Modification Project site lies within an area covered by the City of Los Angeles General Plan (General Plan), Port of Los Angeles Plan. The plan provides an official 20-year guide to continued development and operation of the Port. The West Harbor Modification Project site has a General Plan designation of General/Bulk Cargo - Non-Hazardous (Industrial/Commercial). General Cargo includes container, unit, break-bulk, neo-bulk, passenger facilities, and related uses (City of Los Angeles 1982). Industrial uses pertain to those lands that are either owned or leased by institution activities and related uses or federal, state, and city governments. Commercial uses allowed under the designation include restaurants and tourist attractions (i.e., Ports O' Call), office facilities, retail facilities, and related uses.

2.2.4 Port of Los Angeles Master Plan

The West Harbor Modification Project site is within Planning Area 1 of the Port of Los Angeles Port Master Plan (PMP) (Port of Los Angeles 2018). Planning Area 1 encompasses the SPW area, from the breakwater to the Vincent Thomas Bridge along the western boundary of the Port. The area extends from Berths 19 to 95 and includes cruise operations, institutional uses, and recreational activities. Planning Area 1 primarily includes land uses focused on public access to the waterfront, but also has limited cargo operations and commercial fishing activities. Planning Area 1 emphasizes waterfront access through a waterfront promenade, parks, museums, academic uses, and visitor-serving commercial uses and attractions. Within Planning Area 1, the West Harbor Modification Project site is designated as Visitor-Serving Commercial. The PMP defines this designation as a visitor-serving commercial use for the public and lists examples of this use as community centers/conference centers, visitor-serving retail, and exhibit space, among others. Figure LU-1 of the PMP shows the PMP land use designations for the West Harbor Project site and surrounding area.

2.2.5 Existing Zoning Designations

The West Harbor Modification Project site is zoned [Q]M2-1, Light Industrial, according to the City of Los Angeles Zoning Code (City of Los Angeles 2019a).

2.3 Proposed Modifications

The West Harbor Modification Project involves a modification of the proposed redevelopment of a portion the Ports O' Call area as described in the SPW EIS/EIR and as further defined in the 2016 and 2019 SPPM Addenda. The West Harbor Modification Project site is located on approximately 2.5 acres of the West Harbor Project site within the previously approved 6.4-acre Discovery Sea Amusement Area (as described in the 2016 SPPM Addendum).

As more particularly described below, the West Harbor Modification Project would create an outdoor Amphitheater. The Amphitheater would occupy approximately 108,000 square feet, including an over 50,000-square-foot area consisting of a sloped and terraced artificial lawn

with an approximately 35,000-square-foot stage, backstage, and box office area; an approximately 22,000-square-foot space accommodating concessions and restrooms located south of the lawn; and circulation space located east and west of the lawn area. Amphitheater capacity would be up to 6,200 seats. The artificial lawn would be cleaned (e.g., power washed) as needed and would be a permeable surface to promote infiltration.

Additionally, the West Harbor Modification Project would include a 150-foot-tall Tower Attraction. A conceptual plan of the Tower Attraction estimates that the foundation would be approximately 5,000 square feet and would be located between Buildings 1A and 1B on the southern portion of the West Harbor Project site.

With approval of the West Harbor Modification Project, no other amusement park attractions previously approved for the Discovery Sea Amusement Area would be developed, which included a 100-foot-diameter Ferris wheel, carousel, and a previously approved 500-seat amphitheater in the southern area of the West Harbor Project site. The West Harbor Modification Project would maintain other elements and uses previously approved for the 6.4-acre Discovery Sea Amusement Area, including new building improvements, green spaces, and garden areas on the remaining approximately 4 acres. Other previously analyzed project elements—such as the retail, restaurant, and commercial uses—would remain the same under the West Harbor Modification Project as described and analyzed for the SPPM Project in the 2016 and 2019 SPPM Addenda. A detailed description of the West Harbor Modification Project features is provided below. Table 1 compares previously analyzed project elements.

Table 1. Comparison of Project Features

Project Features	SPW EIS/EIR	2016 and 2019 SPPM Addenda	Proposed West Harbor Modification Project
Total development square footage	375,000 total square feet (sf): 125,000 sf restaurant space 175,000 sf commercial 75,000 sf conference center	300,000 total sf: 100,000 sf restaurant 38,600 sf retail 30,000 sf maritime-related office uses 131,400 sf of retail, restaurant, or commercial uses	No changes proposed to build out of city park and marketplace.
City park	Formerly Fisherman's Park, with 3 acres of lawn, including a 500-seat amphitheater.	4.3-acre multi-purpose plaza with landscaping, hardscape, outdoor furniture, and lighting.	The lawn and amphitheater would be relocated to the proposed 6,200-seat amphitheater location. The children's play area and other park space would remain in the City Park area (renamed North Park).

Project Features	SPW EIS/EIR	2016 and 2019 SPPM Addenda	Proposed West Harbor Modification Project
Discovery Sea Amusement Area	Not included.	6.4-acre amusement area with playground facilities, Ferris wheel, carousel, entertainment attractions, gardens, and a 500-seat amphitheater.	On approximately 2.5 acres, an Amphitheater that includes an outdoor entertainment lawn with seating for up to 6,200 patrons would replace the previously approved 500-seat amphitheater and the Discovery Sea Amusement Area previously analyzed in the 2016 SPPM Addendum. A 150-foot tall Tower Attraction would replace the 100-foot-diameter Ferris wheel. Buildings and green space and garden areas would remain.
Parking	2,638 spaces	1,909 spaces. Phase 2 with total spaces to be determined based on land use mix. The surface parking lot at 22nd Street and Sampson Way with 256 spaces was completed in 2009.	The parking previously designated for the SPPM project would be used for the West Harbor Modification Project. Other parking lots within the Port area may be used on certain days when events occur at the amphitheater. Additional parking requirements, if any, will be discussed further in the Draft SEIR.
Visitor trip generation	Weekday daily: 8,632 trips Weekend daily: 8,517 trips	Weekday daily: 5,798 trips Weekend daily: 6,285 trips	Estimated visitor trip generation to be included in the Draft SEIR analysis.
Terms of lease	Through 2037	Through 2082 (per the 2019 SPPM Addendum).	No change.

2.3.1 Amphitheater Changes

The West Harbor Modification Project is located on approximately 2.5 acres within the previously approved 6.4-acre Discovery Sea Amusement Area (as described in the 2016 SPPM Addendum) on the southern portion of the West Harbor Project site (refer to Figure 2 for the overall site plan).

The approximately 2.5-acre Amphitheater site plan is shown in Figure 3 and would include the creation of an approximately 50,000-square-foot sloped and terraced lawn area to be used as an outdoor amphitheater and entertainment venue. The Amphitheater area would

include an approximately 35,000-square-foot stage, backstage, and box office area; an approximately 22,000-square foot space accommodating concessions and restrooms located south of the lawn; and circulation space located east and west of the lawn area. The back-of-house facilities and stage would be on the north end of the Amphitheater site, with the stage, bandshell, speakers, video screens, and stage lighting directed toward the southeast. Temporary seats placed on the sloped and terraced lawn areas would face north toward the stage and overlook the Port waterfront. Figures 4A, 4B, and 4C show a rendering of the Amphitheater and entertainment lawn looking north.

Functional Area Breakdowns and Details (all dimensions and areas are approximate)

Back-of-House and Stage Facilities

- 6,600-square-foot raised (4 to 6 feet) stage
- Show semi-truck load-in/load-out area consisting of loading docks and covered canopies on either side of the stage plus bus and equipment staging areas
- Dressing and green room areas
- Electric, lighting, and sound system infrastructure
- Permanent restrooms, some with showers
- Offices and back-of-house support space
- 825-square-foot box office

Entertainment Lawn/Amphitheater Seating Area

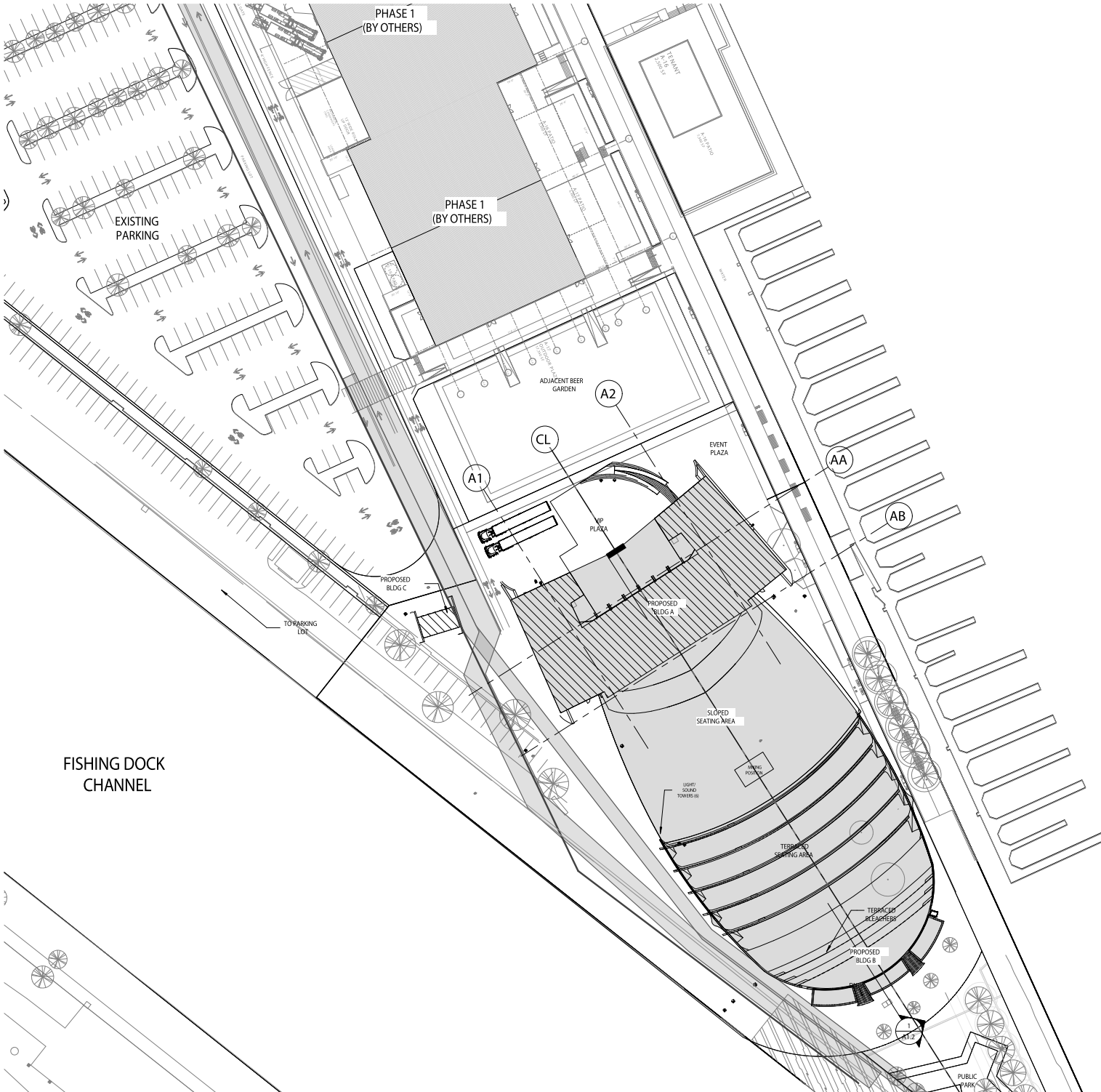
- 40-foot-tall, 10,000-square-foot bandshell
- Sloped 23,000-square-foot lawn area directly in front of the stage
- 28,000-square-foot terraced seating area immediately behind the sloped seating
- Six 30-foot-tall speaker and stage lighting pylon structures
- 370-square-foot mixing board location in the center-rear portion of the sloped lawn

Concession/Storage Area with Patron Restrooms

- 4,000-square-foot indoor storage and catering facility area located below the southern portion of the terraced lawn area
- An outdoor hardscaped area for food trucks and small food and beverage service structures
- Temporary, portable restrooms behind the outdoor concession area on show nights

All seats would be temporary, as they would be set up for show nights and taken down shortly after the show. Approximately 35-foot-high video screens would flank both sides of the stage. The backstage area would be secured by fixed perimeter fencing, and access to the Amphitheater area would be controlled by removable fencing on event-related days for paid events.

The Amphitheater would host approximately 100 paid concert and major events per year, generally from April through November (outdoor concert season). The venue also could host smaller, local community, and sponsored events year-round.



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2.3.2 Construction

Project construction is expected to last approximately 10 to 12 months. A maximum of fifty construction workers may be needed on-site on any given day. Construction tasks are expected to include the following: constructing the sloped and terraced lawn; constructing stage and concession areas; installing fencing, lighting, and sound system; and building out the backstage structures and hardscape area, including a loading dock/truck and bus staging area.

2.3.3 Operations

The Amphitheater would host approximately 100 paid events annually, generally from April through November. No more than one event per day is expected. Concerts would typically start between 7:00 p.m. and 8:00 p.m. and last approximately 3 hours. Where possible, sustainable products and practices, such as biodegradable confetti, would be used during events, and care would be taken to direct the spray away from the main channel. This material, along with other trash, would be cleaned up after each event to prevent debris from entering the storm drain system and ocean. Pyrotechnics may also occur at certain events. Fireworks may be launched from a barge at approximately 25 events per year and may last up to 10 minutes. Each event would undergo appropriate permitting from the U.S. Coast Guard, as necessary. The Amphitheater location also could be used for community, charity, and sponsored events, which could be held year-round.

Although exact routes and locations have not been determined at this time, shuttle services are expected to be available for patrons using off-site parking lots during events at the amphitheater, if needed.

Tower Attraction

The West Harbor Modification Project would include the construction and operation of a Tower Attraction in the heart of the southern portion of the West Harbor Project site. Figures 5 and 6 show a conceptual plan and image of the Tower Attraction. The Tower Attraction's construction would include a spiral tubular steel tower structure up to 150 feet tall and up to 50 feet in diameter, a 10-foot-tall by 23-foot-diameter balloon-like lit feature, and a passenger gondola for seating. In the center of the gondola would be a beverage and snack service bar. The Tower Attraction would allow up to 15 passengers to enjoy a panoramic view of an operating Port environment from approximately 115 feet in the air. Each ride would last approximately 15 minutes. The tubular steel structure would allow for minimal obstruction of views from the ground level. Additionally, it would allow for the attraction's balloon to remain visible throughout the duration of the attraction's ascent and descent. The attraction's balloon would have integrated light-emitting diode (LED) lighting as well as ultraviolet ray and rain protection. (Aerophile 2014.)

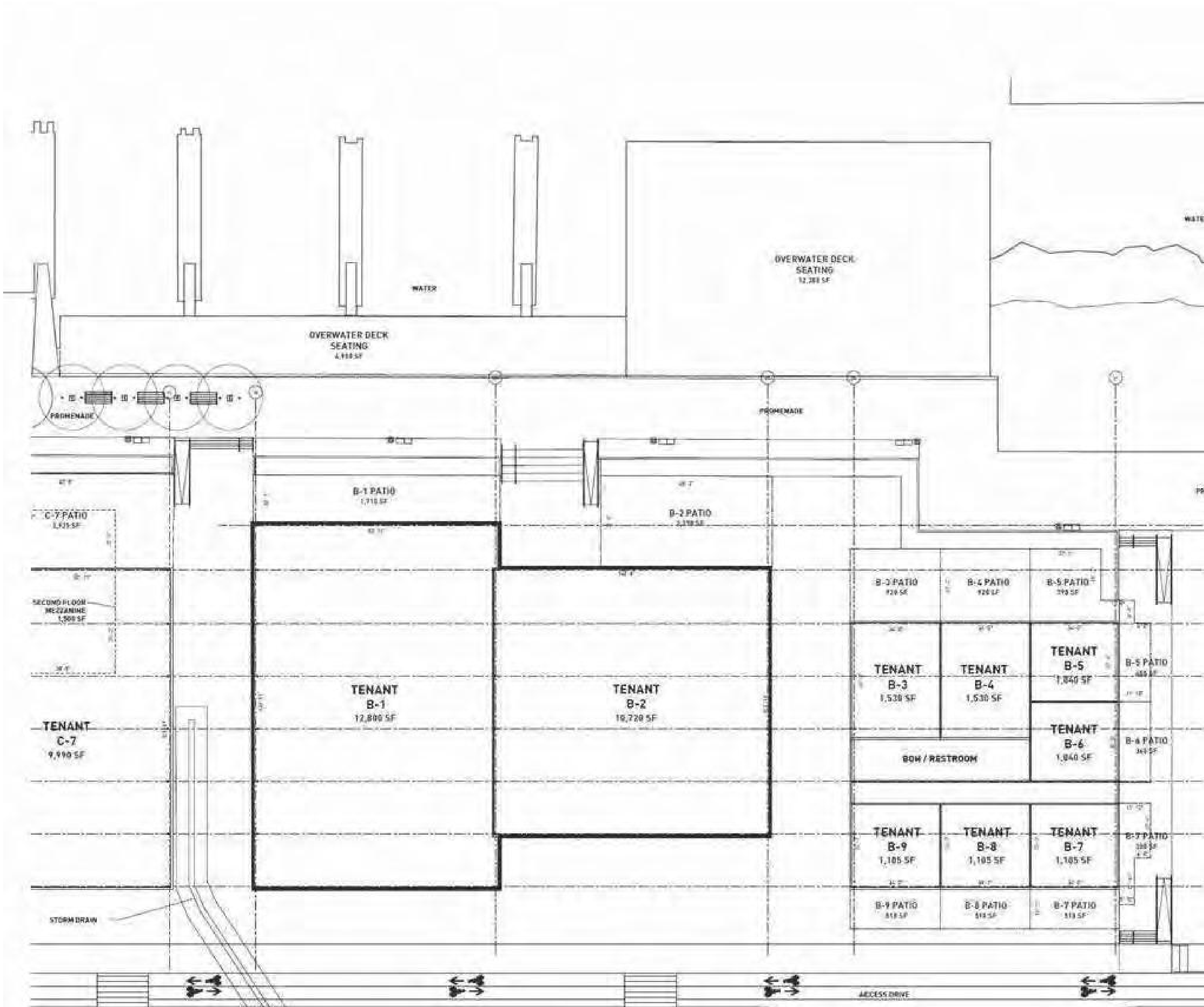

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Figure 6
Example Tower Attraction Renderings
West Harbor Modification Project

Tower Attraction Construction

Construction of the Tower Attraction would be expected to last approximately 2 to 6 months. A maximum of 20 construction workers per day may be needed for tower assembly and construction. Construction tasks are expected to include the following: installation of concrete piles and foundation, connection to electric utilities, installation, assembly of tower components, and commissioning of the device.

Tower Attraction Operations

The Tower Attraction's gondola would travel vertically at a speed of 0.5 meters/second, with a full ride completed in approximately 15 minutes. The fan and lighting on the attraction would use electrical power supply, which would be recharged at the end of the operational day. Rides can occur in most weather conditions, including rain and when wind speeds are less than 44 miles per hour.

2.3.4 Mitigation Measure Changes

The Draft SEIR will also evaluate modifications to the previously approved MMRP for the 2009 SPW Project EIS/EIR and the revised MMRP for the 2016 SPPM Addendum. These modifications are necessary to update previous mitigation measures to current regulatory standards or modify them based on their effectiveness and need. Mitigation measures proposed for modification in this Initial Study/NOP are listed below for air quality and utilities and public services. Changes to transportation-related mitigation measures are not analyzed in this Initial Study/NOP and will be addressed in the transportation chapter of the Draft SEIR. Proposed modifications to these mitigation measures are provided in ~~strike-out~~ and underline format.

Air Quality

MM AQ-25: Recycling.

This mitigation measure is proposed to be removed because the implementation dates have passed and the measure is duplicative of another adopted mitigation measure, MM PS-4: Comply with AB 939, which also has mandatory recycling rates. Since certification of the SPW EIS/EIR in 2009, Assembly Bill (AB) 341 was passed, requiring commercial businesses to separate recyclable materials from solid waste and subscribe to recycling services. Additionally, AB 341 went into effect on July 1, 2012. It requires all businesses and public entities that generate 4 cubic yards or more of waste per week to have a recycling program in place, to be coordinated by the RecycLA program within the City of Los Angeles. AB 341 also set forth a "policy goal of the state that not less than 75 percent of solid waste generated be source reduced, recycled, or composted by the year 2020." Finally, LA's *Green New Deal Sustainable City pLAn*, released in 2019, includes a target goal to increase landfill diversion rate to 90 percent by 2025; 95 percent by 2035; and 100 percent by 2050. Therefore, the original intent of the previously approved mitigation measure has been met with existing regulatory requirements and goals.

~~**MM AQ-25: Recycling.**~~

~~The terminal buildings shall achieve a minimum recycling rate of 40% by 2012 and 60% by 2015. Recycled materials shall include:~~

- ~~white and colored paper;~~
- ~~Post-it notes;~~
- ~~magazines;~~
- ~~newspaper;~~
- ~~file folders;~~
- ~~all envelopes, including those with plastic windows;~~
- ~~all cardboard boxes and cartons;~~
- ~~all metal and aluminum cans;~~
- ~~glass bottles and jars; and~~
- ~~all plastic bottles.~~

The 2009 SPW Project EIS/EIR MMRP specifies that this measure applies to cruise ship lines, the cruise terminal, Catalina Express, tug companies, and Ports O'Call tenants during operation.

Because this measure is proposed to be removed per the above discussion, the relevant language in the West Harbor Modification Project MMRP will be modified to reflect this proposed removal.

MM AQ-27: Compact Fluorescent Light Bulbs.

This proposed modification would allow for the use of more energy-efficient light-emitting diode (LED) light bulbs instead of the now obsolete compact fluorescent light bulbs. Proposed modifications are shown below.

MM AQ-27: Compact ~~Fluorescent~~ <u>Light-Emitting Diode (LED)</u> Light Bulbs.

All interior terminal buildings shall use compact ~~fluorescent~~ <u>LED</u> light bulbs.

The 2009 SPW Project EIS/EIR MMRP specifies that this measure applies to LAHD during building construction. The West Harbor Modification Project will revise this mitigation measure to also apply to the developer.

MM AQ-28: Energy Audit.

This mitigation measure is proposed to be removed as the proposed buildings are anticipated to be compliant with the Port of Los Angeles Green Building Policy (POLA 2007), which was certified by the Board of Harbor Commissioners in 2007. This policy is based on the Leadership in Energy and Environmental Design (LEED) Certification Rating System, and focuses on sustainability, energy efficiency, and water efficiency. This policy also requires the LAHD to use energy and water efficiency elements on their construction

projects. In 2008, the City of Los Angeles adopted Ordinance No. 179820, the first amendment to the Los Angeles Municipal Code, Chapter 1. Sections 16.10 and 16.11, which established the Green Building Program (City of Los Angeles 2008). The Green Building Program focuses on sustainable building practices and addresses five key areas: site, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality. In 2020, the 2019 California Green Building Standards Code (California Building Standards Commission 2019) and the 2019 Building Energy Efficiency Standards (California Energy Commission 2019) came into effect. The California Green Building Standards Code encourages sustainable construction practices for five main categories: planning and design; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; and environmental quality. The Building Energy Efficiency Standards include updates to many key areas regarding energy efficiency of newly constructed and altered builds, including the introduction of photovoltaic into the prescriptive package. By complying with these policies, sustainability, energy efficiency, water efficiency and innovation is considered during building construction. Additionally, Title XXIV of the California Code of Regulations has been updated multiple times since this mitigation measure was created and includes additional requirements than the version that was in effect at the time of adoption. In 2019 L.A.'s Green New Deal was released, which includes targets for carbon neutral buildings and reduced energy consumption that would be followed, as applicable regulations are implemented. Current policies, plans, and design standards require more sustainable construction than was available at the time the MMRP for the 2009 SPW EIS/EIR was certified. Therefore, the original intent of the previous mitigation measure has been met through current design regulations and existing state and local ordinances, policies and plans.

Therefore, the intent of the original mitigation measure is met with the implementation of local and state ordinances and policies.

~~MM AQ-28: Energy Audit~~

~~The tenant shall conduct a third-party energy audit every 5 years and install innovative power-saving technology where feasible, such as power-factor correction systems and lighting power regulators. Such systems help maximize usable electric current and eliminate wasted electricity, thereby lowering overall electricity use.~~

The 2009 SPW Project EIS/EIR MMRP specifies that this measure applies to cruise ship lines, the cruise terminal, Catalina Express, tug companies, and Ports O' Call tenants during operation.

Because this measure is proposed for removal per the above discussion, the relevant language in the West Harbor Modification Project MMRP will be modified to reflect this proposed removal.

Utilities and Public Services

MM PS-4: Comply with AB 939.

This mitigation measure is proposed for removal because compliance with AB 939 is required by legislature. Proposed modifications are shown below.

~~**MM PS-4: Comply with AB 939.**~~

~~LAHD and Port tenants will implement a Solid Waste Management including the following measures to achieve a 50% reduction of current waste generation percentages by 2037 and ensure compliance with the California Solid Waste Management Act (AB 939).~~

~~a. Provide space and/or bins for storage of recyclable materials on the project site. All garbage and recycle bin storage space will be enclosed and plans will show equal area availability for both garbage and recycle bins in storage spaces.~~

~~b. Establish a recyclable material pick-up area for commercial buildings.~~

~~c. Participate in a curbside recycling program to serve the new development.~~

~~d. Develop a plan for accessible collection of materials on a regular basis.~~

~~e. Develop source reduction measures that indicate the method and amount of expected reduction.~~

~~f. Implement a program to purchase materials that have recycled content for project construction and operation (e.g., lumber, plastic, office supplies).~~

~~g. Provide a resident-tenant/employee education pamphlet to be used in conjunction with available Los Angeles County and federal source reduction educational materials. The pamphlet will be provided to all commercial tenants by the leasing/property management agency.~~

~~h. Include lease language requiring tenant participation in recycling/waste reduction programs, including specification that janitorial contracts support recycling.~~

The 2009 SPW Project EIS/EIR MMRP specifies that this measure applies to cruise ship lines, the cruise terminal, Catalina Express, and tug companies during operation. The 2016 SPPM Addendum MMRP revised this measure to apply to the SPPM developer.

Because this measure is proposed for removal per the above discussion, the relevant language in the West Harbor Modification Project MMRP will be modified to reflect this proposed removal.

MM PS-5: Water Conservation and Wastewater Reduction.

This proposed modification is necessary because there is no supply source available or proposed, according to the *City of Los Angeles Recycled Water Master Planning* document prepared by the Los Angeles Department of Water and Power (LADWP) and Department of Public Works (2012). If the project is constructed with specific recycled water hook-up capabilities, and once recycled water is available, that water will be used for irrigation and toilet flushing. Proposed modifications are shown below.

MM PS-5: Water Conservation and Wastewater Reduction.

LAHD and Port tenants will implement the following water conservation and wastewater reduction measures to further reduce impacts on water demand and wastewater flows.

a. The landscape irrigation system will be designed, installed, and tested to provide uniform irrigation coverage for each zone. Sprinkler head patterns will be adjusted to minimize overspray onto walkways and streets. Each zone (sprinkler valve) will water plants having similar watering needs (i.e., shrubs, flowers, and turf will not be in the same watering zone). Automatic irrigation timers will be set to water landscaping during early morning or late evening hours to reduce water losses from evaporation. Irrigation run times will be adjusted for all zones seasonally, reducing length and frequency of watering in the cooler months (i.e., fall, winter, spring). Adjust sprinkler timer run time to avoid water runoff, especially when irrigating sloped property. Sprinkler times will be reduced once drought tolerant plants have been established.

b. Drought-tolerant, low water consuming plant varieties will be used to reduce irrigation water consumption.

c. Recycled water will be used for irrigation and toilet flushing (dual-flushing) upon notification from LADWP that recycled water is available and upon notification from Port Engineering that necessary connections are available prior to construction.

d. Ultra-low-flush toilets, ultra-low-flush urinals, and water-saving showerheads must be installed in both new and replacement construction ~~and when remodeling~~. Low flow faucet aerators will be installed on all sink faucets.

e. Significant opportunities for water savings exist in air conditioning systems that utilize evaporative cooling (i.e., employ cooling towers). LADWP will be contacted for specific information of appropriate measures.

f. Re-circulating or point-of-use hot water systems will be installed to reduce water waste in long piping systems where water must be run for considerable period before heated water reaches the outlet.

The 2009 SPW Project EIS/EIR MMRP specifies that this measure applies to the cruise ship lines, cruise terminal, Catalina Express, and tug companies during operation. The 2016 SPPM Addendum MMRP revised this measure to apply to the SPPM developer.

MM PS-6: Employ Energy Conservation Measures.

The proposed buildings are required to comply with the Port of Green Building Policy, which is based on the LEED Certification Rating System and focuses on sustainability, energy efficiency, and water efficiency. This policy also requires the LAHD to use energy and water efficiency elements on their construction projects. In 2008, the City of Los Angeles adopted Ordinance no. 179820, the first amendment to the Los Angeles Municipal Code, Chapter 1, Sections 16.10 and 16.11, which established the Green Building Program (City of Los Angeles 2008). The Green Building Program focuses on sustainable building practices and addresses five key areas: site, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality. In 2020, the 2019 California Green Building Standards Code (California Building Standards Commission 2019) and the 2019 Building Energy Efficiency Standards (California Energy Commission 2019) came into effect. The California Green Building Standards Code encourages sustainable construction practices for five main categories: planning and design; energy efficiency; water efficiency and

conservation; material conservation and resource efficiency; and environmental quality. The Building Energy Efficiency Standards include updates to many key areas regarding energy efficiency of newly constructed and altered builds, including the introduction of photovoltaic into the prescriptive package. By complying with these policies, sustainability, energy efficiency, water efficiency and innovation is considered during building construction. Additionally, Title XXIV of the California Code of Regulations has been updated multiple times since this mitigation measure was created and includes additional requirements than the version that was in effect at the time of adoption. In 2019 L.A.'s Green New Deal was released, which includes targets for carbon neutral buildings and reduced energy consumption that would be followed, as applicable regulations are implemented. Current policies, plans, and design standards require more sustainable construction than was available at the time the MMRP for the 2009 SPW EIS/EIR was certified. Therefore, this mitigation measure is proposed for removal because the original intent of the previous mitigation measure has been met through current design regulations and existing state and local policies and plans. Proposed modifications are shown below.

~~**MM PS-6: Employ energy conservation measures.**~~

~~During the design process, LAHD will consult with LADWP's Efficiency Solutions Business Group regarding possible energy efficiency measures. LAHD and its tenants will incorporate measures to meet or, if possible, exceed minimum efficiency standards for Title XXIV of the California Code of Regulations, such as:~~

a. ~~Built-in appliances, refrigerators, and space-conditioning equipment will exceed the minimum efficiency levels mandated in the California Code of Regulations.~~

b. ~~High-efficiency air conditioning will be installed that is controlled by a computerized energy-management system in office and retail spaces and provides the following: a variable air-volume system that results in minimum energy consumption and avoids hot water energy consumption for terminal reheat, a 100% outdoor air-economizer cycle to obtain free cooling in appropriate climate zones during dry climatic periods, sequentially staged operation of air-conditioning equipment in accordance with building demands, the isolation of air conditioning to any selected floor or floors, and considers the applicability of the use of thermal energy storage to handle cooling loads.~~

c. ~~Ventilation air will be cascaded from high-priority areas before being exhausted, thereby decreasing the volume of ventilation air required. For example, air could be cascaded from occupied space to corridors and then to mechanical spaces before being exhausted.~~

d. ~~Lighting system heat will be recycled for space heating during cool weather. While exhaust lighting-system heat will be recycled from the buildings, via ceiling plenums, to reduce cooling loads in warm weather.~~

e. ~~Low and medium static-pressure terminal units will be installed, as well as ductwork to reduce energy consumption by air-distribution systems.~~

f. ~~Buildings must be well sealed to prevent outside air from infiltrating and increasing interior space-conditioning loads. Where applicable, design building entrances with vestibules to restrict infiltration of unconditioned air and exhausting of conditioned air.~~

g. ~~A performance check of the installed space-conditioning system will be completed by the developer/installer prior to issuance or the certificate of occupancy to ensure that energy-efficiency measures incorporated into the proposed Project operate as designed.~~

h. ~~Exterior walls will be finished with light-colored materials and high emissivity characteristics to reduce cooling loads. Interior walls will be finished with light-colored materials to reflect more light and, thus increase light efficiency.~~

i. ~~White reflective material will be used for roofing meeting California standards for reflectivity and emissivity to reject heat.~~

j. ~~Thermal insulation that exceeds requirements established by the California Code of Regulations will be installed in walls and ceilings.~~

k. ~~Window systems will be designed to reduce thermal gain and loss, thus reducing cooling loads during warm weather and heating loads during cool weather.~~

l. ~~Heat-rejecting window treatments will be installed, such as films, blinds, draperies, or others on appropriate exposures.~~

m. ~~Fluorescent and high-intensity discharge lamps that give the highest light output per watt of electricity consumed will be installed wherever possible, including all street and parking lot lighting, to reduce electricity consumption. Reflectors will be used to direct maximum levels of light to work surfaces.~~

n. ~~Photosensitive controls and dimmable electronic ballasts will be installed to maximize the use of natural daylight available and reduce artificial lighting load.~~

o. ~~Occupant-controlled light switches and thermostats to permit individual adjustment of lighting, heating, and cooling will be installed to avoid unnecessary energy consumption.~~

p. ~~Time-controlled interior and exterior public area light will be installed, limited to that which is necessary for safety and security.~~

q. ~~Mechanical systems (HVAC and lighting) in the building will be controlled with timing systems to prevent accidental or inappropriate conditioning or lighting of unoccupied space.~~

r. ~~Windowless walls or passive solar inset of windows will be incorporated, where feasible, in building design.~~

s. ~~Project will focus pedestrian activity within sheltered outdoor areas.~~

The 2009 SPW Project EIS/EIR MMRP specifies that this measure applies to cruise ship lines, the cruise terminal, Catalina Express, and tug companies during operation. The 2016 SPPM Addendum MMRP revised this measure to apply to the SPPM developer.

Because this measure is proposed for removal per the above discussion, the relevant language in the West Harbor Modification Project MMRP will be modified to reflect this proposed removal.

3.0 Anticipated Project Approvals and Permits

The approvals or permits that could be required for the proposed West Harbor Project are anticipated to include, but not be limited, to:

- City of Los Angeles building, occupancy, electrical, and mechanical permits
- Los Angeles Fire Department (LAFD): approval of fire suppression system
- LAHD: issuance of a Harbor Engineer Permit, Coastal Development Permit or Coastal Development Permit amendment, and site lease amendments (as necessary)
- South Coast Air Quality Management District (SCAQMD): permit for emergency generator
- State Water Resources Control Board: Construction General Permit

4.0 Environmental Checklist – Initial Study

1.	**Project Title:**	West Harbor Modification Project
2.	**Lead Agency Name and Address:**	Los Angeles Harbor Department Environmental Management Division 425 S. Palos Verdes Street San Pedro, CA 90731
3.	**Contact Person and Phone Number:**	Nicole Enciso 310.732.3615
4.	**Project Location:**	Port of Los Angeles, from Berths 73-Z to 83 San Pedro, CA 90731
5.	**Project Sponsor's Name and Address:**	Los Angeles Harbor Department Environmental Management Division 425 S. Palos Verdes Street San Pedro, CA 90731
6.	**General Plan Designation:**	Visitor-Serving Commercial
7.	**Zoning:**	[Q]M2-1, Light Industrial Enterprise Zone/Employment and Economic Incentive Program Area (EZ) No. 2130

8. **Description of Project:**

LAHD is proposing modifications to the West Harbor Modification Project involving development of an approximately 108,000-square-foot, 6,200-seat outdoor amphitheater and entertainment lawn venue, as well as an approximately 150-foot tall by 50-foot wide Tower Attraction that would replace the previously analyzed 100-foot diameter Ferris wheel. The modifications would occur on approximately 2.5 acres within the previously approved 6.4-acre Discovery Sea Amusement Area of the site formerly known as the San Pedro Public Market, which is between the Main Channel and Harbor Boulevard from Berths 73-Z to 83 within the Port. The Amphitheater would replace the previously approved Discovery Sea Amusement Area and 500-seat amphitheater. The other entertainment attractions previously proposed within the Discovery Sea Amusement Area included playground facilities and entertainment attractions such as various temporary and permanent rides (i.e., a Ferris wheel, a carousel, and arcade-style games). LAHD is also proposing modifications to mitigation measures in the SPW Project MMRP and the 2016 SPPM Addendum MMRP in the areas of air quality, utilities and public services, and transportation.

9. **Surrounding Land Uses and Setting:**

The West Harbor Modification Project is within the Port, which is in San Pedro Bay within the city of Los Angeles, approximately 20 miles south of downtown Los Angeles. The Port is adjacent to the community of San Pedro to the west, the Wilmington community to the north, the Port of Long Beach to the east, and the Pacific Ocean to the south. In total, the Port encompasses approximately 7,300

acres of land and water along 43 miles of waterfront. The proposed West Harbor Modification Project site is within the SPW area and involves development modifications to approximately 2.5 acres within the 6.4-acre Discovery Sea Amusement Area in the southern portion of the SPPM. The West Harbor comprises a total of approximately 45 acres, including the former site of Ports O'Call Village, located between the Los Angeles Harbor's Main Channel and Harbor Boulevard from Berths 73-Z to 83. Steep bluffs to the northwest provide a natural physical edge between portions of the San Pedro community and the project site. There are residences approximately 1,450 feet west of the project site. Just southwest of the project site, in the S.P. Slip, is an active commercial fishing fleet. The Municipal Fish Market at Berth 72, adjacent to the S.P. Slip, is associated with these fishing operations. Berths 91 to 93 to the north of the project site are currently used by the World Cruise Center.

10. Other Public Agencies Whose Approval Is Required:

- City of Los Angeles building, occupancy, electrical, and mechanical permits
- LAFD: approval of fire suppression system
- LAHD: issuance of a Harbor Engineer Permit, Coastal Development Permit or Coastal Development Permit amendment, and site lease amendments (as necessary)
- SCAQMD: permit for emergency generator
- State Water Resources Control Board: approval of Construction General Permit

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, has consultation begun?

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts on tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process (see PRC § 21083.3.2.). Information may also be available from the California Native American Heritage Commission's Sacred Lands File per PRC Section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that PRC Section 21082.3(c) contains provisions specific to confidentiality.

LAHD sent certified AB 52 letters on January 8, 2020, to the Gabrieleno Band of Mission Indians-Kizh Nation, Gabrieleno/Tongva San Gabriel Band of Mission Indians, Gabrielino/Tonga Nation, Gabrielino Tongva Indians of California Tribal Council, and Gabrielino-Tongva Tribe. No responses were received within the 30-day consultation request period, which ended on February 7, 2020.

Environmental Factors Potentially Affected

The environmental factors checked below could be affected by this project (i.e., the project would involve at least one impact that is a "Potentially Significant Impact"), as indicated by the checklist on the following pages.

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

Determination

On the basis of this initial evaluation:

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

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

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

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

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

Signature

04-07-2022

Date

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

Evaluation of Environmental Impacts

1. A brief explanation is required for all answers, except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained if it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.
4. “Negative Declaration: Less than Significant with Mitigation Incorporated” applies when the incorporation of mitigation measures has reduced an effect from a “Potentially Significant Impact” to a “Less-than-Significant Impact.” The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less-than-significant level. (Mitigation measures from Earlier Analyses, as described in #5, below, may be cross referenced.)
5. Earlier analyses may be used if, pursuant to tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration (Section 15063(c)(3)(D)). In this case, a brief discussion should identify the following:
    a. Earlier Analysis Used. Identify and state where earlier analyses are available for review.
    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards and state whether such effects were addressed by mitigation measures, based on the earlier analysis.
    c. Mitigation Measures. For effects that are “Less than Significant with Mitigation Incorporated,” describe the mitigation measures that were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, when appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project’s environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
    a. The significance criteria or threshold, if any, used to evaluate each question; and
    b. The mitigation measure identified, if any, to reduce the impact to a less-than-significant level.

I. Aesthetics

	Potentially Significant Impact	Less–than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	☐	☐	☐	☒
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☒	☐	☐	☐

Discussion

Would the project:

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

No Impact. The West Harbor Modification Project site is not within or near any protected or designated scenic vistas. Therefore, there would be no impact, and this issue will not be addressed further in the SEIR.

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

No Impact. The West Harbor Modification Project site is not near an eligible or designated scenic highway. Therefore, the proposed project would not have the potential to damage scenic resources within a state scenic highway. The California Department of Transportation is responsible for official nomination and designation of eligible scenic highways. The nearest officially designated State Scenic Highway is approximately 21 miles north of the proposed project (State Route 1, from Venice Boulevard to the city boundary of Santa Monica) (Caltrans 2019). The West Harbor Modification Project site is not visible from this location; therefore, proposed West Harbor Modification Project activities would not affect the quality of scenic views from this location.

No scenic trees or rock outcroppings exist at the West Harbor Modification Project site. Demolition activities proposed at the project site would be consistent with the existing visual context of a working port. Therefore, there would be no impacts on scenic resources and this issue will not be addressed further in the SEIR.

The amphitheater stage and associated scaffolding would be approximately 45 feet and display screens would not exceed approximately 35 feet in height. Grandstand seating would increase in height, with the front row starting at approximately 7 feet above ground level and the back row reaching approximately 35 feet above ground level. Development of the West Harbor Modification Project would not obstruct critical public views from a designated scenic highway or within recognized or valued views. Therefore, there would be no impact, and this issue will not be addressed further in the SEIR.

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

Less-than-Significant Impact. Development of the West Harbor Modification Project would not conflict with applicable zoning or other regulations governing scenic quality. Its construction would also be subject to and comply with the San Pedro Waterfront and Promenade Design Guidelines (Port of Los Angeles 2014). These guidelines were developed to provide the framework for quality and appropriate design to ensure that SPW features would not adversely affect visual quality by introducing highly contrasting, inharmonious, or unsuitably scaled architecture. LA Waterfront Design Guidelines (Port of Los Angeles 2014b) related to maintaining views and building heights include the following:

- Buildings should protect upland views to the water and adhere to the existing scale of development in Wilmington and San Pedro.
- The maximum building height for development should comply with the City of Los Angeles Zoning Ordinance. Where deemed appropriate by the Port, however, buildings can exceed this height through a variance.
- Roof elements such as poles and masts and other structures that occupy no more than 10% of the roof area are exempt from building height limits.
- Buildings should generally decrease in height as they approach the waterfront, with taller buildings away from the water and shorter buildings nearer the promenade.
- Tower elements or those portions of a building over 60 feet should be designed as slender structures to minimize view obstructions from inland areas and maintain upland views and east-west view corridors from existing streets.

In addition, LA Waterfront Design Guidelines (Port of Los Angeles 2014) related to signage include the following:

- Signs should be scaled based on their environment and intended user. For example, larger signs should be used for drivers moving at faster speeds while smaller signs should be used for pedestrians.
- Signs should be located where most effective in terms of decision points and information needs. They should be located for prominence and readability.

- Signs should be illuminated uniformly and use appropriate contrasting backgrounds to ensure visibility and legibility, even during night hours. Glare and reflection should be minimized.

These design standards were determined to result in visual improvements to the current facilities at Ports O'Call. The West Harbor Modification Project would adhere to standards associated with the above-referenced design guidelines to ensure that the existing visual character or quality of public views of the site and its surroundings are not adversely degraded. Therefore, impacts would be less than significant, and this issue will not be addressed further in the SEIR.

d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

Potentially Significant Impact. The West Harbor Modification Project could create a new source of substantial light or glare due to lighting and screens being used during concert events. Therefore, this issue will be evaluated in the SEIR.

II. Agricultural and Forestry Resources

	Potentially Significant Impact	Less–than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts on forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forestland, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project, and forest carbon measurement methodology provided in the Forest Protocols adopted by the California Air Resources Board. Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of forestland (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d. Result in the loss of forestland or conversion of forestland to non-forest use?	☐	☐	☐	☒
e. Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forestland to non-forest use?	☐	☐	☐	☒

Discussion

Would the project:

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

No Impact. The California Department of Conservation's Farmland Mapping and Monitoring Program develops maps and statistical data for analyzing impacts on California's agricultural resources. The Farmland Mapping and Monitoring Program categorizes agricultural land according to soil quality and irrigation status; the best land is identified as Prime Farmland. According to the Farmland Mapping and Monitoring Program, the West Harbor Modification Project site is an area that has been designated as Urban and Built-Up Land, which is defined as land with structures that have a variety of uses, including industrial, commercial, institutional, and railroad or other transportation uses (California Department of Conservation 2018). There is no Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or Farmland of Local Importance in the West Harbor Modification Project vicinity or on the project site. Therefore, the West Harbor Modification Project would not convert Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or Farmland of Local Importance to nonagricultural use. Consequently, no impacts would occur, and this issue will not be addressed further in the SEIR.

b. Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?

No Impact. The West Harbor Modification Project site is zoned for light industrial uses ([Q]M2-1). There are no agricultural zoning designations or agricultural uses within the project limits or adjacent areas. The Williamson Act applies to parcels with at least 20 acres of Prime Farmland or at least 40 acres of land that is not designated as Prime Farmland. The project site is not within a Prime Farmland designation and does not consist of more than 40 acres of farmland (California Department of Conservation 2018). No Williamson Act contracts apply to the West Harbor Modification Project site. As such, the proposed project would not conflict with existing zoning for agricultural use or a Williamson Act contract. Therefore, no impacts would occur, and this issue will not be addressed further in the SEIR.

c. Conflict with existing zoning for, or cause rezoning of forestland (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

No Impact. The West Harbor Modification Project site is currently zoned as for light industrial uses ([Q]M2-1) (City of Los Angeles 2019a). It does not support timberland or forestland. Therefore, the West Harbor Modification Project would not conflict with existing zoning for, or cause rezoning of, forestland, timberland, or timberland zoned Timberland Production. As such, no impact would occur, and this issue will not be addressed further in the SEIR.

d. Result in the loss of forestland or conversion of forestland to non-forest use?

No Impact. The West Harbor Modification Project would not result in a loss of forestland or the conversion of forestland to non-forest use. Therefore, no impact would occur, and this issue will not be addressed further in the SEIR.

e. Involve other changes in the existing environment that, because of their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forestland to non-forest use?

No Impact. As discussed above, no farmland or forestland occurs within the surrounding area or at the West Harbor Modification Project site. The project would not disrupt or damage the existing environment or result in the conversion of farmland to non-agricultural use or conversion of forestland to non-forest use. Therefore, no impact would occur, and this issue will not be addressed further in the SEIR.

III. Air Quality

	Potentially Significant Impact	Less–than-Significant Impact with Mitigation	Less-than-Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied on to make the following determinations. Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard?	☒	☐	☐	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☒	☐	☐	☐

Discussion

Would the project:

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

Potentially Significant Impact. The West Harbor Modification Project could result in increased emissions of criteria air pollutants due to possible higher trip generation. Therefore, this issue will be evaluated in the SEIR.

b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard?

Potentially Significant Impact. The West Harbor Modification Project could result in a cumulatively considerable net increase in a criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard due to potentially higher trip generation rates. Therefore, this issue will be evaluated in the SEIR.

c. Expose sensitive receptors to substantial pollutant concentrations?

Potentially Significant Impact. The West Harbor Modification Project could expose sensitive receptors to substantial pollutant concentrations due to additional vehicle traffic during concert events. Therefore, this issue will be evaluated in the SEIR.

d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Potentially Significant Impact. The West Harbor Modification Project could result in other emissions (such as those leading to odors) adversely affecting a substantial number of people due to the use of pyrotechnics and fireworks during events. Therefore, this issue will be evaluated in the SEIR.

IV. Biological Resources

	Potentially Significant Impact	Less–than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c. Have a substantial adverse effect on state or federally protected wetland (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Discussion

Would the project:

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

Potentially Significant Impact. No candidate, sensitive, or special-status species are known to occur on the West Harbor Modification Project site, and there is no federally

designated critical habitat in the harbor area. The West Harbor Modification Project would construct an outdoor venue hosting concerts and other special events. The project would include an amplified sound system, fireworks, and lighting displays. Noise from the sound system, audiences attending the events, and fireworks could propagate into the surrounding community and be audible to nearby species, such as marine mammals in the channel and endangered California least terns (*Sternula antillarum*) at the Pier 400 Nesting site. The installation and operation of the Tower Attraction will also be included in this assessment for its potential for perching and nesting and impacts from lighting. As a result, the West Harbor Modification Project could create a substantial adverse effect on marine mammals and the California least tern colony. Therefore, this issue will be evaluated in the SEIR.

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

No Impact. There is no riparian habitat at the West Harbor Modification Project site or in the vicinity; therefore, no impact on riparian habitats would occur. Neither construction nor operation of the amphitheater would involve any in-water or over-water work. Therefore, no impacts on any other sensitive natural communities such as eelgrass would occur and this issue will not be addressed further in the SEIR.

c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. The West Harbor Modification Project would not affect federally protected wetlands (as defined by Section 404 of the Clean Water Act) because there are no federally protected wetlands in the area. Implementation of the project would not affect riparian habitat or require in-water or over-water work. Therefore, no impact would occur and this issue will not be addressed further in the SEIR.

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

Less-than-Significant Impact. No known wildlife migration corridors are present at the West Harbor Modification Project site. Further, if construction is to occur between February 15 and September 1, a qualified biologist will conduct surveys for the presence of species protected under the Migratory Bird Treaty Act, such as black-crowned night herons, and blue herons within Berth 78-Ports O'Call or other appropriate and known locations within the study area that contain potential nesting bird habitat, consistent with Mitigation Measure BIO-2. Therefore, the project would have a less-than-significant impact and this issue will not be addressed further in the SEIR.

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

No Impact. The only biological resources protected by City of Los Angeles ordinance (City of Los Angeles 2006) are certain tree species, none of which are present on the West Harbor Modification Project site. Therefore, the project would not conflict with any local

policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. As such, no impact would occur, and this issue will not be addressed further in the SEIR.

f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?

No Impact. Neither the West Harbor Modification Project site nor any adjacent areas are included as part of an adopted natural communities conservation plan or habitat conservation plan. Therefore, project would not adversely affect any areas identified in an adopted plan. The project would not conflict with the provisions of an adopted community conservation, habitat conservation, or other plan. As such, no impact would occur, and this issue will not be addressed in the SEIR.

V. Cultural Resources

	Potentially Significant Impact	Less–than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☐	☐	☒
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☐	☒	☐
c. Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☐	☒

Discussion

Would the project:

a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

No Impact. The West Harbor Modification Project would not require the demolition or removal of any structures. Therefore, no impacts on historical resources would occur, and this issue will not be addressed further in the SEIR.

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

Less-than-Significant Impact. The Ports O'Call area overlies land that includes artificial fill (U.S. Department of Agriculture 2022). Because of the highly disturbed nature of the site and the minimal ground disturbance anticipated as a part of the West Harbor Modification Project, interaction with archaeological resources is unlikely. Therefore, impacts would be less than significant, and this issue will not be addressed further in the SEIR.

c. Disturb any human remains, including those interred outside of dedicated cemeteries?

No Impact. No prehistoric sites or cemeteries have been identified in the West Harbor Modification Project site or within a 0.25-mile radius of the site. Based on the results of the cultural resource records search and Native American consultation process, there is no evidence of any human remains, including those interred outside of dedicated cemeteries, within the West Harbor Modification Project site that would be affected by the proposed project. Furthermore, as this location is on artificial fill, impacts on buried human remains would be unlikely.

Therefore, no impacts on any human remains would occur, and this issue will not be addressed further in the SEIR.

VI. Energy

	Potentially Significant Impact	Less–than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?	☐	☐	☒	☐
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

Discussion

Would the project:

a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?

Less-than-Significant Impact. The West Harbor Modification Project would not use nonrenewable energy resources in a wasteful or inefficient manner during construction or operation. The project would require the use of diesel and gasoline to operate equipment during construction and for construction worker vehicles. Gasoline for worker and patron vehicles would be the primary energy resources needed during operation. In addition, diesel would be needed for the trucks and emergency generator, natural gas for food vendors, and electricity for concert operations.

During construction, diesel would be used to operate onsite construction equipment and offsite delivery and hauling vehicles. Gasoline would be used in construction worker vehicles. Electricity would be used to operate minor electrical equipment, such as lighting. Substantial electricity use would not occur during construction activities because construction would occur primarily during daylight hours, thus limiting the need for lighting. Construction of the proposed project would consume an estimated 26,677 gallons of fuel (23,639 gallons diesel, 3,038 gallons gasoline). Energy expenditures during construction would be short in duration, lasting approximately 10 to 12 months.

During operation, propane fuels would be used to operate onsite food vendors. Gasoline fuel would be used to operate worker and patron automobiles, as well as for an emergency generator for the Tower Attraction. Electricity would be used to operate onsite lighting, sound equipment, the Tower Attraction, and other concert-related equipment. Operation of the project would annually consume an estimated 393,879 gallons of fuel (8,075 gallons diesel, 246,915 gallons of gasoline), 750,000 cubic feet per year of natural gas, and 1 gigawatt-hour (GWh) of electricity. The electricity demand in 2020 was 65,650 GWh for Los Angeles County (CEC 2020a). Natural gas consumption in Los Angeles County in 2020

was 2,937 million British thermal units (CEC 2020b). Therefore, due to the limited amount of electricity and natural gas use compared to that available for use, the project would not result in a wasteful use of energy. In 2017, 3,659 million gallons of gasoline and 301 million gallons of diesel were sold in Los Angeles County (County of Los Angeles 2019).

Based on the maximum projected use of fuels for this project as compared to overall sales in the county, the project would not result in a wasteful use of energy. Therefore, these energy uses do not constitute wasteful, inefficient, or unnecessary consumption and impacts would be less than significant. This issue will not be addressed further in the SEIR.

b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact. The West Harbor Modification Project would incorporate energy conservation measures in compliance with the California Building Standards Code, CCR Title 24, and any other applicable local, state, and federal energy efficiency requirements. Therefore, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and no impact would occur. This issue will not be addressed further in the SEIR.

VII. Geology and Soils

	Potentially Significant Impact	Less–than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
2. Strong seismic ground shaking?	☐	☐	☒	☐
3. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
4. Landslides?	☐	☐	☐	☒
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

Discussion

Would the project:

a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

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

Less-than-Significant Impact. The Palos Verdes Fault Zone traverses the Port in a northwest-to-southeast manner from the West Turning Basin to Pier 400 and beyond. The Palos Verdes Fault Zone roughly encompasses a 50-mile-long area that travels through the communities of San Pedro, Palos Verdes Estates, Torrance, and Redondo Beach (USGS 2022). According to Figure 2, *Palos Verdes Fault Zone,* of the 2018 PMP, the Palos Verdes fault crosses the project area. In addition to the Palos Verdes Fault Zone, the northern terminus of the Wilmington blind thrust fault line is immediately adjacent to and just northeast of the project. According to the 2017 *Activity and Earthquake Potential of the Wilmington Blind Thrust, Los Angeles, CA Final Technical Report* submitted to the U.S. Geological Survey, the fault line is between Cannery Street and the project site (Wolfe et al. 2017). The West Harbor Modification Project would not include the addition of any new structures meant for human occupancy (consequently, potential impacts on people and structures would be negligible) and would not contain features that would directly or indirectly cause or intensify effects associated with fault rupture. Therefore, impacts would be less than significant, and this issue will not be addressed further in the SEIR.

2. Strong seismic ground shaking?

Less-than-Significant Impact. The West Harbor Modification Project area lies near the Palos Verdes Fault Zone; therefore, potential hazards exist because of seismic activity associated with active faults and the presence of engineered fill[1] throughout the area. The exposure of people to seismic ground shaking is a potential risk with or without the project. The risk of seismic hazards such as ground shaking cannot be avoided. Building and construction design codes are meant to minimize structural damage resulting from a seismic event. The West Harbor Modification Project would comply with applicable engineering standards and building codes, as well as applicable sections of the Los Angeles Building Code. Emergency planning and coordination would also contribute to reducing injuries to onsite personnel and patrons during seismic activity. With incorporation of emergency planning and compliance with current regulations and standard engineering practices, this impact would be less than significant and will not be addressed further in the SEIR.

[1] According to the 2018 PMP, the Port has been physically modified through past dredge-and-fill projects. The Natural Resources Conservation Service's Web Soil Survey identifies soils in the project area as Urban Land, 0 to 2 percent slopes, dredged fill substratum.

3. Seismic-related ground failure, including liquefaction?

Less-than-Significant Impact. Liquefaction occurs when saturated, low-density loose materials (e.g., sand or silty sand) are weakened and transformed from a solid to a near-liquid state as a result of increased pore water pressure. The increase in pressure is caused by strong ground motion from an earthquake. Liquefaction most often occurs in areas underlain by silts and fine sands and where shallow groundwater exists. Similar to Threshold XIX(a)(2), above, the harbor area, including the SPPM and West Harbor Modification Project site, is identified as an area that is susceptible to liquefaction, per the California Geological Survey's Earthquake Zones of Required Investigation (1999). This is due to the presence of engineered fill and shallow groundwater at the West Harbor Modification Project site. The exposure of people to liquefaction is a potential risk with or without the proposed project. The risk of seismic hazards such as liquefaction cannot be avoided. Building and construction design codes are meant to minimize structural damage resulting from a seismic event. The West Harbor Modification Project would comply with applicable engineering standards and building codes, as well as applicable sections of the Los Angeles Building Code. Emergency planning and coordination would also contribute to reducing injuries to onsite personnel and patrons during seismic activity. With incorporation of emergency planning and compliance with current regulations and standard engineering practices, this impact is considered less than significant, and will not be addressed further in the SEIR. In addition, per the California Supreme Court in its *California Building Industry Association v. Bay Area Air Quality Management District* decision, "CEQA generally does not require an analysis of how existing environmental conditions will impact a project's future users or residents." The proposed West Harbor Modification Project would not change or exacerbate the potential to expose people or structures to seismic hazards. This impact would be less than significant and will not be addressed further in the SEIR.

4. Landslides?

No Impact. Topography in the vicinity of the West Harbor Modification Project site is flat and not subject to landslides. As described in the 2009 Final SPW EIS/EIR, a slope that ranges from 0 to approximately 20 feet in height is approximately 1,500 feet northwest of the proposed project near South Harbor Boulevard and 11th Street. Because of the relatively small size of the slope, the potential for a landslide to occur on this slope is considered low. In addition, the project site is not in an area susceptible to earthquake-induced landslides (California Geological Survey 1999). Therefore, no impacts related to landslides would occur, and this issue will not be addressed further in the SEIR.

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

No Impact. The West Harbor Modification Project site is currently covered with permeable and impermeable surfaces that drain to harbor waters; implementation of the project would not modify the site's existing drainage patterns. Project construction would occur under the General Construction Activity Stormwater Permit (2009-0009-DWQ, as amended) issued by the State Water Resources Control Board. This permit requires preparation of and compliance with a Storm Water Pollution Prevention Plan (SWPPP) and associated best management practices (BMPs) to prevent pollutants in stormwater discharges from causing

or contributing to violations of water quality objectives. The proposed West Harbor Modification Project would also comply with the City of Los Angeles' low-impact development (LID) ordinance. Operations would occur in compliance with the Municipal Separate Storm Sewer System (MS4) permit (R4-2012-0175-A01 and future iterations). Therefore, no impacts related to soil erosion or loss of topsoil would occur, and this issue will not be addressed further in the SEIR.

c. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?

Less-than-Significant Impact. As discussed above, the West Harbor Modification Project area is near the active Palos Verdes fault and within liquefaction-prone engineered fill. The exposure of people to liquefaction is a potential risk with or without the project. The risk of seismic hazards such as liquefaction cannot be avoided. Building and construction design codes are meant to minimize structural damage resulting from a seismic event. The West Harbor Modification Project would comply with applicable engineering standards and building codes, as well as applicable sections of the Los Angeles Building Code. The project site is also flat and not subject to landslides. The closest landslide zone to the project site is approximately 1,500 feet away. Through compliance with current regulations and standard engineering practices, this impact would be less than significant and will not be addressed further in the SEIR.

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

No Impact. The West Harbor Modification Project would be designed and constructed consistent with implementation of Chapter IX, Building Regulations, of the Los Angeles Municipal Code, in conjunction with criteria established by LAHD, and would not result in substantial direct or indirect risks to life or property. Therefore, no impact would occur, and this issue will not be addressed further in the SEIR.

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

No Impact. The use of septic tanks is not proposed as part of the West Harbor Modification Project. Restroom facilities would either be connected directly to the sewer system or portable facilities would be used, which would be removed and treated, as needed. Therefore, no impact would occur, and this issue will not be addressed further in the SEIR.

f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less-than-Significant Impact. As mentioned in Section V, *Cultural Resources*, the Ports O'Call area overlies land that includes artificial fill (U.S. Department of Agriculture 2022). Because of the highly disturbed nature of the site and the minimal ground disturbance anticipated as a part of the West Harbor Modification Project, interaction with paleontological resources is unlikely. Therefore, impacts would be less than significant, and this issue will not be addressed further in the SEIR.

VIII. Greenhouse Gas Emissions

	Potentially Significant Impact	Less–than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☒	☐	☐	☐
b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Discussion

Would the project:

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

Potentially Significant Impact. The West Harbor Modification Project could generate greenhouse gas (GHG) emissions due to combustion sources associated with the proposed project during both construction and operation that may have a significant impact. Therefore, this issue will be evaluated in the SEIR.

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

Less-than-Significant Impact. State CEQA Guidelines Section 15064.4(b) provides that one factor to be considered in assessing the significance of GHG emissions on the environment is "the extent to which a project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions."

Several state, regional, and local plans have been developed that set goals for the reduction of GHG emissions over the next few years and decades. Some of these plans and policies (notably, Executive Order S-3-05 and AB 32) were taken into account by SCAQMD in developing the threshold of 10,000 metric tons per year of carbon dioxide equivalent (CO_2e). However, no regulations or requirements have been adopted by relevant public agencies to implement those plans for specific projects within the meaning of State CEQA Guidelines Section 15064.4(b)(3). (See *Center for Biological Diversity v. Cal. Dept. of Fish and Wildlife* [Newhall Ranch] [2015] 62 Cal.4th 204, 223.). For the purpose of disclosure, LAHD has considered whether the proposed West Harbor Modification Project's activities and features would be consistent with federal, state, or local plans, policies, or regulations for the reduction of GHG emissions, as set forth below.

The State of California is leading the way in the United States with respect to GHG reductions. Several legislative and municipal targets for reducing GHG emissions below 1990 levels have been established. Key examples include:

- Senate Bill 32
  - 1990 levels by 2020
  - Forty percent below 1990 levels by 2030
- AB 32
  - Eighty percent below 1990 levels by 2050
- City of Los Angeles Sustainable City pLAn
  - Forty percent below 1990 levels by 2030
  - Eighty percent below 1990 levels by 2050
- City of Los Angeles Green New Deal (4-Year Update to the Sustainable City pLAn)
  - Reduce Port-related GHG emissions by 80 percent by 2050

LAHD has been tracking GHG emissions, in terms of CO_2e, since 2005 through the LAHD municipal GHG inventory and the annual inventory of air emissions. Port-related GHG emissions started making significant reductions in 2006, reaching a maximum reduction in CO_2e of 15 percent below 1990 levels in 2013 (Figure 7). Subsequently, 2014 and 2015 saw GHG levels rise due to a period of Port congestion that arose from circumstances outside of the control of either LAHD or its tenants. Emissions have dropped slightly since the 2015 peak, despite record-breaking cargo throughput over the last few years. As of 2018, Port-related GHG emissions are 3 percent below 1990 levels. Figure 8 presents a visual representation of current GHG emissions compared to future compliance with Senate Bill 32, AB 32, and the City of Los Angeles Green New Deal.

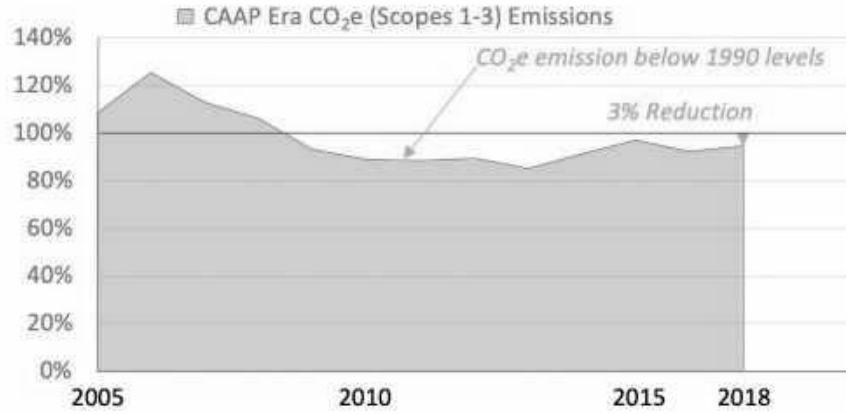

Figure 7 GHG Emissions, 2005–2018

Figure 8 Actual GHG Emissions, 2005–2018 and 2018 GHG Compliance Trajectory

LAHD and its tenants have initiated a number of wide-ranging strategies to reduce Port-related GHGs, which include the benefits associated with the Clean Air Action Plan, Zero Emission Roadmap, Energy Management Action Plan, operational efficiency improvements, and land use and planning initiatives. Looking toward 2050, there are several unknowns that will affect future GHG emission levels. These unknowns include grid power portfolios; the goods movement industry's preferences of power sources and fuel types for ships, harbor craft, terminal equipment, locomotives, and trucks; advances in cargo movement efficiencies; the locations of manufacturing centers for products and commodities moved; and increasing consumer demand for goods. The key relationships that have led to operational efficiency improvements to date are the cost of energy, current and upcoming regulatory programs, and the competitive nature of the goods movement industry. LAHD anticipates these relationships will continue to produce benefits with regard to GHG emissions for the foreseeable future.

Nevertheless, with the very aggressive targets shown on Figure 8 above and the interconnected nature of GHG emissions, it is not possible at this time to determine whether Port-wide emissions or any particular project applicant will be able to meet the compliance trajectory shown. Compliance will depend on future regulations or requirements that may be adopted, future technologies that have not been identified or fully developed at this time, or any other Port-wide GHG reduction strategies that may be established. Although it is unclear if the Port-wide GHG reduction goals and timeline can be met due to future regulations or requirements that may be adopted or future technologies that have not been identified or fully developed at this time, the proposed West Harbor Modification Project is not expected to conflict with any GHG reduction initiative that is developed to help the City of Los Angeles and LAHD meet the above GHG reduction goals. The impact would be less than significant, and this issue will not be addressed further in the SEIR.

IX. Hazards and Hazardous Materials

	Potentially Significant Impact	Less–than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
c. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e. Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☐	☒

Discussion

Would the project:

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

Less-than-Significant Impact. The West Harbor Modification Project would not involve the routine transport, use, or disposal of hazardous materials. Fireworks would occasionally be delivered to the site for use in pyrotechnic displays during concerts. Therefore, the impacts would be less than significant, and this issue will not be addressed further in the SEIR.

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

No Impact. As mentioned above, the West Harbor Modification Project would not include the transport, use, or disposal of hazardous materials. Therefore, no upset conditions would be expected. No impact would occur, and this issue will not be addressed further in the SEIR.

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

No Impact. The West Harbor Modification Project location is not within one-quarter mile of an existing or proposed school. No impact would occur, and this issue will not be addressed further in the SEIR.

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

No Impact. The West Harbor Modification Project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (California Department of Toxic Substances Control 2020; State Water Resources Control Board 2020). As such, the proposed project would not create a significant hazard to the public or the environment. No impact would occur, and this issue will not be addressed further in the SEIR.

e. Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard or excessive noise for people residing or working in the project area?

No Impact. The West Harbor Modification Project is not within an airport land use plan area or within 2 miles of a public airport or public use airport. The closest airport, Torrance Municipal Airport – Zamperini Field, is approximately 5 miles to the northwest of the West Harbor Modification Project site. Therefore, no impact would occur, and this issue will not be addressed further in the SEIR.

f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less-than-Significant Impact. The West Harbor Modification Project operations would be required to adhere to all Homeland Security, Port Police, and LAFD and other applicable local, state, and federal emergency response and evacuation regulations. Therefore, a less-than-significant impact would occur, and this issue will not be addressed further in the SEIR.

g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

No Impact. The West Harbor Modification Project is not in a Very High Fire Hazard Severity Zone according to the California Department of Forestry and Fire Protection (2021). The project site is in a developed area and would not have a substantial risk of wildland fires. Therefore, no impact would occur, and this issue will not be addressed further in the SEIR.

X. Hydrology and Water Quality

	Potentially Significant Impact	Less–than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:				
1. Result in substantial erosion or siltation on or off site;	☐	☐	☐	☒
2. Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site;	☐	☐	☐	☒
3. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☐	☒
4. Impede or redirect flood flows?	☐	☐	☐	☒
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

Discussion

Would the project:

a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Less-than-Significant Impact. The West Harbor Modification Project would not violate any water quality standards or waste discharge requirements. Project construction would occur

under the General Construction Activity Stormwater Permit (2009-0009-DWQ, as amended) issued by the State Water Resources Control Board. This permit requires the preparation of and compliance with a SWPPP and associated BMPs to prevent pollutants from the West Harbor Modification Project from mobilizing through stormwater, or run-off, which may cause or contribute to violations of water quality objectives. The proposed West Harbor Modification Project would also comply with the City of Los Angeles' LID ordinance. Operations would occur in compliance with the MS4 permit (R4-2012-0175-A01 and future iterations). In addition, standard Port permit conditions would require the provision of adequate onsite waste collection, contained trash enclosures, and minimization of waste from concessions through compliance with city ordinances for single-use items and food recycling. Standard BMPs would also be part of the permit conditions to ensure trash is picked up and the entire site would be cleaned after each event to minimize mobilization of pollutants from concert events. Where possible, sustainable practices and products, such as biodegradable confetti, would be used during events and care would be taken to direct the spray away from the main channel. This material, along with other trash, would be cleaned up after each event to prevent debris from entering the storm drain system and ocean. Therefore, impacts related to water quality standards and waste discharge requirements would be less than significant, and this issue will not be addressed further in the SEIR.

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

Less-than-Significant Impact. The West Harbor Modification Project would not deplete groundwater supplies or interfere substantially with groundwater recharge. Currently, the proposed project area is predominantly paved. Construction will result in increased permeable surfaces and increased infiltration. This design will also decrease the urban heat island effect. The City of Los Angeles LID ordinance will be followed to allow stormwater and other allowable non-stormwater discharges to flow through the appropriate BMPs.

Groundwater in the harbor area is south of the Dominquez Gap Barrier and is generally affected by saltwater intrusion (salinity); therefore, it is unsuitable for use as drinking water. Furthermore, the West Harbor Modification Project site is not used or designated for groundwater recharge. The project site does not support groundwater recharge; therefore, implementation of the proposed project would not have an affect on groundwater recharge. In addition, development of the West Harbor Modification Project would not have an effect on groundwater supplies. As such, impacts would be less than significant, and this issue will not be addressed further in the SEIR.

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:

1. Result in substantial erosion or siltation on or off site?

No Impact. The West Harbor Modification Project site is currently covered with permeable and impermeable surfaces that drain to harbor waters, and implementation of the project would not modify the site's existing drainage patterns. Stormwater runoff at the site would comply with applicable LID requirements. The site would be paved, so

additional erosion is not expected to result from implementation of the West Harbor Modification Project. No soil known to contain silt (i.e., rock and mineral particles larger than clay, but smaller than sand) (National Geographic 2021) are on or near the proposed outdoor concert venue location. Therefore, siltation (silt runoff) is not expected to result from construction and implementation of the West Harbor Modification Project. While undergoing construction, the project area would be required to comply with the SWPPP and all associated BMPs, including those related to erosion and sediment control and water quality standards. Therefore, no impact would occur, and this issue will not be addressed further in the SEIR.

2. Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site?

No Impact. The West Harbor Modification Project would not modify the site's existing drainage patterns conditions. During construction, drainage patterns are not significantly altered. Similar to existing conditions, the project site would remain predominantly paved. Green spaces and garden areas would minimize stormwater runoff rates and volume and would treat stormwater runoff through biological uptake. Stormwater runoff at the site would comply with applicable LID requirements. No impacts related to alteration of drainage patterns, resulting in flooding, would occur. Impacts would be no greater than previously assessed in the SPW EIS/EIR and 2016 SPPM Addendum. Therefore, no impact would occur, and this issue will not be addressed further in the SEIR.

3. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

No Impact. The project site is currently composed of mostly impervious surfaces that drain to harbor waters. The proposed West Harbor Modification Project would comply with the City of Los Angeles's LID ordinance and the MS4 permit (R4-2012-0175-A01 and future iterations). Stormwater would be treated using appropriate LID methods. Patron vehicles would be parked off site at existing designated parking lots. Parking lot construction and associated impacts were analyzed in the original SPW EIS/EIR and 2016 SPPM Addendum. The West Harbor Modification Project site as proposed is not larger than the site previously analyzed. The West Harbor Modification Project would have no impact with respect to exceeding capacity of the stormwater drainage system, nor would it be a substantial source of polluted runoff. Therefore, no impact would occur, and this issue will not be addressed further in the SEIR.

4. Impede or redirect flood flows?

No Impact. The West Harbor Modification Project site is not within a special flood hazard area and would experience a moderate to low risk of being flooded. However, as mentioned above, implementation of the project would not increase the potential for flooding or significantly alter the existing drainage on site. The West Harbor Modification Project would not impede or redirect flood flows. Therefore, no impact would occur, and this issue will not be addressed further in the SEIR.

d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Less-than-Significant Impact. According to Flood Hazard Map FM06037C2032F, the entire project site occurs within Zone X, Other Flood Areas, which is defined as including areas of 0.2 percent annual chance flood (500-year flood); areas of 1 percent annual chance flood (also known as the base flood) with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1 percent annual chance flood (Federal Emergency Management Agency 2008). However, the West Harbor Modification Project does not involve the construction of habitable structures. Also, the project would not increase risks associated with tsunami or seiche. Seiches are seismically induced water waves that surge back and forth in an enclosed basin. Seiches could occur in the harbor as a result of earthquakes. A Port Complex model that assessed tsunami and seiche scenarios determined that impacts from a tsunami were equal to or more severe than those from a seiche in each case modeled (Moffatt and Nichol 2007). Therefore, the discussion below refers to tsunami as the worst-case scenario for potential impacts. Potential impacts related to seiche would be the same as or less than those identified below.

The amphitheater is not designed for use as a habitable structure that would be subject to inundation by tsunami. Project contractors and tenants would be required to adhere to all Homeland Security, Port Police, and LAFD emergency response and evacuation regulations, ensuring compliance with existing emergency response plans. Therefore, implementation of the West Harbor Modification Project would not substantially interfere with an existing emergency response or evacuation plan or increase the risk of injury or death, and impacts were found to be less than significant.

In addition, the potential for spilled hazardous materials from the West Harbor Modification Project during a tsunami is expected to be relatively low and of a manageable amount to clean up that would not result in significant environmental impacts. Therefore, implementation of the project would not result in a substantially increased public health and safety concern as a result of the accidental release, spill, or explosion of hazardous materials due to a tsunami, and impacts were found to be less than significant. Furthermore, because the amount of hazardous materials to be used during construction and operational activities is relatively minor, implementation of the proposed project would not result in a substantial increase in the likelihood of a spill, release, or explosion of hazardous material(s) due to a terrorist action, and impacts were found to be less than significant.

Therefore, there would be a less-than-significant impact associated with the risk of release of pollutants from project inundation due to a flood hazard, tsunami, or seiche. This issue will not be addressed further in the SEIR.

e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact. The West Harbor Modification Project site currently complies with water quality requirements, including the MS4 permit and City of Los Angeles' LID ordinance, as described under Impact (a). As part of compliance with permit requirements, implementation of water quality control measures and BMPs would ensure that water quality standards would be achieved, including the water quality objectives that protect designated beneficial

uses of surface and groundwater, as defined in the applicable regional water quality control plan. No groundwater management plans are in place for the site because no groundwater suitable for human use exists below the site. Therefore, no impact would occur, and this issue will not be addressed further in the SEIR.

XI. Land Use and Planning

	Potentially Significant Impact	Less–than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	☐	☐	☐	☒
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

Discussion

Would the project:

a. Physically divide an established community?

No Impact. The West Harbor Modification Project is at the former Ports O'Call area and does not contain any established communities. The project would not physically divide an established community. Therefore, no impact would occur, and this issue will not be addressed further in the SEIR.

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

No Impact. The West Harbor Modification Project would be at the Port of Los Angeles, within an area covered by the City of Los Angeles General Plan, Port of Los Angeles Plan (City of Los Angeles 1982), City of Los Angeles Zoning Code, and PMP (Port of Los Angeles 2018). The project site has a PMP designation of Visitor-Serving Commercial. Visitor-Serving Commercial includes uses for the public, such as restaurants, maritime-related office, visitor-serving retail, harbor tour vessels, sport fishing, museums, community centers/conference centers, and exhibit space (Port of Los Angeles 2018).

The West Harbor Modification Project is consistent with the PMP, which includes goals to provide enhanced public access to the waterfront and visitor-serving facilities including retail, restaurants, museums, and parks. Specifically, the Ports O'Call/SPPM area in Planning Area 1 emphasizes waterfront access through a waterfront promenade, parks, museums, academic uses, and visitor-serving commercial uses and attractions. Therefore, the West Harbor Modification Project is expected to continue to provide these opportunities and would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. As such, no impact would occur, and this issue will be not be addressed further in the SEIR.

XII. Mineral Resources

	Potentially Significant Impact	Less–than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Discussion

Would the project:

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

No Impact. The West Harbor Modification Project area is not in an aggregate resource zone or oil field drilling area, and no mineral resource extraction occurs on site or in the larger SPPM area. There are no active oil wells on or near the project site (California Department of Conservation 2020). Therefore, no impact would occur, and this issue will not be addressed further in the SEIR.

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

No Impact. As described above, there are no active oil wells on or near the project site. The West Harbor Modification Project would not result in the loss of availability of a mineral resource recovery site. Therefore, no impact would occur, and this issue will not be addressed further in the SEIR.

XIII. Noise

	Potentially Significant Impact	Less–than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	☒	☐	☐	☐
b. Generate excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. Be located within the vicinity of a private airstrip or an airport land use plan, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion

Would the project:

a. Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?

Potentially Significant Impact. The West Harbor Modification Project would construct an outdoor venue hosting concerts and other special events. The project would include an amplified sound system. Noise from the sound system, as well as from audiences attending the events, could propagate into the surrounding community and would be audible at nearby noise-sensitive land uses. As a result, the West Harbor Modification Project could increase ambient noise levels in the vicinity. Therefore, this issue will be evaluated in the SEIR.

b. Generate excessive groundborne vibration or groundborne noise levels?

Less-than-Significant Impact. The West Harbor Modification Project does not propose high-impact construction techniques such as pile driving or blasting. The project also does not propose any operational elements that would generate high groundborne vibration levels, such as railroad operations or heavy industrial machinery. In addition, the project site is over 1,000 feet from the nearest residential buildings. The West Harbor Modification Project would not generate excessive groundborne vibration or groundborne noise levels. Therefore, impacts would be less than significant, and this issue will not be addressed further in the SEIR.

c. Be located within the vicinity of a private airstrip or an airport land use plan, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?

No Impact. The West Harbor Modification Project site is not within a 2-mile radius of any airport. The closest airport, Torrance Municipal Airport – Zamperini Field, is approximately 5 miles to the northwest of the West Harbor Modification Project site. Additionally, the project site is not in the vicinity of a private airstrip. As a result, the project would not expose people residing or working in the project area to excessive noise related to airports or private airstrips. Therefore, no impact would occur, and this issue will not be addressed further in the SEIR.

XIV. Population and Housing

	Potentially Significant Impact	Less–than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	☒
b. Displace a substantial number of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion

Would the project:

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

No Impact. The West Harbor Modification Project would not induce substantial population growth or contribute to direct or indirect population growth because it would not involve the development of transportation system improvements. Therefore, no impact would occur, and this issue will not be addressed further in the SEIR.

b. Displace a substantial number of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. No existing residential units are within the West Harbor Modification Project area. Therefore, implementation of the project would not result in the displacement of any people or housing. As such, no impact would occur, and this issue will not be addressed in the SEIR.

XV. Public Services

	Potentially Significant Impact	Less–than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

Discussion

Would the project:

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

Fire protection?

Less-than-Significant Impact. LAFD currently provides fire protection and emergency services to the West Harbor Modification Project site and surrounding area. LAFD facilities in the Port include land-based fire stations and fireboat companies. The nearest station with direct fireboat access is Fire Station No. 112 in the Main Channel, about 0.9 mile west of the Project site. The approximate travel distance to the West Harbor Modification Project site is about 2.5 miles. The closest station with land access is Fire Station No. 40, to the north at 330 Ferry Street. The approximate travel distance to the West Harbor Modification Project site is approximately 1 mile. This station is on Terminal Island and equipped with a single engine company, an assessment engine, a rescue ambulance, and a rehab air tender. This station would provide fire service by land.

Furthermore, construction would occur within the West Harbor Modification Project site and harbor and would not affect service ratios, response times, or other performance objectives of LAFD. Moreover, implementation of the project would remove safety and fire hazards from the site. Although some emergency medical technician personnel would be available during concerts and events, this impact would not be significant enough to warrant construction or additional fire department facilities. Therefore, impacts would be less-than-significant, and this issue will not be addressed further in the SEIR.

Police protection?

Less-than-Significant Impact. The City of Los Angeles Police Department (LAPD) and Port Police provide police services at the Port, with the latter being the primary law enforcement agency within the Port. Specifically, Port Police officers are responsible for patrol and surveillance within the Port's boundaries, including Port-owned properties in the communities of Wilmington, San Pedro, and Harbor City. Port Police officers maintain 24-hour land and water patrols and enforce federal, state, and local public safety statutes, Port tariff regulations, and environmental and maritime safety regulations. The Port Police headquarters is at 330 South Centre Street in San Pedro.

Although Port Police are the first responders in an emergency, LAPD is also responsible for police services in the project vicinity because the Port is part of the city of Los Angeles. The LAPD Harbor Division is at 2175 John S. Gibson Boulevard in San Pedro, which is approximately 2.1 miles northwest of the project site. The Harbor Division is responsible for patrols throughout San Pedro, Harbor City, and Wilmington.

The West Harbor Modification Project would be the same distance from service providers as the existing facilities and, therefore, would not increase emergency response times. It would not substantively alter terminal activities, increase long-term employment, or result in indirect growth such that additional police protection would be necessary. In addition, implementation of the West Harbor Modification Project would remove safety and attractive nuisance hazards from the site that could attract unlawful activity. Therefore, impacts would be less than significant, and this issue will not be addressed further in the SEIR.

Schools?

No Impact. No residential uses are associated with the West Harbor Modification Project, and operation of the project would not affect school enrollment. San Pedro High School is located approximately 1 mile from the project. However, due to distance, construction impacts would not occur. Concert activity associated with the project would not occur during the same time school is in session, thus operational impacts would not impact school activities. Therefore, no impact would occur, and this issue will not be addressed further in the SEIR.

Parks?

No Impact. The West Harbor Modification Project includes construction of a park area, as well as an up to 6,200-seat outdoor concert venue. Therefore, no impacts on current parks are expected and the project would not create a need for any new parks. Consequently, no impact would occur, and this issue will not be addressed further in the SEIR.

Other public facilities?

No Impact. The West Harbor Modification Project would not result in impacts on any public facilities and this issue will not be addressed further in the SEIR.

XVI. Recreation

	Potentially Significant Impact	Less–than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion

Would the project:

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

No Impact. The West Harbor Modification Project would not directly or indirectly result in physical deterioration of parks or other recreational facilities. Therefore, no impact would occur, and this issue will not be addressed further in the SEIR.

b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

No Impact. The West Harbor Modification Project would not include recreational facilities or new residential development that would require construction or expansion of recreational facilities. Therefore, no impact would occur, and this issue will not be addressed further in the SEIR.

XVII. Transportation

	Potentially Significant Impact	Less–than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☒	☐	☐	☐
b. Conflict or be inconsistent with State CEQA Guidelines section 15064.3, subdivision (b)?	☒	☐	☐	☐
c. Substantially increase hazards because of a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d. Result in inadequate emergency access?	☐	☐	☒	☐

Discussion

Would the project:

a. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

Potentially Significant Impact. Implementation of the West Harbor Modification Project could conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities as a result of increased trips, and could require transportation management and event control. Therefore, this issue will be evaluated in the SEIR.

b. Conflict or be inconsistent with State CEQA Guidelines section 15064.3, subdivision (b)?

Potentially Significant Impact. Implementation of the West Harbor Modification Project could conflict or be inconsistent with State CEQA Guidelines Section 15064.3, subdivision (b) as a result of increased trips and vehicle miles traveled from concerts and special events. Therefore, this issue will be evaluated in the SEIR.

c. Substantially increase hazards because of a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact. The West Harbor Modification Project does not involve or require any changes to the geometric design of any streets within the project area. In addition, as mentioned under Section IV, *Biological Resources*, no in-water work is proposed or required as part the project and it would not alter marine transportation operations. The West Harbor Modification Project would not increase ground or marine transportation hazards. Therefore, no impact would occur, and this issue will not be addressed further in the SEIR.

d. Result in inadequate emergency access?

Less-than-Significant Impact. Emergency access to the site would be provided via proposed driveways constructed as part of the SPPM Project and on roads within the West Harbor Modification Project area. As part of the West Harbor Modification Project, fire and law enforcement services would have access to all areas of the project site. Also, as part of the project approval process, LAFD would review and approve all project plans to ensure that they comply with all applicable access requirements. Therefore, a less-than-significant impact would occur, and this issue will not be addressed further in the SEIR.

XVIII. Tribal Cultural Resources

	Potentially Significant Impact	Less–than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☐	☒
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency will consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☒

Discussion

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

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

No Impact. A request for a check of the Sacred Lands File (SLF) was made to the California Native American Heritage Commission (NAHC), and a response was received on December 30, 2019. The NAHC reported that there are no known tribal cultural resources at the project site.

On January 8, 2020, LAHD provided notification of the West Harbor Modification Project, pursuant to the provisions of AB 52 and PRC Section 21080.3.1(d). No responses were received within the 30-day consultation request period, which ended on February 7, 2020.

No impacts on tribal cultural resources, as defined in PRC Section 21074, are anticipated as a result of the West Harbor Modification Project. The project would not cause a change in the significance of a tribal cultural resource listed or eligible for listing in the California Register of Historical Resources or in a local register of historical resources, as defined in PRC Section 5020.1(k). Therefore, no impact would occur, and this issue will not be addressed further in the SEIR.

b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?

No Impact. No tribal cultural resources have been identified in or within a 0.25-mile radius of the project site. As discussed above, the NAHC responded that a SLF records search was negative. Therefore, no impact would occur, and this issue will not be addressed further in the SEIR.

XIX. Utilities and Service Systems

		Potentially Significant Impact	Less–than-Significant Impact with Mitigation	Less-than-Significant Impact	No Impact
Would the project:					
a.	Require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b.	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☒	☐
c.	Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d.	Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e.	Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Discussion

Would the project:

a. Require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less-than-Significant Impact. The West Harbor Modification Project would not generate significant increases in water or wastewater demand. Based on information provided by the applicant, on event days, if full restrooms are built, the project would require approximately 23,000 gallons of water per day and generate approximately 19,000 gallons of wastewater per day. By comparison, the City of Los Angeles uses approximately 355,333,491 gallons of water per day (or approximately 87 gallons per capita per day) and generates approximately 400 million gallons of wastewater per day (or approximately 98 gallons per capita per day)

(Pacific Institute 2020; City of Los Angeles 2022). As such, the West Harbor Modification Project would intermittently generate approximately 0.005 percent of the daily water and wastewater generation in the city. Therefore, impacts would be less than significant, and this issue will not be addressed further in the SEIR.

b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

Less-than-Significant Impact As discussed in Threshold XIX(a) above, the West Harbor Modification Project is not anticipated to require a significant additional amount of water usage within the city of Los Angeles or Southern California in general. Current water supplies are expected to be sufficient even in dry years. Anticipated water demand is outlined in item (a) above. Therefore, impacts would be less than significant, and this issue will not be addressed further in the SEIR.

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

Less-than-Significant Impact. As discussed in Threshold XIX(a) above, the West Harbor Modification Project is not anticipated to result in a significant additional amount of wastewater discharge within the city of Los Angeles or Southern California in general. Current wastewater discharge is not expected to exceed the capabilities of local wastewater treatment providers. Please see response (a) above. Therefore, impacts would be less than significant, and this issue will not be addressed further in the SEIR.

d. Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less-than-Significant Impact. The West Harbor Modification Project would comply with all applicable codes pertaining to solid waste disposal including Port-wide standard conditions of approval requiring recycling of construction materials. Construction of the project would generate a relatively small amount of construction debris, because the project site would already be graded and all utilities installed prior to initiation of construction. In addition, operation of the West Harbor Modification Project would comply with the City of Los Angeles's Green New Deal Sustainable City pLAn (City of Los Angeles 2019), which includes a target to reduce municipal solid waste by 15 percent by 2030 and phase out single-use plastics (plastic straws, plastic utensils, plastic take-out containers, and polystyrene) by 2028. Therefore, impacts would be less than significant, and this issue will not be addressed further in the SEIR.

e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less-than-Significant Impact. The West Harbor Modification Project would be required to comply with all applicable codes pertaining to solid waste disposal, including AB 939, the California Solid Waste Management Act, and AB 341, which establish waste stream diversion and recycling goals. Therefore, impacts would be less than significant, and this issue will not be addressed further in the SEIR.

XX. Wildfire

	Potentially Significant Impact	Less–than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as Very High Fire Hazard Severity Zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks of, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts on the environment?	☐	☐	☐	☒
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

Discussion

If located in or near state responsibility areas or lands classified as Very High Fire Hazard Severity Zones, would the project:

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

No Impact. The West Harbor Modification Project site is not within a designated Very High Fire Hazard Severity Zone according to the California Department of Forestry and Fire Protection (2011). The project site is in a developed area and would not have a substantial risk of wildland fires. As such, no impact would occur, and this issue will not be addressed further in the SEIR.

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

No Impact. The West Harbor Modification Project site is not in or near a fire hazard severity zone. The project site is within a fully developed portion of the Port, and no wildlands occur

within or adjacent to the project site. Therefore, no impact would occur, and this issue will not be addressed further in the SEIR.

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

No Impact. As mentioned above, the West Harbor Modification Project site is not in or near a fire hazard zone. The project site would be in an already developed area of the SPPM. Implementation of the West Harbor Modification Project would not require the installation or maintenance of additional infrastructure such as roads, fuel breaks, emergency water sources, power lines, or other utilities that would exacerbate fire risk or result in temporary or ongoing impacts on the environment. Therefore, no impact would occur, and this issue will not be addressed further in the SEIR.

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

No Impact. The West Harbor Modification Project would not expose people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes due to wildfires. As discussed in the analyses above, the West Harbor Modification Project site is flat and has no significant natural or graded slopes. It is not within a California Geological Survey–designated landslide zone or a Very High Fire Hazard Severity Zone. Additionally, the project would not change drainage patterns that would increase flood risks. Therefore, no impact would occur, and this issue will not be addressed further in the SEIR.

XXI. Mandatory Findings of Significance

		Potentially Significant Impact	Less–than-Significant Impact with Mitigation	Less-than-Significant	No Impact
a.	Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐
b.	Does the project have impacts that are individually limited but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☒	☐	☐	☐
c.	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

Discussion

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

Potentially Significant Impact. The West Harbor Modification Project has the potential to result in significant impacts on biological resources. Therefore, this issue will be evaluated in the SEIR.

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

Potentially Significant Impact. The West Harbor Modification Project, in conjunction with other related projects, has the potential to result in significant cumulative impacts. Therefore, this issue will be evaluated in the SEIR.

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

Potentially Significant Impact. The West Harbor Modification Project could result in adverse impacts on human beings, either directly or indirectly, related to aesthetics, air quality, biological resources, GHG emissions, noise, and transportation. Therefore, this issue will be evaluated in the SEIR.

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EXHIBIT 6

From: J Campeau
Sent: Monday, June 13, 2022 5:30 PM
To: ceqacomments@portla.org; Cannon, Chris <CCannon@portla.org>
Subject: West Harbor Modification Project

Dear Mr. Cannon,

The entire scope of the proposed, huge out-of-scale 6200 seat Amphitheater project that was added to the new West Harbor development from a 2009 original 500 seat plan, is a disaster for our San Pedro residential and business community. To think such a bad plan can really work, without the use of common sense or practical considerations, is an illusion no matter if all the boxes are checked in the SEIR to come.

The people responsible for designing this misplaced Amphitheater have no idea what or who will be affected, or perhaps they don't care. This begins with the direction of the sound speakers; it is totally wrong. All speakers must face EAST towards Terminal Island which is industrial. The Amphitheater may conduct some sound tests that will only apply during certain atmospheric conditions, they will never be able to mitigate noise pollution to our community as long as the speaker sound system does not face east in direction.

And then what happens when the frequent Santa Ana winds blow in from the east? Fog and humidity as well as many other atmospheric rapidly changing factors will play tricks with the source of sound and decibels in our San Pedro community. Sound travels unpredictably, recoils and bounces all around our hillside community that faces East. Often harbor seals can be heard from the old Port's O'Call out to lands' end in Point Fermin. We can hear trains banging in the north harbor or even at Pier 400 on Terminal Island.

The proposed Amphitheater design has a noise blast scheduled for over 100 nights per year to all of San Pedro residents and businesses south and south west of the proposed project. Then they want to add 25 Pyrotechnics events per year, along with all the added light blight from new light installations around this project.

On top of all of this are the off nights that will be scheduled during the year, there will be an undetermined amount of additional sponsored events during the year, using the same sound system. In addition, there will be 100-200 nights of unregulated, unsupervised noise events that will be given Temporary Entry & Use Permits (TEUP), producing noise ordinance violations, cause disruption, and extra traffic. And these permits are being issued without including San Pedro's three neighborhood councils that represent our community's majority stakeholders, that can advise on how to best control the unruly element of such big events.

A most recent example of just such a mess was last weekend's event, June 11-12, 2022, at Pier 45-49 outer harbor. Unacceptable, unbelievable loud noise till midnight! As usual, the community had to bear the burden with all of the disruptions from another badly planned event. Residents had to call in to complain because their late evening was being disrupted by violations of noise ordinance curfew hours. Luckily, the complaints helped mitigate the repeat of Saturday's noise pollution disaster on Sunday, 6/12/22. But changes always happen after the fact because of poor planning and approval for many events like this. When the community is caught by surprise again, they have to take action and complain to then affect changes in noise and light pollution. Nowhere mentioned in the TEUP for this last event were noise ordinance compliance regulations of 10pm curfew or sound decibel thresholds! It's just left up to the event manager? They went to midnight!!

Is the Port Police really going to shut down a concert in violation of curfew hours and noise from a 6200 seat Amphitheater? And how many times per year will the neighbors have to complain? What are the penalties for violations? Just warnings? Who's watching out for our many San Pedro Community residents when these permits are issued that are in violation of noise ordinance law?

The Port doesn't include San Pedro's community 3 neighborhood councils for event planning discussions, nor do they require that event applicants receive endorsement from neighborhood councils. The Port issues TEUP's without informing the San Pedro community nor do they ask for endorsements of upcoming events.

The Amphitheater is said to have biodegradable confetti at their concerts. Will biodegradable confetti be blowing into the water? Who will clean it up from the water at night? How will fish, mammals and wildlife be affected as it is introduced into the food chain? And how can the fluids from washing down the Astroturf with cleaning solvents be prevented from going into the water right next to it?

And then the element of all the free party concert goers than can have many good views of the Amphitheater stage along San Pedro Plaza Park from Beacon Street, and along Miner Street, Block Field Park and Sampson Way. What bathrooms will those people use? Where will they throw their trash? Where will they park? Will San Pedro be protected with all the increased party scene in our streets and parks by private security, or do the taxpayers have to pay for all this with increased staff from LAPD and Port Police and Fire department?

BUSINESS: How will the surrounding businesses compete with their own ambience and vibe including music and outdoor dining during the SOUND BLAST hours from the Amphitheatre? Will these businesses have to close down during those hours? No matter what anyone from the Chamber of Commerce might say, it's not good for surrounding businesses to have no control of their ambience and vibe of their place of business, while the noise of huge concerts is blaring throughout San Pedro from the new Amphitheater.

For example, how can the new Trani's Dockside restaurant located at 22nd St. and Sampson Way deal with the noise pollution on their dining patio? How can they create ambience and conduct business while they are be blasted out of the water by this new Amphitheater? What of our new Brouwerij West Brewery with their indoor/outdoor ambience, including music, or the 22nd Street Landing Seafood Grill and Bar, also indoor/outdoor, as well as the Double Tree by Hilton Hotel.

What about all of the new restaurants and bars at the new West Harbor development area? Those new businesses will have indoor/outdoor seating. They won't be able to create any ambience and vibe, or be able to conduct business while concerts are going on at the Amphitheater. And who wants to eat outside near the Amphitheater with the stench of all the portable toilets for 6200 people plus staff, stage personal, and security personal?

How is it fair that most of the San Pedro Residents who live near the ocean with windows open for fresh air, will now have to close their windows indefinitely because of all the noise?

All the clean-up noise and traffic after each concert will go into early am hours!

What about the effect to the marine and land wildlife that lives here with us?

Unmanageable more traffic, inhibit cruise terminal vehicle traffic, no parking, crime, speeding, vehicle street take-overs, road rage, new light blight pollution and air pollution, police response sirens, helicopters, fire department and ambulances.

This all should be addressed in the SEIR to come from the proposed 6200 seat Amphitheater. It will have far more than a significant impact. It will be unmanageable. The new proposed Amphitheater has a long term quality of life cost to bear for the residents of San Pedro. It is an unnecessary added element to the West Harbor New Development.

Thank you,

James Campeau

Doug Epperhart
President

Dean Pentcheff
Vice President

Sheryl Akerblom
Treasurer

COASTAL SAN PEDRO NEIGHBORHOOD COUNCIL

1840 S Gaffey St., Box 34 • San Pedro, CA 90731 • (310) 918-8650
cspnclive@gmail.com

May 17, 2022

Christopher Cannon, Director
Los Angeles Harbor Department
Environmental Management Division
425 Palos Verdes Street
San Pedro, CA 90731

Sent via Email to: ceqacomments@portla.org

Subject: **Comments on Initial Study/Notice of Preparation for the West Harbor Modification Project on the L.A. Waterfront**

Whereas, the proposed 6,200 seat amphitheater would be generating volume levels far in excess of trains, containers, and sea lions, and

Whereas, the residents have a right to the quiet enjoyment of their dwelling places, and

Whereas, there is a significant concern regarding noise that will impact the surrounding community.

Resolved, Coastal San Pedro Neighborhood Council is concerned that the new amphitheater project as proposed is inappropriate and insists that the NOP includes a discussion of reasonable alternatives, as required by CEQA, such as the original 2009 plan for a 500-seat amphitheater.

Further Resolved, the Coastal San Pedro Neighborhood Council provides the following comments on the West Harbor Modification Project Notice of Preparation:

Noise:

We strongly recommend sonic testing under a variety of atmospheric conditions to determine the impact on the community of amphitheater concerts to be included in the Draft Supplemental Environmental Impact Report and that the applicant consult with the Neighborhood Councils in designing the tests. The tests should include the impacts of temperature inversion on sound transmission.

We suggest that the Draft Supplemental Environmental Impact Report include an analysis of the impacts of people outside of the proposed concert venue gathering on City and Port lands and waters and elsewhere to listen to the proposed concerts.

Transportation:

Provide a plan to ensure adequate security both in the venue and the surrounding areas.

Biological Resources/Water Quality:

Provide a plan to utilize recyclable and biodegradable materials to avoid pollution into Port waters including microplastics.

The project should incorporate the principles of the San Pedro Urban Greening Plan.

Thank you for the opportunity to submit comments

Sincerely,

Doug Epperhart, President
On behalf of the Coastal San Pedro Neighborhood Council Board

Councilmember.Buscaino@lacity.org
Alison.Becker@lacity.org
Amy.Gebert@lacity.org

From: **Noel Gould** aquarianstudios@hotmail.com
Subject: CEQA comments for proposed amphitheater expansion
Date: June 15, 2022 at 5:17 PM
To: ceqacomments@portla.org
Cc: June Smith burling102@aol.com, Robin Rudisil wildrudi@mac.com

Dear Mr. Cannon,

I'm writing to express my concern regarding a number of issues with the proposed 6,200 seat amphitheater in the new West Harbor Development.

1. Noise pollution throughout the entire San Pedro Community from music and fireworks
2. People gathering throughout the community to "tailgate" and hear concerts for free.
3. Inadequate infrastructure to support the additional traffic in and out of San Pedro.
4. Tremendous increase in pollution from standing vehicles.
5. Food trucks spewing diesel fumes into the air.
6. So called biodegradable confetti used at the concerts that will end up blowing into the harbor.
7. People throwing their trash into the harbor.
8. Inadequate parking.
9. Insufficient hotel space for people coming to concerts.
10. zero light rail service to San Pedro.
11. Harm to marine life due to many of the above.

It's vital that the DSEIR address all these issues in detailed ways using real world testing conditions and not simply virtually modeling. The effects of temperature inversion, which occur +/- several hours at dusk and dawn cause sound to carry much further than at other times throughout the day. This is one of the reasons sea lions can be heard barking a mile away and trains and containers can be heard in the Port all the way up the hill, yet rock concert volumes are much louder than these other sound sources. The direction the speakers are pointed won't provide much mitigation for these issues since sound, especially bass which is non-directional, travels throughout the community once it's propagated.

Many references have been made to Nederlander Concerts' experience running the Greek Theater, however, the Greek, even after it's 2015 expansion, is only 5,900 seats and sits in the middle of the 3,000 plus acre Griffith Park and is NOT located in a residential community. Still, great emphasis is made after concerts by the promoters for people leaving in their cars to be conscious that they're traveling THROUGH a residential community and to do so quietly. There is acknowledgement that even the noise from car stereos and talking is disruptive to residential communities, and yet, here in San Pedro, the powers that be are trying to push an amphitheater 300 seats larger than the Greek a mere 1,400 feet from the edge of a quiet residential community in which the right to quiet peace and enjoyment of their homes will be forever destroyed by such a project.

This will hurt local businesses as well which will be inundated with the sound and pollution from this project and would likely eliminate the desire for outdoor dining.

Please be sure all of these issues will be deeply analyzed and addressed in the DSEIR and that the Community will be heard regarding solutions to these issues, or that if no adequate mitigation solutions are possible, that the new proposal will not move forward.

Sincerely,
Noel Gould
Point Fermin Resident
310-625-1157
aquarianstudios@hotmail.com

EXHIBIT 7

2111 South Pacific Avenue Future

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	84.00	Space	0.00	33,600.00	0
Apartments Mid Rise	100.00	Dwelling Unit	0.55	76,145.00	286
Strip Mall	1.80	1000sqft	0.01	1,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2024
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

2111 South Pacific Avenue Future - Los Angeles-South Coast County, Annual

Project Characteristics - Consistent with the Project's air model.

Land Use - See SWAPE comments regarding "Underestimated Land Use Size" and "Unsubstantiated Reduction to Parking Land Use Size"

Construction Phase - See SWAPE comment regarding "Unsubstantiated Changes to Individual Construction Phase Lengths"

Off-road Equipment - See SWAPE comment regarding "Unsubstantiated Changes to Construction Off-Road Equipment Unit Amounts and Usage Hours"

Grading - Consistent with the Project's air model.

Demolition - Consistent with the Project's air model.

Trips and VMT - Hauling trip lengths and number consistent with the Project's air model. See SWAPE comment regarding "Unsubstantiated Reductions to Worker Trip Numbers"

Vehicle Trips - See SWAPE comment regarding "Underestimated Number of Sunday Vehicle Trips"

Woodstoves - Number of wood-burning stoves and fireplaces consistent with the Project's air model. See SWAPE comment regarding "Unsubstantiated Reduction to Number of Gas Fireplaces"

Energy Use -

Construction Off-road Equipment Mitigation - Consistent with the Project's air model.

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Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	46
tblFireplaces	NumberGas	85.00	90.00
tblFireplaces	NumberWood	5.00	0.00
tblGrading	AcresOfGrading	0.00	0.56
tblGrading	MaterialExported	0.00	20,000.00
tblLandUse	LandUseSquareFeet	100,000.00	76,145.00
tblLandUse	LotAcreage	0.76	0.00
tblLandUse	LotAcreage	2.63	0.55
tblLandUse	LotAcreage	0.04	0.01
tblTripsAndVMT	HaulingTripLength	20.00	41.00
tblTripsAndVMT	HaulingTripLength	20.00	41.00
tblTripsAndVMT	HaulingTripNumber	2,500.00	2,857.00
tblVehicleTrips	HO_TTP	40.60	41.00
tblVehicleTrips	HS_TTP	19.20	19.00
tblVehicleTrips	HW_TTP	40.20	40.00
tblVehicleTrips	ST_TR	6.39	5.29
tblVehicleTrips	ST_TR	42.04	37.75
tblVehicleTrips	SU_TR	5.86	5.29
tblVehicleTrips	SU_TR	20.43	37.75
tblVehicleTrips	WD_TR	6.65	5.29
tblVehicleTrips	WD_TR	44.32	37.75
tblWoodstoves	NumberCatalytic	5.00	0.00
tblWoodstoves	NumberNoncatalytic	5.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0575	0.7682	0.5411	2.2000e-003	0.0864	0.0175	0.1038	0.0213	0.0162	0.0375	0.0000	208.3517	208.3517	0.0232	0.0000	208.9307
2023	0.2665	0.1185	0.1581	3.6000e-004	0.0147	5.1200e-003	0.0198	3.9200e-003	4.7400e-003	8.6600e-003	0.0000	32.1391	32.1391	5.4900e-003	0.0000	32.2765
Maximum	**0.2665**	**0.7682**	**0.5411**	**2.2000e-003**	**0.0864**	**0.0175**	**0.1038**	**0.0213**	**0.0162**	**0.0375**	**0.0000**	**208.3517**	**208.3517**	**0.0232**	**0.0000**	**208.9307**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0575	0.7682	0.5411	2.2000e-003	0.0614	0.0175	0.0788	0.0152	0.0162	0.0314	0.0000	208.3517	208.3517	0.0232	0.0000	208.9307
2023	0.2665	0.1185	0.1581	3.6000e-004	8.9100e-003	5.1200e-003	0.0140	2.5100e-003	4.7400e-003	7.2500e-003	0.0000	32.1391	32.1391	5.4900e-003	0.0000	32.2764
Maximum	**0.2665**	**0.7682**	**0.5411**	**2.2000e-003**	**0.0614**	**0.0175**	**0.0788**	**0.0152**	**0.0162**	**0.0314**	**0.0000**	**208.3517**	**208.3517**	**0.0232**	**0.0000**	**208.9307**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**30.43**	**0.00**	**24.88**	**29.86**	**0.00**	**16.33**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	9-1-2022	11-30-2022	0.8610	0.8610
2	12-1-2022	2-28-2023	0.4965	0.4965
		Highest	0.8610	0.8610

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3422	0.0306	1.0399	1.7000e-004		7.2300e-003	7.2300e-003		7.2300e-003	7.2300e-003	0.0000	23.2990	23.2990	2.0400e-003	4.0000e-004	23.4680
Energy	4.9900e-003	0.0426	0.0182	2.7000e-004		3.4400e-003	3.4400e-003		3.4400e-003	3.4400e-003	0.0000	393.1015	393.1015	9.0600e-003	2.5800e-003	394.0983
Mobile	0.1571	0.7317	2.1368	8.4100e-003	0.7347	6.4200e-003	0.7411	0.1969	5.9600e-003	0.2029	0.0000	778.3032	778.3032	0.0371	0.0000	779.2312
Waste						0.0000	0.0000		0.0000	0.0000	9.7212	0.0000	9.7212	0.5745	0.0000	24.0840
Water						0.0000	0.0000		0.0000	0.0000	2.1093	74.1404	76.2497	0.2184	5.4800e-003	83.3421
Total	**0.5043**	**0.8049**	**3.1949**	**8.8500e-003**	**0.7347**	**0.0171**	**0.7518**	**0.1969**	**0.0166**	**0.2135**	**11.8306**	**1,268.8442**	**1,280.6747**	**0.8411**	**8.4600e-003**	**1,304.2235**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3422	0.0306	1.0399	1.7000e-004		7.2300e-003	7.2300e-003		7.2300e-003	7.2300e-003	0.0000	23.2990	23.2990	2.0400e-003	4.0000e-004	23.4680
Energy	4.9900e-003	0.0426	0.0182	2.7000e-004		3.4400e-003	3.4400e-003		3.4400e-003	3.4400e-003	0.0000	393.1015	393.1015	9.0600e-003	2.5800e-003	394.0983
Mobile	0.1571	0.7317	2.1368	8.4100e-003	0.7347	6.4200e-003	0.7411	0.1969	5.9600e-003	0.2029	0.0000	778.3032	778.3032	0.0371	0.0000	779.2312
Waste						0.0000	0.0000		0.0000	0.0000	9.7212	0.0000	9.7212	0.5745	0.0000	24.0840
Water						0.0000	0.0000		0.0000	0.0000	2.1093	74.1404	76.2497	0.2184	5.4800e-003	83.3421
Total	**0.5043**	**0.8049**	**3.1949**	**8.8500e-003**	**0.7347**	**0.0171**	**0.7518**	**0.1969**	**0.0166**	**0.2135**	**11.8306**	**1,268.8442**	**1,280.6747**	**0.8411**	**8.4600e-003**	**1,304.2235**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

2111 South Pacific Avenue Future - Los Angeles-South Coast County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2022	9/14/2022	5	10	
2	Site Preparation	Site Preparation	9/15/2022	9/15/2022	5	1	
3	Grading	Grading	9/16/2022	9/19/2022	5	2	
4	Building Construction	Building Construction	9/20/2022	2/6/2023	5	100	
5	Paving	Paving	2/7/2023	2/13/2023	5	5	
6	Architectural Coating	Architectural Coating	2/14/2023	2/20/2023	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0.56

Acres of Paving: 0

Residential Indoor: 154,194; Residential Outdoor: 51,398; Non-Residential Indoor: 2,700; Non-Residential Outdoor: 900; Striped Parking Area: 2,016 (Architectural Coating – sqft)

OffRoad Equipment

2111 South Pacific Avenue Future - Los Angeles-South Coast County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	156.00	14.70	6.90	41.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	41.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	2,857.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	87.00	16.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	17.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Clean Paved Roads

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0169	0.0000	0.0169	2.5600e-003	0.0000	2.5600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.5500e-003	0.0321	0.0374	6.0000e-005		1.6900e-003	1.6900e-003		1.6100e-003	1.6100e-003	0.0000	5.2068	5.2068	9.6000e-004	0.0000	5.2308
Total	**3.5500e-003**	**0.0321**	**0.0374**	**6.0000e-005**	**0.0169**	**1.6900e-003**	**0.0186**	**2.5600e-003**	**1.6100e-003**	**4.1700e-003**	**0.0000**	**5.2068**	**5.2068**	**9.6000e-004**	**0.0000**	**5.2308**

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.1500e-003	0.0338	9.1400e-003	1.1000e-004	2.7500e-003	1.1000e-004	2.8600e-003	7.5000e-004	1.1000e-004	8.6000e-004	0.0000	11.2473	11.2473	7.2000e-004	0.0000	11.2652
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	1.5000e-004	1.7400e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4771	0.4771	1.0000e-005	0.0000	0.4774
Total	**1.3500e-003**	**0.0340**	**0.0109**	**1.2000e-004**	**3.3000e-003**	**1.1000e-004**	**3.4100e-003**	**9.0000e-004**	**1.1000e-004**	**1.0100e-003**	**0.0000**	**11.7244**	**11.7244**	**7.3000e-004**	**0.0000**	**11.7426**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0169	0.0000	0.0169	2.5600e-003	0.0000	2.5600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.5500e-003	0.0321	0.0374	6.0000e-005		1.6900e-003	1.6900e-003		1.6100e-003	1.6100e-003	0.0000	5.2068	5.2068	9.6000e-004	0.0000	5.2308
Total	**3.5500e-003**	**0.0321**	**0.0374**	**6.0000e-005**	**0.0169**	**1.6900e-003**	**0.0186**	**2.5600e-003**	**1.6100e-003**	**4.1700e-003**	**0.0000**	**5.2068**	**5.2068**	**9.6000e-004**	**0.0000**	**5.2308**

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.1500e-003	0.0338	9.1400e-003	1.1000e-004	1.8000e-003	1.1000e-004	1.9100e-003	5.2000e-004	1.1000e-004	6.3000e-004	0.0000	11.2473	11.2473	7.2000e-004	0.0000	11.2652
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	1.5000e-004	1.7400e-003	1.0000e-005	3.3000e-004	0.0000	3.3000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.4771	0.4771	1.0000e-005	0.0000	0.4774
Total	**1.3500e-003**	**0.0340**	**0.0109**	**1.2000e-004**	**2.1300e-003**	**1.1000e-004**	**2.2400e-003**	**6.1000e-004**	**1.1000e-004**	**7.3000e-004**	**0.0000**	**11.7244**	**11.7244**	**7.3000e-004**	**0.0000**	**11.7426**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9000e-004	3.4700e-003	1.9800e-003	0.0000		1.3000e-004	1.3000e-004		1.2000e-004	1.2000e-004	0.0000	0.4275	0.4275	1.4000e-004	0.0000	0.4310
Total	**2.9000e-004**	**3.4700e-003**	**1.9800e-003**	**0.0000**	**2.7000e-004**	**1.3000e-004**	**4.0000e-004**	**3.0000e-005**	**1.2000e-004**	**1.5000e-004**	**0.0000**	**0.4275**	**0.4275**	**1.4000e-004**	**0.0000**	**0.4310**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	9.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0239	0.0239	0.0000	0.0000	0.0239
Total	**1.0000e-005**	**1.0000e-005**	**9.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0239**	**0.0239**	**0.0000**	**0.0000**	**0.0239**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9000e-004	3.4700e-003	1.9800e-003	0.0000		1.3000e-004	1.3000e-004		1.2000e-004	1.2000e-004	0.0000	0.4275	0.4275	1.4000e-004	0.0000	0.4310
Total	**2.9000e-004**	**3.4700e-003**	**1.9800e-003**	**0.0000**	**2.7000e-004**	**1.3000e-004**	**4.0000e-004**	**3.0000e-005**	**1.2000e-004**	**1.5000e-004**	**0.0000**	**0.4275**	**0.4275**	**1.4000e-004**	**0.0000**	**0.4310**

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	9.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0239	0.0239	0.0000	0.0000	0.0239
Total	**1.0000e-005**	**1.0000e-005**	**9.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0239**	**0.0239**	**0.0000**	**0.0000**	**0.0239**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.1800e-003	0.0000	2.1800e-003	6.2000e-004	0.0000	6.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.1000e-004	6.4100e-003	7.4700e-003	1.0000e-005		3.4000e-004	3.4000e-004		3.2000e-004	3.2000e-004	0.0000	1.0414	1.0414	1.9000e-004	0.0000	1.0462
Total	**7.1000e-004**	**6.4100e-003**	**7.4700e-003**	**1.0000e-005**	**2.1800e-003**	**3.4000e-004**	**2.5200e-003**	**6.2000e-004**	**3.2000e-004**	**9.4000e-004**	**0.0000**	**1.0414**	**1.0414**	**1.9000e-004**	**0.0000**	**1.0462**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0115	0.3670	0.0912	1.0900e-003	0.0246	1.0300e-003	0.0256	6.7400e-003	9.8000e-004	7.7300e-003	0.0000	107.5991	107.5991	7.4400e-003	0.0000	107.7851
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.5000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0954	0.0954	0.0000	0.0000	0.0955
Total	**0.0115**	**0.3671**	**0.0915**	**1.0900e-003**	**0.0247**	**1.0300e-003**	**0.0257**	**6.7700e-003**	**9.8000e-004**	**7.7600e-003**	**0.0000**	**107.6945**	**107.6945**	**7.4400e-003**	**0.0000**	**107.8806**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.1800e-003	0.0000	2.1800e-003	6.2000e-004	0.0000	6.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.1000e-004	6.4100e-003	7.4700e-003	1.0000e-005		3.4000e-004	3.4000e-004		3.2000e-004	3.2000e-004	0.0000	1.0414	1.0414	1.9000e-004	0.0000	1.0462
Total	**7.1000e-004**	**6.4100e-003**	**7.4700e-003**	**1.0000e-005**	**2.1800e-003**	**3.4000e-004**	**2.5200e-003**	**6.2000e-004**	**3.2000e-004**	**9.4000e-004**	**0.0000**	**1.0414**	**1.0414**	**1.9000e-004**	**0.0000**	**1.0462**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0115	0.3670	0.0912	1.0900e-003	0.0161	1.0300e-003	0.0171	4.6600e-003	9.8000e-004	5.6400e-003	0.0000	107.5991	107.5991	7.4400e-003	0.0000	107.7851
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.5000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0954	0.0954	0.0000	0.0000	0.0955
Total	**0.0115**	**0.3671**	**0.0915**	**1.0900e-003**	**0.0161**	**1.0300e-003**	**0.0172**	**4.6800e-003**	**9.8000e-004**	**5.6600e-003**	**0.0000**	**107.6945**	**107.6945**	**7.4400e-003**	**0.0000**	**107.8806**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0254	0.2600	0.2647	4.2000e-004		0.0138	0.0138		0.0127	0.0127	0.0000	37.0547	37.0547	0.0120	0.0000	37.3543
Total	**0.0254**	**0.2600**	**0.2647**	**4.2000e-004**		**0.0138**	**0.0138**		**0.0127**	**0.0127**	**0.0000**	**37.0547**	**37.0547**	**0.0120**	**0.0000**	**37.3543**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.7300e-003	0.0555	0.0150	1.5000e-004	3.7300e-003	1.0000e-004	3.8300e-003	1.0800e-003	1.0000e-004	1.1800e-003	0.0000	14.4644	14.4644	8.6000e-004	0.0000	14.4860
Worker	0.0130	9.7400e-003	0.1122	3.4000e-004	0.0353	2.8000e-004	0.0356	9.3700e-003	2.6000e-004	9.6300e-003	0.0000	30.7142	30.7142	8.5000e-004	0.0000	30.7354
Total	**0.0147**	**0.0653**	**0.1272**	**4.9000e-004**	**0.0390**	**3.8000e-004**	**0.0394**	**0.0105**	**3.6000e-004**	**0.0108**	**0.0000**	**45.1787**	**45.1787**	**1.7100e-003**	**0.0000**	**45.2214**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0254	0.2600	0.2647	4.2000e-004		0.0138	0.0138		0.0127	0.0127	0.0000	37.0546	37.0546	0.0120	0.0000	37.3542
Total	**0.0254**	**0.2600**	**0.2647**	**4.2000e-004**		**0.0138**	**0.0138**		**0.0127**	**0.0127**	**0.0000**	**37.0546**	**37.0546**	**0.0120**	**0.0000**	**37.3542**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.7300e-003	0.0555	0.0150	1.5000e-004	2.5200e-003	1.0000e-004	2.6200e-003	7.8000e-004	1.0000e-004	8.8000e-004	0.0000	14.4644	14.4644	8.6000e-004	0.0000	14.4860
Worker	0.0130	9.7400e-003	0.1122	3.4000e-004	0.0212	2.8000e-004	0.0215	5.9200e-003	2.6000e-004	6.1800e-003	0.0000	30.7142	30.7142	8.5000e-004	0.0000	30.7354
Total	**0.0147**	**0.0653**	**0.1272**	**4.9000e-004**	**0.0237**	**3.8000e-004**	**0.0241**	**6.7000e-003**	**3.6000e-004**	**7.0600e-003**	**0.0000**	**45.1787**	**45.1787**	**1.7100e-003**	**0.0000**	**45.2214**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.2200e-003	0.0834	0.0923	1.5000e-004		4.1600e-003	4.1600e-003		3.8300e-003	3.8300e-003	0.0000	13.0271	13.0271	4.2100e-003	0.0000	13.1324
Total	**8.2200e-003**	**0.0834**	**0.0923**	**1.5000e-004**		**4.1600e-003**	**4.1600e-003**		**3.8300e-003**	**3.8300e-003**	**0.0000**	**13.0271**	**13.0271**	**4.2100e-003**	**0.0000**	**13.1324**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.5000e-004	0.0147	4.7200e-003	5.0000e-005	1.3100e-003	2.0000e-005	1.3300e-003	3.8000e-004	2.0000e-005	3.9000e-004	0.0000	4.9230	4.9230	2.7000e-004	0.0000	4.9297
Worker	4.2900e-003	3.1000e-003	0.0362	1.1000e-004	0.0124	1.0000e-004	0.0125	3.2900e-003	9.0000e-005	3.3800e-003	0.0000	10.3966	10.3966	2.7000e-004	0.0000	10.4033
Total	**4.7400e-003**	**0.0178**	**0.0410**	**1.6000e-004**	**0.0137**	**1.2000e-004**	**0.0138**	**3.6700e-003**	**1.1000e-004**	**3.7700e-003**	**0.0000**	**15.3196**	**15.3196**	**5.4000e-004**	**0.0000**	**15.3330**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.2200e-003	0.0834	0.0923	1.5000e-004		4.1600e-003	4.1600e-003		3.8300e-003	3.8300e-003	0.0000	13.0271	13.0271	4.2100e-003	0.0000	13.1324
Total	**8.2200e-003**	**0.0834**	**0.0923**	**1.5000e-004**		**4.1600e-003**	**4.1600e-003**		**3.8300e-003**	**3.8300e-003**	**0.0000**	**13.0271**	**13.0271**	**4.2100e-003**	**0.0000**	**13.1324**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.5000e-004	0.0147	4.7200e-003	5.0000e-005	8.8000e-004	2.0000e-005	9.0000e-004	2.7000e-004	2.0000e-005	2.9000e-004	0.0000	4.9230	4.9230	2.7000e-004	0.0000	4.9297
Worker	4.2900e-003	3.1000e-003	0.0362	1.1000e-004	7.4500e-003	1.0000e-004	7.5500e-003	2.0800e-003	9.0000e-005	2.1700e-003	0.0000	10.3966	10.3966	2.7000e-004	0.0000	10.4033
Total	**4.7400e-003**	**0.0178**	**0.0410**	**1.6000e-004**	**8.3300e-003**	**1.2000e-004**	**8.4500e-003**	**2.3500e-003**	**1.1000e-004**	**2.4600e-003**	**0.0000**	**15.3196**	**15.3196**	**5.4000e-004**	**0.0000**	**15.3330**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.5300e-003	0.0138	0.0176	3.0000e-005		6.6000e-004	6.6000e-004		6.2000e-004	6.2000e-004	0.0000	2.3498	2.3498	6.8000e-004	0.0000	2.3669
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.5300e-003**	**0.0138**	**0.0176**	**3.0000e-005**		**6.6000e-004**	**6.6000e-004**		**6.2000e-004**	**6.2000e-004**	**0.0000**	**2.3498**	**2.3498**	**6.8000e-004**	**0.0000**	**2.3669**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.2000e-004	1.4400e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4137	0.4137	1.0000e-005	0.0000	0.4139
Total	**1.7000e-004**	**1.2000e-004**	**1.4400e-003**	**0.0000**	**4.9000e-004**	**0.0000**	**5.0000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4137**	**0.4137**	**1.0000e-005**	**0.0000**	**0.4139**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.5300e-003	0.0138	0.0176	3.0000e-005		6.6000e-004	6.6000e-004		6.2000e-004	6.2000e-004	0.0000	2.3498	2.3498	6.8000e-004	0.0000	2.3669
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.5300e-003**	**0.0138**	**0.0176**	**3.0000e-005**		**6.6000e-004**	**6.6000e-004**		**6.2000e-004**	**6.2000e-004**	**0.0000**	**2.3498**	**2.3498**	**6.8000e-004**	**0.0000**	**2.3669**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7000e-004	1.2000e-004	1.4400e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	9.0000e-005	0.0000	0.4137	0.4137	1.0000e-005	0.0000	0.4139
Total	**1.7000e-004**	**1.2000e-004**	**1.4400e-003**	**0.0000**	**3.0000e-004**	**0.0000**	**3.0000e-004**	**8.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.4137**	**0.4137**	**1.0000e-005**	**0.0000**	**0.4139**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2512					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8000e-004	3.2600e-003	4.5300e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6393
Total	**0.2517**	**3.2600e-003**	**4.5300e-003**	**1.0000e-005**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6393**

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	1.2000e-004	1.3600e-003	0.0000	4.7000e-004	0.0000	4.7000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.3907	0.3907	1.0000e-005	0.0000	0.3909
Total	**1.6000e-004**	**1.2000e-004**	**1.3600e-003**	**0.0000**	**4.7000e-004**	**0.0000**	**4.7000e-004**	**1.2000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3907**	**0.3907**	**1.0000e-005**	**0.0000**	**0.3909**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2512					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8000e-004	3.2600e-003	4.5300e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6393
Total	**0.2517**	**3.2600e-003**	**4.5300e-003**	**1.0000e-005**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**0.6383**	**0.6383**	**4.0000e-005**	**0.0000**	**0.6393**

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	1.2000e-004	1.3600e-003	0.0000	2.8000e-004	0.0000	2.8000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.3907	0.3907	1.0000e-005	0.0000	0.3909
Total	**1.6000e-004**	**1.2000e-004**	**1.3600e-003**	**0.0000**	**2.8000e-004**	**0.0000**	**2.8000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.3907**	**0.3907**	**1.0000e-005**	**0.0000**	**0.3909**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1571	0.7317	2.1368	8.4100e-003	0.7347	6.4200e-003	0.7411	0.1969	5.9600e-003	0.2029	0.0000	778.3032	778.3032	0.0371	0.0000	779.2312
Unmitigated	0.1571	0.7317	2.1368	8.4100e-003	0.7347	6.4200e-003	0.7411	0.1969	5.9600e-003	0.2029	0.0000	778.3032	778.3032	0.0371	0.0000	779.2312

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	529.00	529.00	529.00	1,806,580	1,806,580
Enclosed Parking with Elevator	0.00	0.00	0.00		
Strip Mall	67.95	67.95	67.95	129,281	129,281
Total	596.95	596.95	596.95	1,935,861	1,935,861

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.00	19.00	41.00	86	11	3
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.545348	0.044620	0.206559	0.118451	0.015002	0.006253	0.020617	0.031756	0.002560	0.002071	0.005217	0.000696	0.000850
Enclosed Parking with Elevator	0.545348	0.044620	0.206559	0.118451	0.015002	0.006253	0.020617	0.031756	0.002560	0.002071	0.005217	0.000696	0.000850
Strip Mall	0.545348	0.044620	0.206559	0.118451	0.015002	0.006253	0.020617	0.031756	0.002560	0.002071	0.005217	0.000696	0.000850

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	343.7589	343.7589	8.1200e-003	1.6800e-003	344.4624
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	343.7589	343.7589	8.1200e-003	1.6800e-003	344.4624
NaturalGas Mitigated	4.9900e-003	0.0426	0.0182	2.7000e-004		3.4400e-003	3.4400e-003		3.4400e-003	3.4400e-003	0.0000	49.3426	49.3426	9.5000e-004	9.0000e-004	49.6359
NaturalGas Unmitigated	4.9900e-003	0.0426	0.0182	2.7000e-004		3.4400e-003	3.4400e-003		3.4400e-003	3.4400e-003	0.0000	49.3426	49.3426	9.5000e-004	9.0000e-004	49.6359

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	921694	4.9700e-003	0.0425	0.0181	2.7000e-004		3.4300e-003	3.4300e-003		3.4300e-003	3.4300e-003	0.0000	49.1851	49.1851	9.4000e-004	9.0000e-004	49.4774
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	2952	2.0000e-005	1.4000e-004	1.2000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1575	0.1575	0.0000	0.0000	0.1585
Total		**4.9900e-003**	**0.0426**	**0.0182**	**2.7000e-004**		**3.4400e-003**	**3.4400e-003**		**3.4400e-003**	**3.4400e-003**	**0.0000**	**49.3426**	**49.3426**	**9.4000e-004**	**9.0000e-004**	**49.6359**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	921694	4.9700e-003	0.0425	0.0181	2.7000e-004		3.4300e-003	3.4300e-003		3.4300e-003	3.4300e-003	0.0000	49.1851	49.1851	9.4000e-004	9.0000e-004	49.4774
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	2952	2.0000e-005	1.4000e-004	1.2000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1575	0.1575	0.0000	0.0000	0.1585
Total		**4.9900e-003**	**0.0426**	**0.0182**	**2.7000e-004**		**3.4400e-003**	**3.4400e-003**		**3.4400e-003**	**3.4400e-003**	**0.0000**	**49.3426**	**49.3426**	**9.4000e-004**	**9.0000e-004**	**49.6359**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	396008	220.5612	5.2100e-003	1.0800e-003	221.0126
Enclosed Parking with Elevator	196896	109.6635	2.5900e-003	5.4000e-004	109.8879
Strip Mall	24300	13.5342	3.2000e-004	7.0000e-005	13.5619
Total		**343.7589**	**8.1200e-003**	**1.6900e-003**	**344.4624**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	396008	220.5612	5.2100e-003	1.0800e-003	221.0126
Enclosed Parking with Elevator	196896	109.6635	2.5900e-003	5.4000e-004	109.8879
Strip Mall	24300	13.5342	3.2000e-004	7.0000e-005	13.5619
Total		**343.7589**	**8.1200e-003**	**1.6900e-003**	**344.4624**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3422	0.0306	1.0399	1.7000e-004		7.2300e-003	7.2300e-003		7.2300e-003	7.2300e-003	0.0000	23.2990	23.2990	2.0400e-003	4.0000e-004	23.4680
Unmitigated	0.3422	0.0306	1.0399	1.7000e-004		7.2300e-003	7.2300e-003		7.2300e-003	7.2300e-003	0.0000	23.2990	23.2990	2.0400e-003	4.0000e-004	23.4680

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0251					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2838					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.1800e-003	0.0187	7.9400e-003	1.2000e-004		1.5100e-003	1.5100e-003		1.5100e-003	1.5100e-003	0.0000	21.6123	21.6123	4.1000e-004	4.0000e-004	21.7408
Landscaping	0.0311	0.0119	1.0319	5.0000e-005		5.7200e-003	5.7200e-003		5.7200e-003	5.7200e-003	0.0000	1.6867	1.6867	1.6200e-003	0.0000	1.7272
Total	**0.3422**	**0.0306**	**1.0399**	**1.7000e-004**		**7.2300e-003**	**7.2300e-003**		**7.2300e-003**	**7.2300e-003**	**0.0000**	**23.2990**	**23.2990**	**2.0300e-003**	**4.0000e-004**	**23.4680**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0251					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2838					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.1800e-003	0.0187	7.9400e-003	1.2000e-004		1.5100e-003	1.5100e-003		1.5100e-003	1.5100e-003	0.0000	21.6123	21.6123	4.1000e-004	4.0000e-004	21.7408
Landscaping	0.0311	0.0119	1.0319	5.0000e-005		5.7200e-003	5.7200e-003		5.7200e-003	5.7200e-003	0.0000	1.6867	1.6867	1.6200e-003	0.0000	1.7272
Total	**0.3422**	**0.0306**	**1.0399**	**1.7000e-004**		**7.2300e-003**	**7.2300e-003**		**7.2300e-003**	**7.2300e-003**	**0.0000**	**23.2990**	**23.2990**	**2.0300e-003**	**4.0000e-004**	**23.4680**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	76.2497	0.2184	5.4800e-003	83.3421
Unmitigated	76.2497	0.2184	5.4800e-003	83.3421

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	6.5154 / 4.10754	74.7348	0.2140	5.3700e-003	81.6850
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.133331 / 0.0817187	1.5149	4.3800e-003	1.1000e-004	1.6571
Total		**76.2497**	**0.2184**	**5.4800e-003**	**83.3421**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	6.5154 / 4.10754	74.7348	0.2140	5.3700e-003	81.6850
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.133331 / 0.0817187	1.5149	4.3800e-003	1.1000e-004	1.6571
Total		**76.2497**	**0.2184**	**5.4800e-003**	**83.3421**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	9.7212	0.5745	0.0000	24.0840
Unmitigated	9.7212	0.5745	0.0000	24.0840

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	46	9.3376	0.5518	0.0000	23.1335
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.89	0.3837	0.0227	0.0000	0.9505
Total		**9.7212**	**0.5745**	**0.0000**	**24.0840**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	46	9.3376	0.5518	0.0000	23.1335
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.89	0.3837	0.0227	0.0000	0.9505
Total		**9.7212**	**0.5745**	**0.0000**	**24.0840**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

2111 South Pacific Avenue Future

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	84.00	Space	0.00	33,600.00	0
Apartments Mid Rise	100.00	Dwelling Unit	0.55	76,145.00	286
Strip Mall	1.80	1000sqft	0.01	1,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2024
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

2111 South Pacific Avenue Future - Los Angeles-South Coast County, Summer

Project Characteristics - Consistent with the Project's air model.

Land Use - See SWAPE comments regarding "Underestimated Land Use Size" and "Unsubstantiated Reduction to Parking Land Use Size"

Construction Phase - See SWAPE comment regarding "Unsubstantiated Changes to Individual Construction Phase Lengths"

Off-road Equipment - See SWAPE comment regarding "Unsubstantiated Changes to Construction Off-Road Equipment Unit Amounts and Usage Hours"

Grading - Consistent with the Project's air model.

Demolition - Consistent with the Project's air model.

Trips and VMT - Hauling trip lengths and number consistent with the Project's air model. See SWAPE comment regarding "Unsubstantiated Reductions to Worker Trip Numbers"

Vehicle Trips - See SWAPE comment regarding "Underestimated Number of Sunday Vehicle Trips"

Woodstoves - Number of wood-burning stoves and fireplaces consistent with the Project's air model. See SWAPE comment regarding "Unsubstantiated Reduction to Number of Gas Fireplaces"

Energy Use -

Construction Off-road Equipment Mitigation - Consistent with the Project's air model.

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Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	46
tblFireplaces	NumberGas	85.00	90.00
tblFireplaces	NumberWood	5.00	0.00
tblGrading	AcresOfGrading	0.00	0.56
tblGrading	MaterialExported	0.00	20,000.00
tblLandUse	LandUseSquareFeet	100,000.00	76,145.00
tblLandUse	LotAcreage	0.76	0.00
tblLandUse	LotAcreage	2.63	0.55
tblLandUse	LotAcreage	0.04	0.01
tblTripsAndVMT	HaulingTripLength	20.00	41.00
tblTripsAndVMT	HaulingTripLength	20.00	41.00
tblTripsAndVMT	HaulingTripNumber	2,500.00	2,857.00
tblVehicleTrips	HO_TTP	40.60	41.00
tblVehicleTrips	HS_TTP	19.20	19.00
tblVehicleTrips	HW_TTP	40.20	40.00
tblVehicleTrips	ST_TR	6.39	5.29
tblVehicleTrips	ST_TR	42.04	37.75
tblVehicleTrips	SU_TR	5.86	5.29
tblVehicleTrips	SU_TR	20.43	37.75
tblVehicleTrips	WD_TR	6.65	5.29
tblVehicleTrips	WD_TR	44.32	37.75
tblWoodstoves	NumberCatalytic	5.00	0.00
tblWoodstoves	NumberNoncatalytic	5.00	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	12.0844	362.4033	96.7738	1.1130	27.2714	1.3603	28.6317	7.4940	1.3010	8.7951	0.0000	120,742.5081	120,742.5081	8.2976	0.0000	120,949.9481
2023	100.7537	7.7490	10.4213	0.0246	1.0749	0.3289	1.4038	0.2874	0.3027	0.5901	0.0000	2,447.7401	2,447.7401	0.4032	0.0000	2,457.8204
Maximum	**100.7537**	**362.4033**	**96.7738**	**1.1130**	**27.2714**	**1.3603**	**28.6317**	**7.4940**	**1.3010**	**8.7951**	**0.0000**	**120,742.5081**	**120,742.5081**	**8.2976**	**0.0000**	**120,949.9481**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	12.0844	362.4033	96.7738	1.1130	18.5390	1.3603	19.8993	5.3506	1.3010	6.6516	0.0000	120,742.5081	120,742.5081	8.2976	0.0000	120,949.9481
2023	100.7537	7.7490	10.4213	0.0246	0.6524	0.3289	0.9814	0.1837	0.3027	0.4864	0.0000	2,447.7401	2,447.7401	0.4032	0.0000	2,457.8204
Maximum	**100.7537**	**362.4033**	**96.7738**	**1.1130**	**18.5390**	**1.3603**	**19.8993**	**5.3506**	**1.3010**	**6.6516**	**0.0000**	**120,742.5081**	**120,742.5081**	**8.2976**	**0.0000**	**120,949.9481**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**32.30**	**0.00**	**30.48**	**28.88**	**0.00**	**23.94**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.1164	1.5880	8.8907	9.9700e-003		0.1664	0.1664		0.1664	0.1664	0.0000	1,920.7564	1,920.7564	0.0508	0.0349	1,932.4396
Energy	0.0273	0.2335	0.0997	1.4900e-003		0.0189	0.0189		0.0189	0.0189		298.0326	298.0326	5.7100e-003	5.4600e-003	299.8036
Mobile	0.9125	3.8634	12.2131	0.0479	4.1161	0.0352	4.1514	1.1014	0.0328	1.1342		4,881.6466	4,881.6466	0.2264		4,887.3055
Total	**3.0562**	**5.6849**	**21.2035**	**0.0594**	**4.1161**	**0.2206**	**4.3367**	**1.1014**	**0.2181**	**1.3195**	**0.0000**	**7,100.4355**	**7,100.4355**	**0.2829**	**0.0404**	**7,119.5488**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.1164	1.5880	8.8907	9.9700e-003		0.1664	0.1664		0.1664	0.1664	0.0000	1,920.7564	1,920.7564	0.0508	0.0349	1,932.4396
Energy	0.0273	0.2335	0.0997	1.4900e-003		0.0189	0.0189		0.0189	0.0189		298.0326	298.0326	5.7100e-003	5.4600e-003	299.8036
Mobile	0.9125	3.8634	12.2131	0.0479	4.1161	0.0352	4.1514	1.1014	0.0328	1.1342		4,881.6466	4,881.6466	0.2264		4,887.3055
Total	**3.0562**	**5.6849**	**21.2035**	**0.0594**	**4.1161**	**0.2206**	**4.3367**	**1.1014**	**0.2181**	**1.3195**	**0.0000**	**7,100.4355**	**7,100.4355**	**0.2829**	**0.0404**	**7,119.5488**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2022	9/14/2022	5	10	
2	Site Preparation	Site Preparation	9/15/2022	9/15/2022	5	1	
3	Grading	Grading	9/16/2022	9/19/2022	5	2	
4	Building Construction	Building Construction	9/20/2022	2/6/2023	5	100	
5	Paving	Paving	2/7/2023	2/13/2023	5	5	
6	Architectural Coating	Architectural Coating	2/14/2023	2/20/2023	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0.56

Acres of Paving: 0

Residential Indoor: 154,194; Residential Outdoor: 51,398; Non-Residential Indoor: 2,700; Non-Residential Outdoor: 900; Striped Parking Area: 2,016 (Architectural Coating – sqft)

OffRoad Equipment

2111 South Pacific Avenue Future - Los Angeles-South Coast County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	156.00	14.70	6.90	41.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	41.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	2,857.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	87.00	16.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	17.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Clean Paved Roads

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3832	0.0000	3.3832	0.5122	0.0000	0.5122			0.0000			0.0000
Off-Road	0.7094	6.4138	7.4693	0.0120		0.3375	0.3375		0.3225	0.3225		1,147.9025	1,147.9025	0.2119		1,153.2001
Total	**0.7094**	**6.4138**	**7.4693**	**0.0120**	**3.3832**	**0.3375**	**3.7207**	**0.5122**	**0.3225**	**0.8348**		**1,147.9025**	**1,147.9025**	**0.2119**		**1,153.2001**

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2294	6.4907	1.8088	0.0229	0.5589	0.0224	0.5813	0.1532	0.0214	0.1746		2,489.1796	2,489.1796	0.1569		2,493.1018
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0402	0.0266	0.3716	1.1000e-003	0.1118	8.7000e-004	0.1127	0.0296	8.1000e-004	0.0305		109.8712	109.8712	3.0300e-003		109.9470
Total	**0.2695**	**6.5173**	**2.1804**	**0.0240**	**0.6706**	**0.0233**	**0.6939**	**0.1828**	**0.0222**	**0.2050**		**2,599.0509**	**2,599.0509**	**0.1599**		**2,603.0489**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3832	0.0000	3.3832	0.5122	0.0000	0.5122			0.0000			0.0000
Off-Road	0.7094	6.4138	7.4693	0.0120		0.3375	0.3375		0.3225	0.3225	0.0000	1,147.9025	1,147.9025	0.2119		1,153.2001
Total	**0.7094**	**6.4138**	**7.4693**	**0.0120**	**3.3832**	**0.3375**	**3.7207**	**0.5122**	**0.3225**	**0.8348**	**0.0000**	**1,147.9025**	**1,147.9025**	**0.2119**		**1,153.2001**

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2294	6.4907	1.8088	0.0229	0.3644	0.0224	0.3868	0.1054	0.0214	0.1269		2,489.1796	2,489.1796	0.1569		2,493.1018
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0402	0.0266	0.3716	1.1000e-003	0.0671	8.7000e-004	0.0680	0.0187	8.1000e-004	0.0195		109.8712	109.8712	3.0300e-003		109.9470
Total	**0.2695**	**6.5173**	**2.1804**	**0.0240**	**0.4315**	**0.0233**	**0.4547**	**0.1241**	**0.0222**	**0.1463**		**2,599.0509**	**2,599.0509**	**0.1599**		**2,603.0489**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.5797	6.9332	3.9597	9.7300e-003		0.2573	0.2573		0.2367	0.2367		942.5179	942.5179	0.3048		950.1386
Total	**0.5797**	**6.9332**	**3.9597**	**9.7300e-003**	**0.5303**	**0.2573**	**0.7876**	**0.0573**	**0.2367**	**0.2940**		**942.5179**	**942.5179**	**0.3048**		**950.1386**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0201	0.0133	0.1858	5.5000e-004	0.0559	4.4000e-004	0.0563	0.0148	4.0000e-004	0.0152		54.9356	54.9356	1.5200e-003		54.9735
Total	**0.0201**	**0.0133**	**0.1858**	**5.5000e-004**	**0.0559**	**4.4000e-004**	**0.0563**	**0.0148**	**4.0000e-004**	**0.0152**		**54.9356**	**54.9356**	**1.5200e-003**		**54.9735**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.5797	6.9332	3.9597	9.7300e-003		0.2573	0.2573		0.2367	0.2367	0.0000	942.5179	942.5179	0.3048		950.1386
Total	**0.5797**	**6.9332**	**3.9597**	**9.7300e-003**	**0.5303**	**0.2573**	**0.7876**	**0.0573**	**0.2367**	**0.2940**	**0.0000**	**942.5179**	**942.5179**	**0.3048**		**950.1386**

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0201	0.0133	0.1858	5.5000e-004	0.0335	4.4000e-004	0.0340	9.3400e-003	4.0000e-004	9.7400e-003		54.9356	54.9356	1.5200e-003		54.9735
Total	**0.0201**	**0.0133**	**0.1858**	**5.5000e-004**	**0.0335**	**4.4000e-004**	**0.0340**	**9.3400e-003**	**4.0000e-004**	**9.7400e-003**		**54.9356**	**54.9356**	**1.5200e-003**		**54.9735**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1806	0.0000	2.1806	0.6171	0.0000	0.6171			0.0000			0.0000
Off-Road	0.7094	6.4138	7.4693	0.0120		0.3375	0.3375		0.3225	0.3225		1,147.9025	1,147.9025	0.2119		1,153.2001
Total	**0.7094**	**6.4138**	**7.4693**	**0.0120**	**2.1806**	**0.3375**	**2.5181**	**0.6171**	**0.3225**	**0.9396**		**1,147.9025**	**1,147.9025**	**0.2119**		**1,153.2001**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	11.3349	355.9629	88.9328	1.0999	24.9791	1.0219	26.0010	6.8473	0.9777	7.8250		119,484.7344	119,484.7344	8.0827		119,686.8009
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0402	0.0266	0.3716	1.1000e-003	0.1118	8.7000e-004	0.1127	0.0296	8.1000e-004	0.0305		109.8712	109.8712	3.0300e-003		109.9470
Total	**11.3750**	**355.9895**	**89.3044**	**1.1010**	**25.0908**	**1.0228**	**26.1136**	**6.8769**	**0.9785**	**7.8554**		**119,594.6056**	**119,594.6056**	**8.0857**		**119,796.7480**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1806	0.0000	2.1806	0.6171	0.0000	0.6171			0.0000			0.0000
Off-Road	0.7094	6.4138	7.4693	0.0120		0.3375	0.3375		0.3225	0.3225	0.0000	1,147.9025	1,147.9025	0.2119		1,153.2001
Total	**0.7094**	**6.4138**	**7.4693**	**0.0120**	**2.1806**	**0.3375**	**2.5181**	**0.6171**	**0.3225**	**0.9396**	**0.0000**	**1,147.9025**	**1,147.9025**	**0.2119**		**1,153.2001**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	11.3349	355.9629	88.9328	1.0999	16.2913	1.0219	17.3132	4.7149	0.9777	5.6925		119,484.7344	119,484.7344	8.0827		119,686.8009
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0402	0.0266	0.3716	1.1000e-003	0.0671	8.7000e-004	0.0680	0.0187	8.1000e-004	0.0195		109.8712	109.8712	3.0300e-003		109.9470
Total	**11.3750**	**355.9895**	**89.3044**	**1.1010**	**16.3584**	**1.0228**	**17.3812**	**4.7335**	**0.9785**	**5.7120**		**119,594.6056**	**119,594.6056**	**8.0857**		**119,796.7480**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6863	7.0258	7.1527	0.0114		0.3719	0.3719		0.3422	0.3422		1,103.9393	1,103.9393	0.3570		1,112.8652
Total	**0.6863**	**7.0258**	**7.1527**	**0.0114**		**0.3719**	**0.3719**		**0.3422**	**0.3422**		**1,103.9393**	**1,103.9393**	**0.3570**		**1,112.8652**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0456	1.4773	0.3842	4.0800e-003	0.1024	2.7800e-003	0.1052	0.0295	2.6600e-003	0.0322		435.9774	435.9774	0.0250		436.6029
Worker	0.3493	0.2315	3.2329	9.5900e-003	0.9725	7.6100e-003	0.9801	0.2579	7.0100e-003	0.2649		955.8797	955.8797	0.0264		956.5393
Total	**0.3950**	**1.7088**	**3.6172**	**0.0137**	**1.0749**	**0.0104**	**1.0853**	**0.2874**	**9.6700e-003**	**0.2971**		**1,391.8571**	**1,391.8571**	**0.0514**		**1,393.1422**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6863	7.0258	7.1527	0.0114		0.3719	0.3719		0.3422	0.3422	0.0000	1,103.9393	1,103.9393	0.3570		1,112.8652
Total	**0.6863**	**7.0258**	**7.1527**	**0.0114**		**0.3719**	**0.3719**		**0.3422**	**0.3422**	**0.0000**	**1,103.9393**	**1,103.9393**	**0.3570**		**1,112.8652**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0456	1.4773	0.3842	4.0800e-003	0.0689	2.7800e-003	0.0716	0.0213	2.6600e-003	0.0239		435.9774	435.9774	0.0250		436.6029
Worker	0.3493	0.2315	3.2329	9.5900e-003	0.5836	7.6100e-003	0.5912	0.1624	7.0100e-003	0.1695		955.8797	955.8797	0.0264		956.5393
Total	**0.3950**	**1.7088**	**3.6172**	**0.0137**	**0.6524**	**0.0104**	**0.6628**	**0.1837**	**9.6700e-003**	**0.1934**		**1,391.8571**	**1,391.8571**	**0.0514**		**1,393.1422**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6322	6.4186	7.0970	0.0114		0.3203	0.3203		0.2946	0.2946		1,104.6089	1,104.6089	0.3573		1,113.5402
Total	**0.6322**	**6.4186**	**7.0970**	**0.0114**		**0.3203**	**0.3203**		**0.2946**	**0.2946**		**1,104.6089**	**1,104.6089**	**0.3573**		**1,113.5402**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0339	1.1209	0.3470	3.9400e-003	0.1024	1.2900e-003	0.1037	0.0295	1.2400e-003	0.0307		422.2519	422.2519	0.0222		422.8062
Worker	0.3280	0.2095	2.9773	9.2400e-003	0.9725	7.4000e-003	0.9799	0.2579	6.8100e-003	0.2647		920.8793	920.8793	0.0238		921.4740
Total	**0.3619**	**1.3304**	**3.3243**	**0.0132**	**1.0749**	**8.6900e-003**	**1.0836**	**0.2874**	**8.0500e-003**	**0.2954**		**1,343.1312**	**1,343.1312**	**0.0460**		**1,344.2802**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6322	6.4186	7.0970	0.0114		0.3203	0.3203		0.2946	0.2946	0.0000	1,104.6089	1,104.6089	0.3573		1,113.5402
Total	**0.6322**	**6.4186**	**7.0970**	**0.0114**		**0.3203**	**0.3203**		**0.2946**	**0.2946**	**0.0000**	**1,104.6089**	**1,104.6089**	**0.3573**		**1,113.5402**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0339	1.1209	0.3470	3.9400e-003	0.0689	1.2900e-003	0.0702	0.0213	1.2400e-003	0.0225		422.2519	422.2519	0.0222		422.8062
Worker	0.3280	0.2095	2.9773	9.2400e-003	0.5836	7.4000e-003	0.5910	0.1624	6.8100e-003	0.1693		920.8793	920.8793	0.0238		921.4740
Total	**0.3619**	**1.3304**	**3.3243**	**0.0132**	**0.6524**	**8.6900e-003**	**0.6611**	**0.1837**	**8.0500e-003**	**0.1917**		**1,343.1312**	**1,343.1312**	**0.0460**		**1,344.2802**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6112	5.5046	7.0209	0.0113		0.2643	0.2643		0.2466	0.2466		1,036.0878	1,036.0878	0.3018		1,043.6331
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6112**	**5.5046**	**7.0209**	**0.0113**		**0.2643**	**0.2643**		**0.2466**	**0.2466**		**1,036.0878**	**1,036.0878**	**0.3018**		**1,043.6331**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0679	0.0433	0.6160	1.9100e-003	0.2012	1.5300e-003	0.2027	0.0534	1.4100e-003	0.0548		190.5268	190.5268	4.9200e-003		190.6498
Total	**0.0679**	**0.0433**	**0.6160**	**1.9100e-003**	**0.2012**	**1.5300e-003**	**0.2027**	**0.0534**	**1.4100e-003**	**0.0548**		**190.5268**	**190.5268**	**4.9200e-003**		**190.6498**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6112	5.5046	7.0209	0.0113		0.2643	0.2643		0.2466	0.2466	0.0000	1,036.0878	1,036.0878	0.3018		1,043.6331
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6112**	**5.5046**	**7.0209**	**0.0113**		**0.2643**	**0.2643**		**0.2466**	**0.2466**	**0.0000**	**1,036.0878**	**1,036.0878**	**0.3018**		**1,043.6331**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0679	0.0433	0.6160	1.9100e-003	0.1207	1.5300e-003	0.1223	0.0336	1.4100e-003	0.0350		190.5268	190.5268	4.9200e-003		190.6498
Total	**0.0679**	**0.0433**	**0.6160**	**1.9100e-003**	**0.1207**	**1.5300e-003**	**0.1223**	**0.0336**	**1.4100e-003**	**0.0350**		**190.5268**	**190.5268**	**4.9200e-003**		**190.6498**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	100.4979					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**100.6896**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0641	0.0409	0.5818	1.8100e-003	0.1900	1.4500e-003	0.1915	0.0504	1.3300e-003	0.0517		179.9419	179.9419	4.6500e-003		180.0581
Total	**0.0641**	**0.0409**	**0.5818**	**1.8100e-003**	**0.1900**	**1.4500e-003**	**0.1915**	**0.0504**	**1.3300e-003**	**0.0517**		**179.9419**	**179.9419**	**4.6500e-003**		**180.0581**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	100.4979					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**100.6896**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0641	0.0409	0.5818	1.8100e-003	0.1140	1.4500e-003	0.1155	0.0317	1.3300e-003	0.0331		179.9419	179.9419	4.6500e-003		180.0581
Total	**0.0641**	**0.0409**	**0.5818**	**1.8100e-003**	**0.1140**	**1.4500e-003**	**0.1155**	**0.0317**	**1.3300e-003**	**0.0331**		**179.9419**	**179.9419**	**4.6500e-003**		**180.0581**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.9125	3.8634	12.2131	0.0479	4.1161	0.0352	4.1514	1.1014	0.0328	1.1342		4,881.6466	4,881.6466	0.2264		4,887.3055
Unmitigated	0.9125	3.8634	12.2131	0.0479	4.1161	0.0352	4.1514	1.1014	0.0328	1.1342		4,881.6466	4,881.6466	0.2264		4,887.3055

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	529.00	529.00	529.00	1,806,580	1,806,580
Enclosed Parking with Elevator	0.00	0.00	0.00		
Strip Mall	67.95	67.95	67.95	129,281	129,281
Total	596.95	596.95	596.95	1,935,861	1,935,861

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.00	19.00	41.00	86	11	3
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.545348	0.044620	0.206559	0.118451	0.015002	0.006253	0.020617	0.031756	0.002560	0.002071	0.005217	0.000696	0.000850
Enclosed Parking with Elevator	0.545348	0.044620	0.206559	0.118451	0.015002	0.006253	0.020617	0.031756	0.002560	0.002071	0.005217	0.000696	0.000850
Strip Mall	0.545348	0.044620	0.206559	0.118451	0.015002	0.006253	0.020617	0.031756	0.002560	0.002071	0.005217	0.000696	0.000850

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0273	0.2335	0.0997	1.4900e-003		0.0189	0.0189		0.0189	0.0189		298.0326	298.0326	5.7100e-003	5.4600e-003	299.8036
NaturalGas Unmitigated	0.0273	0.2335	0.0997	1.4900e-003		0.0189	0.0189		0.0189	0.0189		298.0326	298.0326	5.7100e-003	5.4600e-003	299.8036

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	2525.19	0.0272	0.2327	0.0990	1.4900e-003		0.0188	0.0188		0.0188	0.0188		297.0811	297.0811	5.6900e-003	5.4500e-003	298.8465
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	8.08767	9.0000e-005	7.9000e-004	6.7000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.9515	0.9515	2.0000e-005	2.0000e-005	0.9571
Total		**0.0273**	**0.2335**	**0.0997**	**1.4900e-003**		**0.0189**	**0.0189**		**0.0189**	**0.0189**		**298.0326**	**298.0326**	**5.7100e-003**	**5.4700e-003**	**299.8036**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	2.52519	0.0272	0.2327	0.0990	1.4900e-003		0.0188	0.0188		0.0188	0.0188		297.0811	297.0811	5.6900e-003	5.4500e-003	298.8465
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.00808767	9.0000e-005	7.9000e-004	6.7000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.9515	0.9515	2.0000e-005	2.0000e-005	0.9571
Total		**0.0273**	**0.2335**	**0.0997**	**1.4900e-003**		**0.0189**	**0.0189**		**0.0189**	**0.0189**		**298.0326**	**298.0326**	**5.7100e-003**	**5.4700e-003**	**299.8036**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.1164	1.5880	8.8907	9.9700e-003		0.1664	0.1664		0.1664	0.1664	0.0000	1,920.7564	1,920.7564	0.0508	0.0349	1,932.4396
Unmitigated	2.1164	1.5880	8.8907	9.9700e-003		0.1664	0.1664		0.1664	0.1664	0.0000	1,920.7564	1,920.7564	0.0508	0.0349	1,932.4396

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1377					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.5552					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1747	1.4929	0.6353	9.5300e-003		0.1207	0.1207		0.1207	0.1207	0.0000	1,905.8824	1,905.8824	0.0365	0.0349	1,917.2081
Landscaping	0.2488	0.0951	8.2554	4.4000e-004		0.0457	0.0457		0.0457	0.0457		14.8740	14.8740	0.0143		15.2316
Total	**2.1164**	**1.5880**	**8.8907**	**9.9700e-003**		**0.1665**	**0.1665**		**0.1665**	**0.1665**	**0.0000**	**1,920.7564**	**1,920.7564**	**0.0508**	**0.0349**	**1,932.4396**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1377					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.5552					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1747	1.4929	0.6353	9.5300e-003		0.1207	0.1207		0.1207	0.1207	0.0000	1,905.8824	1,905.8824	0.0365	0.0349	1,917.2081
Landscaping	0.2488	0.0951	8.2554	4.4000e-004		0.0457	0.0457		0.0457	0.0457		14.8740	14.8740	0.0143		15.2316
Total	**2.1164**	**1.5880**	**8.8907**	**9.9700e-003**		**0.1665**	**0.1665**		**0.1665**	**0.1665**	**0.0000**	**1,920.7564**	**1,920.7564**	**0.0508**	**0.0349**	**1,932.4396**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

2111 South Pacific Avenue Future

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	84.00	Space	0.00	33,600.00	0
Apartments Mid Rise	100.00	Dwelling Unit	0.55	76,145.00	286
Strip Mall	1.80	1000sqft	0.01	1,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	11			**Operational Year**	2024
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

2111 South Pacific Avenue Future - Los Angeles-South Coast County, Winter

Project Characteristics - Consistent with the Project's air model.

Land Use - See SWAPE comments regarding "Underestimated Land Use Size" and "Unsubstantiated Reduction to Parking Land Use Size"

Construction Phase - See SWAPE comment regarding "Unsubstantiated Changes to Individual Construction Phase Lengths"

Off-road Equipment - See SWAPE comment regarding "Unsubstantiated Changes to Construction Off-Road Equipment Unit Amounts and Usage Hours"

Grading - Consistent with the Project's air model.

Demolition - Consistent with the Project's air model.

Trips and VMT - Hauling trip lengths and number consistent with the Project's air model. See SWAPE comment regarding "Unsubstantiated Reductions to Worker Trip Numbers"

Vehicle Trips - See SWAPE comment regarding "Underestimated Number of Sunday Vehicle Trips"

Woodstoves - Number of wood-burning stoves and fireplaces consistent with the Project's air model. See SWAPE comment regarding "Unsubstantiated Reduction to Number of Gas Fireplaces"

Energy Use -

Construction Off-road Equipment Mitigation - Consistent with the Project's air model.

2111 South Pacific Avenue Future - Los Angeles-South Coast County, Winter

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	46
tblFireplaces	NumberGas	85.00	90.00
tblFireplaces	NumberWood	5.00	0.00
tblGrading	AcresOfGrading	0.00	0.56
tblGrading	MaterialExported	0.00	20,000.00
tblLandUse	LandUseSquareFeet	100,000.00	76,145.00
tblLandUse	LotAcreage	0.76	0.00
tblLandUse	LotAcreage	2.63	0.55
tblLandUse	LotAcreage	0.04	0.01
tblTripsAndVMT	HaulingTripLength	20.00	41.00
tblTripsAndVMT	HaulingTripLength	20.00	41.00
tblTripsAndVMT	HaulingTripNumber	2,500.00	2,857.00
tblVehicleTrips	HO_TTP	40.60	41.00
tblVehicleTrips	HS_TTP	19.20	19.00
tblVehicleTrips	HW_TTP	40.20	40.00
tblVehicleTrips	ST_TR	6.39	5.29
tblVehicleTrips	ST_TR	42.04	37.75
tblVehicleTrips	SU_TR	5.86	5.29
tblVehicleTrips	SU_TR	20.43	37.75
tblVehicleTrips	WD_TR	6.65	5.29
tblVehicleTrips	WD_TR	44.32	37.75
tblWoodstoves	NumberCatalytic	5.00	0.00
tblWoodstoves	NumberNoncatalytic	5.00	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	12.3627	366.4717	101.9148	1.0937	27.2714	1.3762	28.6477	7.4940	1.3163	8.8103	0.0000	118,647.8802	118,647.8802	8.5731	0.0000	118,862.2080
2023	100.7613	7.7662	10.1873	0.0240	1.0749	0.3290	1.4039	0.2874	0.3027	0.5901	0.0000	2,382.5419	2,382.5419	0.4030	0.0000	2,392.6175
Maximum	**100.7613**	**366.4717**	**101.9148**	**1.0937**	**27.2714**	**1.3762**	**28.6477**	**7.4940**	**1.3163**	**8.8103**	**0.0000**	**118,647.8802**	**118,647.8802**	**8.5731**	**0.0000**	**118,862.2080**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	12.3627	366.4717	101.9148	1.0937	18.5390	1.3762	19.9152	5.3506	1.3163	6.6669	0.0000	118,647.8802	118,647.8802	8.5731	0.0000	118,862.2080
2023	100.7613	7.7662	10.1873	0.0240	0.6524	0.3290	0.9814	0.1837	0.3027	0.4864	0.0000	2,382.5419	2,382.5419	0.4030	0.0000	2,392.6175
Maximum	**100.7613**	**366.4717**	**101.9148**	**1.0937**	**18.5390**	**1.3762**	**19.9152**	**5.3506**	**1.3163**	**6.6669**	**0.0000**	**118,647.8802**	**118,647.8802**	**8.5731**	**0.0000**	**118,862.2080**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**32.30**	**0.00**	**30.46**	**28.88**	**0.00**	**23.90**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.1164	1.5880	8.8907	9.9700e-003		0.1664	0.1664		0.1664	0.1664	0.0000	1,920.7564	1,920.7564	0.0508	0.0349	1,932.4396
Energy	0.0273	0.2335	0.0997	1.4900e-003		0.0189	0.0189		0.0189	0.0189		298.0326	298.0326	5.7100e-003	5.4600e-003	299.8036
Mobile	0.8837	3.9529	11.5669	0.0456	4.1161	0.0354	4.1515	1.1014	0.0329	1.1343		4,648.6938	4,648.6938	0.2257		4,654.3357
Total	**3.0273**	**5.7744**	**20.5573**	**0.0570**	**4.1161**	**0.2207**	**4.3368**	**1.1014**	**0.2182**	**1.3196**	**0.0000**	**6,867.4827**	**6,867.4827**	**0.2822**	**0.0404**	**6,886.5789**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.1164	1.5880	8.8907	9.9700e-003		0.1664	0.1664		0.1664	0.1664	0.0000	1,920.7564	1,920.7564	0.0508	0.0349	1,932.4396
Energy	0.0273	0.2335	0.0997	1.4900e-003		0.0189	0.0189		0.0189	0.0189		298.0326	298.0326	5.7100e-003	5.4600e-003	299.8036
Mobile	0.8837	3.9529	11.5669	0.0456	4.1161	0.0354	4.1515	1.1014	0.0329	1.1343		4,648.6938	4,648.6938	0.2257		4,654.3357
Total	**3.0273**	**5.7744**	**20.5573**	**0.0570**	**4.1161**	**0.2207**	**4.3368**	**1.1014**	**0.2182**	**1.3196**	**0.0000**	**6,867.4827**	**6,867.4827**	**0.2822**	**0.0404**	**6,886.5789**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2022	9/14/2022	5	10	
2	Site Preparation	Site Preparation	9/15/2022	9/15/2022	5	1	
3	Grading	Grading	9/16/2022	9/19/2022	5	2	
4	Building Construction	Building Construction	9/20/2022	2/6/2023	5	100	
5	Paving	Paving	2/7/2023	2/13/2023	5	5	
6	Architectural Coating	Architectural Coating	2/14/2023	2/20/2023	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0.56

Acres of Paving: 0

Residential Indoor: 154,194; Residential Outdoor: 51,398; Non-Residential Indoor: 2,700; Non-Residential Outdoor: 900; Striped Parking Area: 2,016 (Architectural Coating – sqft)

OffRoad Equipment

2111 South Pacific Avenue Future - Los Angeles-South Coast County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	156.00	14.70	6.90	41.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	41.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	2,857.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	87.00	16.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	17.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Clean Paved Roads

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3832	0.0000	3.3832	0.5122	0.0000	0.5122			0.0000			0.0000
Off-Road	0.7094	6.4138	7.4693	0.0120		0.3375	0.3375		0.3225	0.3225		1,147.9025	1,147.9025	0.2119		1,153.2001
Total	**0.7094**	**6.4138**	**7.4693**	**0.0120**	**3.3832**	**0.3375**	**3.7207**	**0.5122**	**0.3225**	**0.8348**		**1,147.9025**	**1,147.9025**	**0.2119**		**1,153.2001**

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2323	6.6370	1.8594	0.0227	0.5589	0.0226	0.5814	0.1532	0.0216	0.1748		2,466.3752	2,466.3752	0.1599		2,470.3719
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0448	0.0295	0.3392	1.0400e-003	0.1118	8.7000e-004	0.1127	0.0296	8.1000e-004	0.0305		103.4570	103.4570	2.8500e-003		103.5282
Total	**0.2771**	**6.6665**	**2.1986**	**0.0237**	**0.6706**	**0.0234**	**0.6941**	**0.1828**	**0.0224**	**0.2052**		**2,569.8322**	**2,569.8322**	**0.1627**		**2,573.9000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3832	0.0000	3.3832	0.5122	0.0000	0.5122			0.0000			0.0000
Off-Road	0.7094	6.4138	7.4693	0.0120		0.3375	0.3375		0.3225	0.3225	0.0000	1,147.9025	1,147.9025	0.2119		1,153.2001
Total	**0.7094**	**6.4138**	**7.4693**	**0.0120**	**3.3832**	**0.3375**	**3.7207**	**0.5122**	**0.3225**	**0.8348**	**0.0000**	**1,147.9025**	**1,147.9025**	**0.2119**		**1,153.2001**

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2323	6.6370	1.8594	0.0227	0.3644	0.0226	0.3869	0.1054	0.0216	0.1270		2,466.3752	2,466.3752	0.1599		2,470.3719
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0448	0.0295	0.3392	1.0400e-003	0.0671	8.7000e-004	0.0680	0.0187	8.1000e-004	0.0195		103.4570	103.4570	2.8500e-003		103.5282
Total	**0.2771**	**6.6665**	**2.1986**	**0.0237**	**0.4315**	**0.0234**	**0.4549**	**0.1241**	**0.0224**	**0.1465**		**2,569.8322**	**2,569.8322**	**0.1627**		**2,573.9000**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.5797	6.9332	3.9597	9.7300e-003		0.2573	0.2573		0.2367	0.2367		942.5179	942.5179	0.3048		950.1386
Total	**0.5797**	**6.9332**	**3.9597**	**9.7300e-003**	**0.5303**	**0.2573**	**0.7876**	**0.0573**	**0.2367**	**0.2940**		**942.5179**	**942.5179**	**0.3048**		**950.1386**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0224	0.0147	0.1696	5.2000e-004	0.0559	4.4000e-004	0.0563	0.0148	4.0000e-004	0.0152		51.7285	51.7285	1.4200e-003		51.7641
Total	**0.0224**	**0.0147**	**0.1696**	**5.2000e-004**	**0.0559**	**4.4000e-004**	**0.0563**	**0.0148**	**4.0000e-004**	**0.0152**		**51.7285**	**51.7285**	**1.4200e-003**		**51.7641**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.5797	6.9332	3.9597	9.7300e-003		0.2573	0.2573		0.2367	0.2367	0.0000	942.5179	942.5179	0.3048		950.1386
Total	**0.5797**	**6.9332**	**3.9597**	**9.7300e-003**	**0.5303**	**0.2573**	**0.7876**	**0.0573**	**0.2367**	**0.2940**	**0.0000**	**942.5179**	**942.5179**	**0.3048**		**950.1386**

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0224	0.0147	0.1696	5.2000e-004	0.0335	4.4000e-004	0.0340	9.3400e-003	4.0000e-004	9.7400e-003		51.7285	51.7285	1.4200e-003		51.7641
Total	**0.0224**	**0.0147**	**0.1696**	**5.2000e-004**	**0.0335**	**4.4000e-004**	**0.0340**	**9.3400e-003**	**4.0000e-004**	**9.7400e-003**		**51.7285**	**51.7285**	**1.4200e-003**		**51.7641**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1806	0.0000	2.1806	0.6171	0.0000	0.6171			0.0000			0.0000
Off-Road	0.7094	6.4138	7.4693	0.0120		0.3375	0.3375		0.3225	0.3225		1,147.9025	1,147.9025	0.2119		1,153.2001
Total	**0.7094**	**6.4138**	**7.4693**	**0.0120**	**2.1806**	**0.3375**	**2.5181**	**0.6171**	**0.3225**	**0.9396**		**1,147.9025**	**1,147.9025**	**0.2119**		**1,153.2001**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	11.6085	360.0284	94.1063	1.0806	24.9791	1.0378	26.0169	6.8473	0.9929	7.8402		117,396.5208	117,396.5208	8.3584		117,605.4798
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0448	0.0295	0.3392	1.0400e-003	0.1118	8.7000e-004	0.1127	0.0296	8.1000e-004	0.0305		103.4570	103.4570	2.8500e-003		103.5282
Total	**11.6533**	**360.0579**	**94.4454**	**1.0817**	**25.0908**	**1.0387**	**26.1295**	**6.8769**	**0.9937**	**7.8707**		**117,499.9778**	**117,499.9778**	**8.3612**		**117,709.0079**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1806	0.0000	2.1806	0.6171	0.0000	0.6171			0.0000			0.0000
Off-Road	0.7094	6.4138	7.4693	0.0120		0.3375	0.3375		0.3225	0.3225	0.0000	1,147.9025	1,147.9025	0.2119		1,153.2001
Total	**0.7094**	**6.4138**	**7.4693**	**0.0120**	**2.1806**	**0.3375**	**2.5181**	**0.6171**	**0.3225**	**0.9396**	**0.0000**	**1,147.9025**	**1,147.9025**	**0.2119**		**1,153.2001**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	11.6085	360.0284	94.1063	1.0806	16.2913	1.0378	17.3292	4.7149	0.9929	5.7078		117,396.5208	117,396.5208	8.3584		117,605.4798
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0448	0.0295	0.3392	1.0400e-003	0.0671	8.7000e-004	0.0680	0.0187	8.1000e-004	0.0195		103.4570	103.4570	2.8500e-003		103.5282
Total	**11.6533**	**360.0579**	**94.4454**	**1.0817**	**16.3584**	**1.0387**	**17.3971**	**4.7335**	**0.9937**	**5.7273**		**117,499.9778**	**117,499.9778**	**8.3612**		**117,709.0079**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6863	7.0258	7.1527	0.0114		0.3719	0.3719		0.3422	0.3422		1,103.9393	1,103.9393	0.3570		1,112.8652
Total	**0.6863**	**7.0258**	**7.1527**	**0.0114**		**0.3719**	**0.3719**		**0.3422**	**0.3422**		**1,103.9393**	**1,103.9393**	**0.3570**		**1,112.8652**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0479	1.4733	0.4252	3.9600e-003	0.1024	2.8700e-003	0.1053	0.0295	2.7400e-003	0.0322		423.9525	423.9525	0.0266		424.6186
Worker	0.3896	0.2563	2.9508	9.0300e-003	0.9725	7.6100e-003	0.9801	0.2579	7.0100e-003	0.2649		900.0754	900.0754	0.0248		900.6950
Total	**0.4376**	**1.7295**	**3.3761**	**0.0130**	**1.0749**	**0.0105**	**1.0854**	**0.2874**	**9.7500e-003**	**0.2972**		**1,324.0279**	**1,324.0279**	**0.0514**		**1,325.3136**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6863	7.0258	7.1527	0.0114		0.3719	0.3719		0.3422	0.3422	0.0000	1,103.9393	1,103.9393	0.3570		1,112.8652
Total	**0.6863**	**7.0258**	**7.1527**	**0.0114**		**0.3719**	**0.3719**		**0.3422**	**0.3422**	**0.0000**	**1,103.9393**	**1,103.9393**	**0.3570**		**1,112.8652**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0479	1.4733	0.4252	3.9600e-003	0.0689	2.8700e-003	0.0717	0.0213	2.7400e-003	0.0240		423.9525	423.9525	0.0266		424.6186
Worker	0.3896	0.2563	2.9508	9.0300e-003	0.5836	7.6100e-003	0.5912	0.1624	7.0100e-003	0.1695		900.0754	900.0754	0.0248		900.6950
Total	**0.4376**	**1.7295**	**3.3761**	**0.0130**	**0.6524**	**0.0105**	**0.6629**	**0.1837**	**9.7500e-003**	**0.1935**		**1,324.0279**	**1,324.0279**	**0.0514**		**1,325.3136**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6322	6.4186	7.0970	0.0114		0.3203	0.3203		0.2946	0.2946		1,104.6089	1,104.6089	0.3573		1,113.5402
Total	**0.6322**	**6.4186**	**7.0970**	**0.0114**		**0.3203**	**0.3203**		**0.2946**	**0.2946**		**1,104.6089**	**1,104.6089**	**0.3573**		**1,113.5402**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0356	1.1158	0.3779	3.8400e-003	0.1024	1.3600e-003	0.1038	0.0295	1.3000e-003	0.0308		410.7861	410.7861	0.0235		411.3725
Worker	0.3671	0.2318	2.7124	8.7000e-003	0.9725	7.4000e-003	0.9799	0.2579	6.8100e-003	0.2647		867.1469	867.1469	0.0223		867.7048
Total	**0.4027**	**1.3476**	**3.0902**	**0.0125**	**1.0749**	**8.7600e-003**	**1.0837**	**0.2874**	**8.1100e-003**	**0.2955**		**1,277.9330**	**1,277.9330**	**0.0458**		**1,279.0773**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6322	6.4186	7.0970	0.0114		0.3203	0.3203		0.2946	0.2946	0.0000	1,104.6089	1,104.6089	0.3573		1,113.5402
Total	**0.6322**	**6.4186**	**7.0970**	**0.0114**		**0.3203**	**0.3203**		**0.2946**	**0.2946**	**0.0000**	**1,104.6089**	**1,104.6089**	**0.3573**		**1,113.5402**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0356	1.1158	0.3779	3.8400e-003	0.0689	1.3600e-003	0.0702	0.0213	1.3000e-003	0.0226		410.7861	410.7861	0.0235		411.3725
Worker	0.3671	0.2318	2.7124	8.7000e-003	0.5836	7.4000e-003	0.5910	0.1624	6.8100e-003	0.1693		867.1469	867.1469	0.0223		867.7048
Total	**0.4027**	**1.3476**	**3.0902**	**0.0125**	**0.6524**	**8.7600e-003**	**0.6612**	**0.1837**	**8.1100e-003**	**0.1918**		**1,277.9330**	**1,277.9330**	**0.0458**		**1,279.0773**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6112	5.5046	7.0209	0.0113		0.2643	0.2643		0.2466	0.2466		1,036.0878	1,036.0878	0.3018		1,043.6331
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6112**	**5.5046**	**7.0209**	**0.0113**		**0.2643**	**0.2643**		**0.2466**	**0.2466**		**1,036.0878**	**1,036.0878**	**0.3018**		**1,043.6331**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0759	0.0480	0.5612	1.8000e-003	0.2012	1.5300e-003	0.2027	0.0534	1.4100e-003	0.0548		179.4097	179.4097	4.6200e-003		179.5251
Total	**0.0759**	**0.0480**	**0.5612**	**1.8000e-003**	**0.2012**	**1.5300e-003**	**0.2027**	**0.0534**	**1.4100e-003**	**0.0548**		**179.4097**	**179.4097**	**4.6200e-003**		**179.5251**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6112	5.5046	7.0209	0.0113		0.2643	0.2643		0.2466	0.2466	0.0000	1,036.0878	1,036.0878	0.3018		1,043.6331
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6112**	**5.5046**	**7.0209**	**0.0113**		**0.2643**	**0.2643**		**0.2466**	**0.2466**	**0.0000**	**1,036.0878**	**1,036.0878**	**0.3018**		**1,043.6331**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0759	0.0480	0.5612	1.8000e-003	0.1207	1.5300e-003	0.1223	0.0336	1.4100e-003	0.0350		179.4097	179.4097	4.6200e-003		179.5251
Total	**0.0759**	**0.0480**	**0.5612**	**1.8000e-003**	**0.1207**	**1.5300e-003**	**0.1223**	**0.0336**	**1.4100e-003**	**0.0350**		**179.4097**	**179.4097**	**4.6200e-003**		**179.5251**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	100.4979					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**100.6896**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0717	0.0453	0.5300	1.7000e-003	0.1900	1.4500e-003	0.1915	0.0504	1.3300e-003	0.0517		169.4425	169.4425	4.3600e-003		169.5515
Total	**0.0717**	**0.0453**	**0.5300**	**1.7000e-003**	**0.1900**	**1.4500e-003**	**0.1915**	**0.0504**	**1.3300e-003**	**0.0517**		**169.4425**	**169.4425**	**4.3600e-003**		**169.5515**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	100.4979					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**100.6896**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0717	0.0453	0.5300	1.7000e-003	0.1140	1.4500e-003	0.1155	0.0317	1.3300e-003	0.0331		169.4425	169.4425	4.3600e-003		169.5515
Total	**0.0717**	**0.0453**	**0.5300**	**1.7000e-003**	**0.1140**	**1.4500e-003**	**0.1155**	**0.0317**	**1.3300e-003**	**0.0331**		**169.4425**	**169.4425**	**4.3600e-003**		**169.5515**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.8837	3.9529	11.5669	0.0456	4.1161	0.0354	4.1515	1.1014	0.0329	1.1343		4,648.6938	4,648.6938	0.2257		4,654.3357
Unmitigated	0.8837	3.9529	11.5669	0.0456	4.1161	0.0354	4.1515	1.1014	0.0329	1.1343		4,648.6938	4,648.6938	0.2257		4,654.3357

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	529.00	529.00	529.00	1,806,580	1,806,580
Enclosed Parking with Elevator	0.00	0.00	0.00		
Strip Mall	67.95	67.95	67.95	129,281	129,281
Total	596.95	596.95	596.95	1,935,861	1,935,861

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.00	19.00	41.00	86	11	3
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.545348	0.044620	0.206559	0.118451	0.015002	0.006253	0.020617	0.031756	0.002560	0.002071	0.005217	0.000696	0.000850
Enclosed Parking with Elevator	0.545348	0.044620	0.206559	0.118451	0.015002	0.006253	0.020617	0.031756	0.002560	0.002071	0.005217	0.000696	0.000850
Strip Mall	0.545348	0.044620	0.206559	0.118451	0.015002	0.006253	0.020617	0.031756	0.002560	0.002071	0.005217	0.000696	0.000850

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0273	0.2335	0.0997	1.4900e-003		0.0189	0.0189		0.0189	0.0189		298.0326	298.0326	5.7100e-003	5.4600e-003	299.8036
NaturalGas Unmitigated	0.0273	0.2335	0.0997	1.4900e-003		0.0189	0.0189		0.0189	0.0189		298.0326	298.0326	5.7100e-003	5.4600e-003	299.8036

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	2525.19	0.0272	0.2327	0.0990	1.4900e-003		0.0188	0.0188		0.0188	0.0188		297.0811	297.0811	5.6900e-003	5.4500e-003	298.8465
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	8.08767	9.0000e-005	7.9000e-004	6.7000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.9515	0.9515	2.0000e-005	2.0000e-005	0.9571
Total		**0.0273**	**0.2335**	**0.0997**	**1.4900e-003**		**0.0189**	**0.0189**		**0.0189**	**0.0189**		**298.0326**	**298.0326**	**5.7100e-003**	**5.4700e-003**	**299.8036**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	2.52519	0.0272	0.2327	0.0990	1.4900e-003		0.0188	0.0188		0.0188	0.0188		297.0811	297.0811	5.6900e-003	5.4500e-003	298.8465
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.00808767	9.0000e-005	7.9000e-004	6.7000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005		0.9515	0.9515	2.0000e-005	2.0000e-005	0.9571
Total		**0.0273**	**0.2335**	**0.0997**	**1.4900e-003**		**0.0189**	**0.0189**		**0.0189**	**0.0189**		**298.0326**	**298.0326**	**5.7100e-003**	**5.4700e-003**	**299.8036**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.1164	1.5880	8.8907	9.9700e-003		0.1664	0.1664		0.1664	0.1664	0.0000	1,920.7564	1,920.7564	0.0508	0.0349	1,932.4396
Unmitigated	2.1164	1.5880	8.8907	9.9700e-003		0.1664	0.1664		0.1664	0.1664	0.0000	1,920.7564	1,920.7564	0.0508	0.0349	1,932.4396

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1377					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.5552					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1747	1.4929	0.6353	9.5300e-003		0.1207	0.1207		0.1207	0.1207	0.0000	1,905.8824	1,905.8824	0.0365	0.0349	1,917.2081
Landscaping	0.2488	0.0951	8.2554	4.4000e-004		0.0457	0.0457		0.0457	0.0457		14.8740	14.8740	0.0143		15.2316
Total	**2.1164**	**1.5880**	**8.8907**	**9.9700e-003**		**0.1665**	**0.1665**		**0.1665**	**0.1665**	**0.0000**	**1,920.7564**	**1,920.7564**	**0.0508**	**0.0349**	**1,932.4396**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1377					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.5552					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1747	1.4929	0.6353	9.5300e-003		0.1207	0.1207		0.1207	0.1207	0.0000	1,905.8824	1,905.8824	0.0365	0.0349	1,917.2081
Landscaping	0.2488	0.0951	8.2554	4.4000e-004		0.0457	0.0457		0.0457	0.0457		14.8740	14.8740	0.0143		15.2316
Total	**2.1164**	**1.5880**	**8.8907**	**9.9700e-003**		**0.1665**	**0.1665**		**0.1665**	**0.1665**	**0.0000**	**1,920.7564**	**1,920.7564**	**0.0508**	**0.0349**	**1,932.4396**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Operation	
Emission Rate	
Annual Emissions (tons/year)	0.0171
Daily Emissions (lbs/day)	0.09369863
Total DPM (lbs)	34.2
Emission Rate (g/s)	0.000491918
Release Height (meters)	3
Total Acreage	0.56
Max Horizontal (meters)	67.32
Min Horizontal (meters)	33.66
Initial Vertical Dimension (meters)	1.5
Setting	Urban
Population	3,849,297

Start date and time 08/11/22 13:49:32

AERSCREEN 21112

2139 South Pacific Avenue Operation

2139 South Pacific Avenue Operation

---------- DATA ENTRY VALIDATION ----------

** AREADATA **	METRIC	ENGLISH
Emission Rate:	0.492E-03 g/s	0.390E-02 lb/hr
Area Height:	3.00 meters	9.84 feet
Area Source Length:	67.32 meters	220.87 feet
Area Source Width:	33.66 meters	110.43 feet
Vertical Dimension:	1.50 meters	4.92 feet
Model Mode:	URBAN	
Population:	3849297	
Dist to Ambient Air:	1.0 meters	3. feet

** BUILDING DATA **

No Building Downwash Parameters

** TERRAIN DATA **

No Terrain Elevations

Source Base Elevation: 0.0 meters 0.0 feet

Probe distance: 5000. meters 16404. feet

No flagpole receptors

No discrete receptors used

** FUMIGATION DATA **

No fumigation requested

** METEOROLOGY DATA **

Min/Max Temperature: 250.0 / 310.0 K -9.7 / 98.3 Deg F

Minimum Wind Speed: 0.5 m/s

```
 Anemometer Height:   10.000 meters

 Dominant Surface Profile: Urban

 Dominant Climate Type:    Average Moisture

 Surface friction velocity (u*): not adjusted

DEBUG OPTION ON




 AERSCREEN output file:

 2022.08.11_2139SouthPacificAvenue_Operations.out



 *** AERSCREEN Run is Ready to Begin




 No terrain used, AERMAP will not be run
**********************************************

SURFACE CHARACTERISTICS & MAKEMET

Obtaining surface characteristics...
```

Using AERMET seasonal surface characteristics for Urban with Average Moisture

Season	Albedo	Bo	zo
Winter	0.35	1.50	1.000
Spring	0.14	1.00	1.000
Summer	0.16	2.00	1.000
Autumn	0.18	2.00	1.000

Creating met files aerscreen_01_01.sfc & aerscreen_01_01.pfl

Creating met files aerscreen_02_01.sfc & aerscreen_02_01.pfl

Creating met files aerscreen_03_01.sfc & aerscreen_03_01.pfl

Creating met files aerscreen_04_01.sfc & aerscreen_04_01.pfl

Buildings and/or terrain present or rectangular area source, skipping probe

FLOWSECTOR   started 08/11/22 13:50:54

 ****

  Running AERMOD

 Processing Winter

Processing surface roughness sector 1

```
**************************************************

Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   0

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

**************************************************

Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector   5

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

**************************************************

Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  10

    ********   WARNING MESSAGES   ********

               ***  NONE  ***
```

```
**************************************************

Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  15

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

**************************************************

Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  20

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

**************************************************

Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  25

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

**************************************************
```

```
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Winter sector  30

    ********   WARNING MESSAGES    ********

               ***  NONE  ***

 ******************************************

  Running AERMOD

 Processing Spring

Processing surface roughness sector  1

**************************************************

Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   0

    ********   WARNING MESSAGES    ********

               ***  NONE  ***

**************************************************

Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector   5
```

```
    ********   WARNING MESSAGES    ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   3


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  10


    ********   WARNING MESSAGES    ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   4


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  15


    ********   WARNING MESSAGES    ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   5


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  20
```

```
    ********   WARNING MESSAGES    ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   6


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  25


    ********   WARNING MESSAGES    ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   7


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Spring sector  30


    ********   WARNING MESSAGES    ********

               ***  NONE  ***

 ****************************************


  Running AERMOD

 Processing Summer


Processing surface roughness sector  1
```

```
**************************************************

Processing wind flow sector   1

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   0

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

**************************************************

Processing wind flow sector   2

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector   5

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

**************************************************

Processing wind flow sector   3

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  10

    ********   WARNING MESSAGES   ********

               ***  NONE  ***

**************************************************
```

```
Processing wind flow sector   4

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  15

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   5

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  20

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   7
```

```
 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Summer sector  30


    ********   WARNING MESSAGES   ********

               ***  NONE  ***

 ******************************************


  Running AERMOD

 Processing Autumn


Processing surface roughness sector  1


**************************************************

Processing wind flow sector   1


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   0


    ********   WARNING MESSAGES   ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   2


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector   5
```

```
    ********   WARNING MESSAGES    ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   3


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  10


    ********   WARNING MESSAGES    ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   4


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  15


    ********   WARNING MESSAGES    ********

               ***  NONE  ***


**************************************************

Processing wind flow sector   5


 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  20


    ********   WARNING MESSAGES    ********
```

```
               ***  NONE  ***

**************************************************
Processing wind flow sector   6

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  25

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

**************************************************
Processing wind flow sector   7

 AERMOD Finishes Successfully for FLOWSECTOR stage 2 Autumn sector  30

    ********   WARNING MESSAGES   ********
               ***  NONE  ***

FLOWSECTOR   ended 08/11/22 13:51:01

REFINE       started 08/11/22 13:51:01

 AERMOD Finishes Successfully for REFINE stage 3 Winter sector   0

    ********   WARNING MESSAGES   ********
```

*** NONE ***

REFINE ended 08/11/22 13:51:02

****

AERSCREEN Finished Successfully

With no errors or warnings

Check log file for details

****

Ending date and time 08/11/22 13:51:09

Concentration	Distance	Elevation	Diag	Season/Month	Zo sector	Date	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	HT	REF TA	HT
0.25793E+01	1.00	0.00	0.0	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.31836E+01	25.00	0.00	10.0	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
* 0.33296E+01	35.00	0.00	10.0	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.19068E+01	50.00	0.00	5.0	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.98236E+00	75.00	0.00	0.0	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.63334E+00	100.00	0.00	0.0	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.45590E+00	125.00	0.00	5.0	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.35048E+00	150.00	0.00	0.0	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.28120E+00	175.00	0.00	0.0	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.23281E+00	200.00	0.00	0.0	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.19719E+00	225.00	0.00	0.0	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.17011E+00	250.00	0.00	5.0	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.14893E+00	275.00	0.00	0.0	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.13198E+00	300.00	0.00	0.0	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.11811E+00	325.00	0.00	0.0	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.10658E+00	350.00	0.00	0.0	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.96814E-01	375.00	0.00	0.0	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.88507E-01	400.00	0.00	0.0	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.81365E-01	425.00	0.00	5.0	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.75168E-01	450.00	0.00	10.0	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.69748E-01	475.00	0.00	10.0	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.64973E-01	500.00	0.00	10.0	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.60738E-01	525.00	0.00	10.0	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.56961E-01	550.00	0.00	10.0	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.53573E-01	575.00	0.00	10.0	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0
0.50521E-01	600.00	0.00	10.0	Winter	0-360	10011001	-1.30	0.043	-9.000	0.020	-999.	21.	6.0	1.000	1.50	0.35	0.50	10.0	310.0	2.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.47872E-01 625.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.45353E-01 650.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.43056E-01 675.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.40952E-01 700.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.39021E-01 725.00 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.37242E-01 750.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.35599E-01 775.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.34077E-01 800.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.32665E-01 825.00 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.31351E-01 850.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.30126E-01 875.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.28982E-01 900.00 0.00 15.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.27911E-01 925.00 0.00 15.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.26906E-01 950.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.25963E-01 975.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.25075E-01 1000.00 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.24239E-01 1025.00 0.00 20.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.23450E-01 1050.00 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.22704E-01 1075.00 0.00 25.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.21998E-01 1100.00 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.21330E-01 1125.00 0.00 20.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.20696E-01 1149.99 0.00 15.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.20094E-01 1175.00 0.00 15.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.19521E-01 1200.00 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.18976E-01 1225.00 0.00 20.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.18457E-01 1249.99 0.00 25.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.17962E-01 1275.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.17490E-01 1300.00 0.00 15.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.17039E-01 1325.00 0.00 10.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.16608E-01 1350.00 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.16195E-01 1375.00 0.00 25.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15799E-01 1400.00 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15420E-01 1425.00 0.00 15.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.15057E-01 1450.00 0.00 20.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14708E-01 1475.00 0.00 25.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14373E-01 1500.00 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.14050E-01 1525.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13741E-01 1550.00 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13442E-01 1575.00 0.00 10.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.13155E-01 1600.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12878E-01 1625.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12612E-01 1650.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12354E-01 1675.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.12106E-01 1700.00 0.00 10.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11866E-01 1725.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11634E-01 1750.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11410E-01 1775.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.11194E-01 1800.00 0.00 25.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10984E-01 1825.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10781E-01 1850.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10585E-01 1875.00 0.00 10.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10394E-01 1900.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10210E-01 1924.99 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.10031E-01 1950.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.98571E-02 1975.00 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.96887E-02 2000.00 0.00 15.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.95252E-02 2025.00 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.93664E-02 2050.00 0.00 30.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.92122E-02 2075.00 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.90623E-02 2100.00 0.00 20.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.89166E-02 2124.99 0.00 25.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.87749E-02 2150.00 0.00 30.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.86371E-02 2175.00 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.85030E-02 2200.00 0.00 20.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.83725E-02 2224.99 0.00 15.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.82453E-02 2250.00 0.00 15.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.81216E-02 2275.00 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.80010E-02 2300.00 0.00 20.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.78835E-02 2325.00 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.77690E-02 2350.00 0.00 25.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.76573E-02 2375.00 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.75484E-02 2400.00 0.00 20.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.74421E-02 2425.00 0.00 20.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.73383E-02 2449.99 0.00 25.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.72370E-02 2475.00 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.71381E-02 2500.00 0.00 15.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.70415E-02 2525.00 0.00 20.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.69471E-02 2550.00 0.00 30.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.68549E-02 2575.00 0.00 25.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.67648E-02 2600.00 0.00 20.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.66767E-02 2625.00 0.00 20.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.65906E-02 2650.00 0.00 15.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.65064E-02 2675.00 0.00 25.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.64240E-02 2700.00 0.00 10.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.63435E-02 2725.00 0.00 10.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.62647E-02 2750.00 0.00 10.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.61875E-02 2775.00 0.00 15.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.61120E-02 2800.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.60381E-02 2825.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.59657E-02 2850.00 0.00 20.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.58947E-02 2875.00 0.00 25.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.58253E-02 2900.00 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.57572E-02 2925.00 0.00 10.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.56905E-02 2950.00 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.56252E-02 2975.00 0.00 10.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.55611E-02 3000.00 0.00 10.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.54983E-02 3025.00 0.00 10.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.54367E-02 3050.00 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.53763E-02 3075.00 0.00 10.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.53170E-02 3100.00 0.00 10.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.52588E-02 3125.00 0.00 10.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.52018E-02 3150.00 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.51458E-02 3174.99 0.00 10.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.50909E-02 3199.99 0.00 10.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.50369E-02 3225.00 0.00 10.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.49839E-02 3250.00 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.49319E-02 3275.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.48809E-02 3300.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.48307E-02 3325.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.47814E-02 3350.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.47330E-02 3375.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.46855E-02 3400.00 0.00 20.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.46387E-02 3425.00 0.00 25.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.45928E-02 3450.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.45476E-02 3475.00 0.00 20.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.45032E-02 3500.00 0.00 20.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.44596E-02 3525.00 0.00 25.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.44166E-02 3550.00 0.00 25.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.43744E-02 3575.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.43329E-02 3600.00 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.42920E-02 3625.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.42518E-02 3650.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.42123E-02 3675.00 0.00 20.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.41734E-02 3700.00 0.00 20.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.41351E-02 3724.99 0.00 20.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.40975E-02 3750.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.40604E-02 3775.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.40238E-02 3800.00 0.00 20.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.39879E-02 3825.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.39525E-02 3849.99 0.00 15.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.39176E-02 3875.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.38833E-02 3900.00 0.00 15.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.38495E-02 3925.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.38162E-02 3950.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.37834E-02 3975.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.37511E-02 4000.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.37192E-02 4025.00 0.00 5.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.36879E-02 4050.00 0.00 30.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.36569E-02 4075.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.36265E-02 4100.00 0.00 25.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.35964E-02 4125.00 0.00 15.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.35668E-02 4149.99 0.00 20.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.35376E-02 4175.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.35088E-02 4200.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.34805E-02 4225.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.34525E-02 4250.00 0.00 10.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.34249E-02 4275.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.33977E-02 4300.00 0.00 10.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.33708E-02 4325.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.33444E-02 4350.00 0.00 10.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.33182E-02 4375.00 0.00 10.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.32925E-02 4400.00 0.00 10.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.32670E-02 4425.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.32419E-02 4450.00 0.00 10.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.32172E-02 4475.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.31928E-02 4500.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.31686E-02 4525.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.31449E-02 4550.00 0.00 20.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.31214E-02 4575.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.30982E-02 4600.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.30753E-02 4625.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.30527E-02 4650.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0

1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.30304E-02 4675.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.30084E-02 4700.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.29866E-02 4725.00 0.00 25.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.29651E-02 4750.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.29439E-02 4775.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
0.29229E-02 4800.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
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0.28024E-02 4950.00 0.00 0.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
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0.27832E-02 4975.00 0.00 15.0 Winter 0-360 10011001 -1.30 0.043 -9.000 0.020 -999. 21. 6.0
1.000 1.50 0.35 0.50 10.0 310.0 2.0
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SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Matthew F. Hagemann, P.G., C.Hg., QSD, QSP

Geologic and Hydrogeologic Characterization
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
Industrial Stormwater Compliance
CEQA Review

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

Matt has 30 years of experience in environmental policy, contaminant assessment and remediation, stormwater compliance, and CEQA review. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) and directed efforts to improve hydrogeologic characterization and water quality monitoring. For the past 15 years, as a founding partner with SWAPE, Matt has developed extensive client relationships and has managed complex projects that include consultation as an expert witness and a regulatory specialist, and a manager of projects ranging from industrial stormwater compliance to CEQA review of impacts from hazardous waste, air quality and greenhouse gas emissions.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2104, 2017;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 300 environmental impact reports and negative declarations since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at more than 100 industrial facilities.
- Expert witness on numerous cases including, for example, perfluorooctanoic acid (PFOA) contamination of groundwater, MTBE litigation, air toxins at hazards at a school, CERCLA compliance in assessment and remediation, and industrial stormwater contamination.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.
- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted

public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9.

Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific

principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt is currently a part time geology instructor at Golden West College in Huntington Beach, California where he taught from 2010 to 2014 and in 2017.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal repesentatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F**. 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

Other Experience:

Selected as subject matter expert for the California Professional Geologist licensing examinations, 2009-2011.

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on volatile organic compound filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Thesis on wastewater treatment.

Professional Experience

Dr. Rosenfeld has over 25 years' experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, industrial, military and agricultural sources, unconventional oil drilling operations, and locomotive and construction engines. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities. Dr. Rosenfeld has also successfully modeled exposure to contaminants distributed by water systems and via vapor intrusion.

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particulate matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, creosote, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants. Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at sites and has testified as an expert witness on numerous cases involving exposure to soil, water and air contaminants from industrial, railroad, agricultural, and military sources.

Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist

Publications:

Remy, L.L., Clay T., Byers, V., **Rosenfeld P. E.** (2019) Hospital, Health, and Community Burden After Oil Refinery Fires, Richmond, California 2007 and 2012. *Environmental Health.* 18:48

Simons, R.A., Seo, Y. **Rosenfeld, P**., (2015) Modeling the Effect of Refinery Emission On Residential Property Value. Journal of Real Estate Research. 27(3):321-342

Chen, J. A, Zapata A. R., Sutherland A. J., Molmen, D.R., Chow, B. S., Wu, L. E., **Rosenfeld, P. E.,** Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermod and Empirical Data. *American Journal of Environmental Science*, 8(6), 622-632.

Rosenfeld, P.E. & Feng, L. (2011). *The Risks of Hazardous Waste.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

Gonzalez, J., Feng, L., Sutherland, A., Waller, C., Sok, H., Hesse, R., **Rosenfeld, P.** (2010). PCBs and Dioxins/Furans in Attic Dust Collected Near Former PCB Production and Secondary Copper Facilities in Sauget, IL. *Procedia Environmental Sciences*. 113–125.

Feng, L., Wu, C., Tam, L., Sutherland, A.J., Clark, J.J., **Rosenfeld, P.E.** (2010). Dioxin and Furan Blood Lipid and Attic Dust Concentrations in Populations Living Near Four Wood Treatment Facilities in the United States. *Journal of Environmental Health*. 73(6), 34-46.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2010). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2009). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Petroleum Industry*. Amsterdam: Elsevier Publishing.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. *WIT Transactions on Ecology and the Environment, Air Pollution,* 123 (17), 319-327.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. *Organohalogen Compounds*, 70, 002252-002255.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. *Organohalogen Compounds*, 70, 000527-000530.

Hensley, A.R. A. Scott, J. J. J. Clark, **Rosenfeld, P.E.** (2007). Attic Dust and Human Blood Samples Collected near a Former Wood Treatment Facility. *Environmental Research*. 105, 194-197.

Rosenfeld, P.E., J. J. J. Clark, A. R. Hensley, M. Suffet. (2007). The Use of an Odor Wheel Classification for Evaluation of Human Health Risk Criteria for Compost Facilities. *Water Science & Technology* 55(5), 345-357.

Rosenfeld, P. E., M. Suffet. (2007). The Anatomy Of Odour Wheels For Odours Of Drinking Water, Wastewater, Compost And The Urban Environment. *Water Science & Technology* 55(5), 335-344.

Sullivan, P. J. Clark, J.J.J., Agardy, F. J., **Rosenfeld, P.E.** (2007). *Toxic Legacy, Synthetic Toxins in the Food, Water, and Air in American Cities.* Boston Massachusetts: Elsevier Publishing

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash. *Water Science and Technology*. 49(9),171-178.

Rosenfeld P. E., J.J. Clark, I.H. (Mel) Suffet (2004). The Value of An Odor-Quality-Wheel Classification Scheme For The Urban Environment. *Water Environment Federation's Technical Exhibition and Conference (WEFTEC) 2004.* New Orleans, October 2-6, 2004.

Rosenfeld, P.E., and Suffet, I.H. (2004). Understanding Odorants Associated With Compost, Biomass Facilities, and the Land Application of Biosolids. *Water Science and Technology*. 49(9), 193-199.

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash, *Water Science and Technology*, 49(9), 171-178.

Rosenfeld, P. E., Grey, M. A., Sellew, P. (2004). Measurement of Biosolids Odor and Odorant Emissions from Windrows, Static Pile and Biofilter. *Water Environment Research*. 76(4), 310-315.

Rosenfeld, P.E., Grey, M and Suffet, M. (2002). Compost Demonstration Project, Sacramento California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Integrated Waste Management Board Public Affairs Office*, Publications Clearinghouse (MS–6), Sacramento, CA Publication #442-02-008.

Rosenfeld, P.E., and C.L. Henry. (2001). Characterization of odor emissions from three different biosolids. *Water Soil and Air Pollution*. 127(1-4), 173-191.

Rosenfeld, P.E., and Henry C. L., (2000). Wood ash control of odor emissions from biosolids application. *Journal of Environmental Quality.* 29, 1662-1668.

Rosenfeld, P.E., C.L. Henry and D. Bennett. (2001). Wastewater dewatering polymer affect on biosolids odor emissions and microbial activity. *Water Environment Research*. 73(4), 363-367.

Rosenfeld, P.E., and C.L. Henry. (2001). Activated Carbon and Wood Ash Sorption of Wastewater, Compost, and Biosolids Odorants. *Water Environment Research*, 73, 388-393.

Rosenfeld, P.E., and Henry C. L., (2001). High carbon wood ash effect on biosolids microbial activity and odor. *Water Environment Research*. 131(1-4), 247-262.

Chollack, T. and **P. Rosenfeld. (**1998). Compost Amendment Handbook For Landscaping. Prepared for and distributed by the City of Redmond, Washington State.

Rosenfeld, P. E. (1992). The Mount Liamuiga Crater Trail. *Heritage Magazine of St. Kitts*, 3(2).

Rosenfeld, P. E. (1993). High School Biogas Project to Prevent Deforestation On St. Kitts. *Biomass Users Network*, 7(1).

Rosenfeld, P. E. (1998). Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

Rosenfeld, P. E. (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.

Rosenfeld, P. E. (1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

Presentations:

Rosenfeld, P.E., "The science for Perfluorinated Chemicals (PFAS): What makes remediation so hard?" Law Seminars International, (May 9-10, 2018) 800 Fifth Avenue, Suite 101 Seattle, WA.

Rosenfeld, P.E., Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society.* Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution.* Lecture conducted from Boston, MA.

Rosenfeld, P.E. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

Rosenfeld, P.E. (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tuscon, AZ.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (20-22 July, 2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

Rosenfeld, P. E. (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23rd Annual International Conferences on Soils Sediment and Water.* Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant. *The 23rd Annual International*

Conferences on Soils Sediment and Water. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld P. E. (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting.* Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

Paul Rosenfeld Ph.D. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

Paul Rosenfeld Ph.D. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D. (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust*. Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants*.. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington..

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conferenc*e. Lecture conducted from Indianapolis, Maryland.

Rosenfeld. P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation.* Lecture conducted from Anaheim California.

Rosenfeld. P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest.* Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell.* Lecture conducted from Seattle Washington.

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest.* Lecture conducted from Lake Chelan, Washington.

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Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993

Deposition and/or Trial Testimony:

In the Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants
Case No.: No. 0i9-L-2295
Rosenfeld Deposition, 5-14-2021
Trial, October 8-4-2021

In the Circuit Court of Cook County Illinois
Joseph Rafferty, Plaintiff vs. Consolidated Rail Corporation and National Railroad Passenger Corporation d/b/a AMTRAK,
Case No.: No. 18-L-6845
Rosenfeld Deposition, 6-28-2021

In the United States District Court For the Northern District of Illinois
Theresa Romcoe, Plaintiff vs. Northeast Illinois Regional Commuter Railroad Corporation d/b/a METRA Rail, Defendants
Case No.: No. 17-cv-8517
Rosenfeld Deposition, 5-25-2021

In the Superior Court of the State of Arizona In and For the Cunty of Maricopa
Mary Tryon et al., Plaintiff vs. The City of Pheonix v. Cox Cactus Farm, L.L.C., Utah Shelter Systems, Inc.
Case Number CV20127-094749
Rosenfeld Deposition: 5-7-2021

In the United States District Court for the Eastern District of Texas Beaumont Division
Robinson, Jeremy et al *Plaintiffs*, vs. CNA Insurance Company et al.
Case Number 1:17-cv-000508
Rosenfeld Deposition: 3-25-2021

In the Superior Court of the State of California, County of San Bernardino
Gary Garner, Personal Representative for the Estate of Melvin Garner vs. BNSF Railway Company.
Case No. 1720288
Rosenfeld Deposition 2-23-2021

In the Superior Court of the State of California, County of Los Angeles, Spring Street Courthouse
Benny M Rodriguez vs. Union Pacific Railroad, A Corporation, et al.
Case No. 18STCV01162
Rosenfeld Deposition 12-23-2020

In the Circuit Court of Jackson County, Missouri
Karen Cornwell, *Plaintiff,* vs. Marathon Petroleum, LP, *Defendant.*
Case No.: 1716-CV10006
Rosenfeld Deposition. 8-30-2019

In the United States District Court For The District of New Jersey
Duarte et al, *Plaintiffs,* vs. United States Metals Refining Company et. al. *Defendant.*
Case No.: 2:17-cv-01624-ES-SCM
Rosenfeld Deposition. 6-7-2019

In the United States District Court of Southern District of Texas Galveston Division
M/T Carla Maersk, *Plaintiffs,* vs. Conti 168., Schiffahrts-GMBH & Co. Bulker KG MS "Conti Perdido" *Defendant.*
Case No.: 3:15-CV-00106 consolidated with 3:15-CV-00237
Rosenfeld Deposition. 5-9-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
Carole-Taddeo-Bates et al., vs. Ifran Khan et al., Defendants
Case No.: No. BC615636
Rosenfeld Deposition, 1-26-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
The San Gabriel Valley Council of Governments et al. vs El Adobe Apts. Inc. et al., Defendants
Case No.: No. BC646857
Rosenfeld Deposition, 10-6-2018; Trial 3-7-19

In United States District Court For The District of Colorado
Bells et al. Plaintiff vs. The 3M Company et al., Defendants
Case No.: 1:16-cv-02531-RBJ
Rosenfeld Deposition, 3-15-2018 and 4-3-2018

In The District Court Of Regan County, Texas, 112th Judicial District
Phillip Bales et al., Plaintiff vs. Dow Agrosciences, LLC, et al., Defendants
Cause No.: 1923
Rosenfeld Deposition, 11-17-2017

In The Superior Court of the State of California In And For The County Of Contra Costa
Simons et al., Plaintiffs vs. Chevron Corporation, et al., Defendants
Cause No C12-01481
Rosenfeld Deposition, 11-20-2017

In The Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants
Case No.: No. 0i9-L-2295
Rosenfeld Deposition, 8-23-2017

In United States District Court For The Southern District of Mississippi
Guy Manuel vs. The BP Exploration et al., Defendants
Case: No 1:19-cv-00315-RHW
Rosenfeld Deposition, 4-22-2020

In The Superior Court of the State of California, For The County of Los Angeles
Warrn Gilbert and Penny Gilber, Plaintiff vs. BMW of North America LLC
Case No.: LC102019 (c/w BC582154)
Rosenfeld Deposition, 8-16-2017, Trail 8-28-2018

In the Northern District Court of Mississippi, Greenville Division
Brenda J. Cooper, et al., *Plaintiffs,* vs. Meritor Inc., et al., *Defendants*
Case Number: 4:16-cv-52-DMB-JVM
Rosenfeld Deposition: July 2017

In The Superior Court of the State of Washington, County of Snohomish
Michael Davis and Julie Davis et al., Plaintiff vs. Cedar Grove Composting Inc., Defendants
Case No.: No. 13-2-03987-5
Rosenfeld Deposition, February 2017
Trial, March 2017

In The Superior Court of the State of California, County of Alameda
Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants
Case No.: RG14711115
Rosenfeld Deposition, September 2015

In The Iowa District Court In And For Poweshiek County
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants
Case No.: LALA002187
Rosenfeld Deposition, August 2015

In The Circuit Court of Ohio County, West Virginia
Robert Andrews, et al. v. Antero, et al.
Civil Action N0. 14-C-30000
Rosenfeld Deposition, June 2015

In The Iowa District Court For Muscatine County
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant
Case No 4980
Rosenfeld Deposition: May 2015

In the Circuit Court of the 17th Judicial Circuit, in and For Broward County, Florida
Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.
Case Number CACE07030358 (26)
Rosenfeld Deposition: December 2014

In the County Court of Dallas County Texas
Lisa Parr et al, *Plaintiff*, vs. Aruba et al, *Defendant.*
Case Number cc-11-01650-E
Rosenfeld Deposition: March and September 2013
Rosenfeld Trial: April 2014

In the Court of Common Pleas of Tuscarawas County Ohio
John Michael Abicht, et al., *Plaintiffs,* vs. Republic Services, Inc., et al., *Defendants*
Case Number: 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition: October 2012

In the United States District Court for the Middle District of Alabama, Northern Division
James K. Benefield, et al., *Plaintiffs*, vs. International Paper Company, *Defendant*.
Civil Action Number 2:09-cv-232-WHA-TFM
Rosenfeld Deposition: July 2010, June 2011

In the Circuit Court of Jefferson County Alabama
Jaeanette Moss Anthony, et al., *Plaintiffs*, vs. Drummond Company Inc., et al., *Defendants*
Civil Action No. CV 2008-2076
Rosenfeld Deposition: September 2010

In the United States District Court, Western District Lafayette Division
Ackle et al., *Plaintiffs*, vs. Citgo Petroleum Corporation, et al., *Defendants*.
Case Number 2:07CV1052
Rosenfeld Deposition: July 2009

EXHIBIT 8

April 14, 2021

Mr. Jamie Hall
CHANNEL LAW GROUP, LLP
8383 Wilshire Boulevard, Suite 750
Beverley Hills, CA 90211

Subject: 1309-1331 South Pacific Avenue and 2111-2139 South Pacific Avenue Noise Impact Review, City of Los Angeles

Dear Mr. Hall:

Introduction

RK ENGINEERING GROUP, INC. (RK) is pleased to provide this review of potential environmental noise impacts from the 1309-1331 South Pacific Avenue and the 2111-2139 South Pacific Avenue residential projects. This review is based upon the information provided in the City of Los Angeles Notice of Exemption, ENV-2019-4909-CE (Notice of Exemption) and the 1331 South Pacific Avenue Project Noise Technical Report, prepared by DKA Planning, November 2019 (Noise Study).

The purpose of this letter is to review the Notice of Exemption and Noise Study from a noise impact standpoint and provide comments to help ensure that all potential impacts from the project are adequately identified and the effects mitigated to the maximum extent feasible. While this review letter is primarily focused on the technical analysis of the 1331 South Pacific Avenue Project, many of the same technical noise analysis inaccuracies and omissions noted for the 1309-1331 project are also applicable to the 2111-2139 South Pacific Avenue project.

The proposed 1309-1331 South Pacific Avenue project consists of constructing and operating a 4-story residential building with 102 dwelling units and 127 parking spaces in 2 subterranean levels. The project will involve the grading of approximately 2,500 cubic yards of soil, export of approximately 20,000 cubic yards of soil, and the demolition and removal of 3 existing commercial structures and 30 mature trees.

RK specializes in environmental planning and acoustics for governmental agencies, private sector businesses, and community associations. The firm principals have over 70 years of combined engineering and planning experience throughout Southern California. RK has prepared hundreds of noise impact studies, and we are fully aware of the complexity of data gathering, modeling, and the possibility for error within these technical documents.

Comments

The following comments are offered with respect to the City of Los Angeles Notice of Exemption, ENV-2019-4909-CE (Notice of Exemption) and the 1331 South Pacific Avenue Project Noise Technical Report, prepared by DKA Planning, November 2019 (Noise Study).

1. General Comment. The Notice of Exemption and Noise Study have not evaluated environmental noise impacts pursuant to the L.A. CEQA Thresholds Guide, City of Los Angeles, 2006 (L.A. CEQA Guide). According to Page I.1-2 of the L.A. CEQA Guide, the noise screening criteria for determining whether an expanded Initial Study, Negative Declaration, Mitigated Negative Declaration, or EIR may be required includes the following:

   - Would construction activities occur within 500 feet of a noise sensitive use?

   The Noise Study identifies multiple sensitive uses adjacent to the project site, including residential homes within 10 feet of areas where construction activity will occur. Therefore, per the City's own CEQA policy, the presence of sensitive uses within 500 feet of the proposed construction site indicates that the potentiality for significant environmental impacts exists and an expanded CEQA review should be provided.

2. Noise Study, Pages 8-9, Existing Conditions. The Noise Study does not recognize several key noise sensitive land uses surrounding the project site where noise impacts may occur. For example, the Noise Study fails to identify and evaluate noise impacts at the existing 501 West 14th Street residences, located approximately 60 feet from the project site and directly across West 14th Street. The Noise Study does not recognize or evaluate noise impacts at the existing 1318 Pacific Avenue residences, located directly across Pacific Avenue and within approximately 75 feet of the project site. The Noise Study does not identify or evaluate impacts at the San

Pedro City Ballet School, located on the corner of Pacific Avenue and 13th Street, less than 150 feet from the project site. The Noise Study also does not identify or evaluate impacts at the 15th Street Elementary School, located approximately 600 feet from the project site. All of these immediately surrounding land uses are considered key noise sensitive receptors that should be included in the evaluation of impacts. The Noise Study is therefore flawed and not supported by substantial evidence.

3. Noise Study, Pages 8-9, Existing Conditions. The Noise Study provides a narrow and insufficient account of the existing ambient noise environment near the site, and states, without substantial evidence, that "noise levels are consistent with General Plan Noise Element guidelines for residential neighborhoods". However, the Noise Study only evaluates the existing ambient noise environment based on four 15-minute noise level measurements during daytime hours, which is not enough to get the full picture of ambient conditions, especially during the more sensitive nighttime and early morning hours. The Noise Study should disclose 24-hour CNEL noise levels and hourly average noise levels (Leq) at all surrounding noise sensitive uses to provide an accurate assessment of baseline conditions. Given that the proposed project will operate 24-hours a day, and construction activities have the potential to occur as early as 7 A.M. and last until 9 P.M., a fifteen minute sample of noise during the middle of the day does not provide a sufficient baseline by which impacts should evaluated. San Pedro residences near the project site are exposed to 24-hour noise from multiple sources; including the Port of Los Angeles (POLA), multiple arterial roadways bisecting residential neighborhoods, and several auto body repair and tire shops located near the site and adjacent to key sensitive receptors. By failing to adequately establish baseline conditions, the full extent of potential impacts cannot be determined and additional noise impacts will almost certainly occur during morning, evening and nightime hours. The Noise Study is not supported by substantial evidence.

4. Noise Study, Pages 9-13, On-Site Construction Noise Impacts. The Noise Study inaccurately analyzes on-site construction noise impacts at 50 feet from the property line. However, as identified in the Noise Study, the residences at 524 West 14th Street are located immediately adjacent to the project site, less than 10 feet from where major construction activity would occur. The project would include multiple building and construction elements that will generate substantial noise less than 50 feet from adjacent residential homes that would presumably last more than 10

days. This would include construction of proposed 2-level subterranean parking structure that directly abuts the adjacent residential property line and the proposed building which has a setback of less than 20 feet. Therefore, the analysis of construction noise impacts at 50 feet grossly underestimates the potential noise level impacts to the adjacent residential homes.

5. Noise Study, Pages 9-13, Off-Site Construction Activities – Haul Trucks. The Noise Study does not adequately account for the impact of heavy trucks loading, staging and circulating near the site. The project is expected to export 20,000 cubic yards of material that will be hauled from the site during the excavation of the 2-level subterranean structure, plus it will require the removal of a significant amount of debris from the demolition of the three existing on-site buildings and removal of 30 trees. It is estimated that over 2,500 heavy truck hauling trips will be required to excavate the site alone. As these trucks enter and exit the site they are no longer considered off-site noise sources and the analysis should take into account the on-site/stationary noise impact of all hauling dump trucks at loading and staging areas. Dumps trucks can generate noise levels up to 84 dBA at 50 feet[1]. The Noise Study does not show how the hauling trips were calculated, distributed or where loading/staging areas will be located. Heavy truck activity on or adjacent to the site would be subjected to the Los Angeles Municipal Code (LAMC) enforcement standards for on-site construction activity. The impact has not been adequately evaluated and additional impacts would result from construction trucks and hauling activity.

6. Noise Study, Page 13, Table 4, Maximum Construction Noise Levels. The Noise Study asserts that construction best practices can reduce noise levels by 20 dBA. This assumption is entirely unsubstantiated and practically infeasible. This much noise reduction would not be expected even with the most substantial physical barriers that shield adjacent sensitive receptors from line of sight of construction activity. Given that the project will construct a 4-story/45-foot high building, it would be practically infeasible to build a screening wall high enough to block that much construction noise. Adjacent sensitive residential buildings are also multiple stories high, thus further reducing any potential noise reduction from line of sight screening.

[1] FHWA. Construction Noise Handbook. Chapter 9.4. 2006.

7. Noise Study, Page 13, Table 4, Maximum Construction Noise Levels. The findings of significance shown in Table 4 are misleading, as they do not take into consideration the existing ambient noise levels at the adjacent sensitive receptors. The L.A. CEQA Guide has established that a project would normally have a significant impact on noise levels from construction if;

   - Construction activities lasting more than 10 days in a three month period would exceed existing ambient exterior noise levels by 5 dBA or more at a noise sensitive use.

   By not analyzing changes in the existing environment, the Noise Study has not disclosed the full impact of the project. For example, as shown in Table 3, residential receptors located at 524 West 14th Street currently experience existing noise levels of 55.9 dBA. When compared to the projected construction noise levels in Table 4, the project would result in an increase in ambient conditions by approximately 9 dBA, almost double the recommended threshold in the L.A. CEQA Guide. The impact would be even more pronounced if the Noise Study were to accurately report impacts during early morning or evening hours, model noise sources at the appropriate distances, and not artificially reduce noise levels by 20 dBA.

8. Noise Study, Page 9-17, Construction Vibration Impacts. The Noise Study makes no mention of vibration impacts that may result from the construction of the project. The project will be constructing a 2-level subterranean structure that will likely require deep foundations. These types of structures are often constructed using pile driving and/or drilling which is a known source of significant vibration. Given the close proximity to adjacent structures, it is likely that significant vibratory impacts may occur and additional analysis and mitigation should be provided.

9. Noise Study, Page 18, Mechanical Equipment. The analysis of potential noise impacts from rooftop mechanical equipment is inadequate. As described in the Noise Study, the mechanical equipment would generate a sound pressure level of approximately 81.9 dBA Leq at five feet. The Noise Study goes on to conclude that it is unlikely that noise from the Project's HVAC systems would be audible at off-site locations. Yet no substantial evidence is provided to support this finding. RK performed a conservative calculation of potential mechanical equipment noise at the adjacent residential property to the east and found that noise levels have the

potential to exceed 50 dBA[2], which would be audible. Furthermore, since HVAC equipment operates 24-hours per day, noise levels should be compared to both daytime and nighttime ambient conditions to determine impact. The Noise Study did not measure nighttime noise levels, therefore, the Presumed Ambient Noise Levels are established in accordance with LAMC Section 111.03. For residential land uses, the Presumed Ambient Noise Level is 40 dBA during nighttime hours. Therefore, the rooftop HVAC equipment has to potential to increase ambient noise levels by more than 10 dBA, causing a potential noise violation per LAMC Section 112.02 and resulting in a significant impact under CEQA.

Conclusions

Based upon this review, several inaccuracies and omissions have been found within the analysis of potential environmental noise impacts from the 1309-1331 South Pacific Avenue project. Given the substantial amount of construction and excavation activities that are proposed to take place, the new rooftop HVAC equipment, and the close proximity to adjacent homes and sensitive receptors, the project would cause a significant impact to noise. Hence, the project should provide additional CEQA review and mitigation to reduce impacts to the maximum extent feasible.

Many of the same technical noise analysis inaccuracies and omissions noted for the 1309-1331 project were also observed in the technical noise report for the 2111-2139 South Pacific Avenue project. Given the findings of this letter, the 2111-2139 South Pacific Avenue project would also be expected to result in significant impacts to noise, and additional CEQA review and mitigation should be provided.

RK appreciates the opportunity to work with the CHANNEL LAW GROUP, LLP in reviewing the 1309-1331 and 2111-2139 South Pacific Avenue Projects. If you have any questions please give call at (949) 474-0809.

Sincerely,

Bryan Estrada, AICP, PTP
Principal

[2] See Attachment A for HVAC noise calculations.

Attachment A

HVAC Noise Calculation Worksheet

NOISE BARRIER CALCULATIONS - BASED UPON FHWA - RD-77-108

PROJECT:	1331 PACIFIC AVENUE RESIDENTIAL NOISE REVIEW	JOB #:	2954-2021-02
SOURCE:	ROOFTOP HVAC	DATE:	11-Feb-21
LOCATION:	RESIDENTIAL P/L (EAST OF PROJECT SITE)	BY:	B. ESTRADA

NOISE INPUT DATA

OBS DIST=	50.0			
DT WALL=	25.0			
DT W/OB=	25.0		BARRIER+	
HTH WALL=	45.0	********	TOPO SHIELDING =	-15.10
BARRIER =	0.0	(0=WALL,1=BERM)	NOISE HTH EL=	50.0
OBS HTH=	5.0			
NOISE HTH=	50.0		DROP OFF COEFFICENTS	
OBS EL =	0.0		(10 = 3.0 dBA PER DOUBLING OF DISTANCE)	
NOISE EL =	0.0		(15 = 4.5 dBA PER DOUBLING OF DISTANCE)	
DROP-OFF=	15.0		(20 = 6.0 dBA PER DOUBLING OF DISTANCE)	

NOISE OUTPUT DATA (dBA)

	DIST (FT)	Leq
REF LEVEL	5	81.9
PROJ LEVEL	50	66.9
SHIELDING	50	-15.1
ADJ PROJ LEVEL	50	***51.8***

NOISE LEVEL REDUCTION DUE TO DISTANCE = -15

TOTAL NOISE LEVEL (dBA)

	Leq
AMBIENT LEVEL	40.0
ADJ PROJ LEVELS	51.8
TOTAL NOISE LEVEL W/ PROJECT	***52.1***