Appendices

Appendix FEIR-1

Draft EIR Comment Letters

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse and Planning Unit

Gavin Newsom
Governor

Kate Gordon
Director

October 8, 2019

Anita Juhola-Garcia
Long Beach, City of
411 West Ocean Boulevard
Long Beach, CA 90802

Subject: 100 East Ocean Boulevard
SCH#: 2018121006

Dear Anita Juhola-Garcia:

The State Clearinghouse submitted the above named EIR to selected state agencies for review. The review period closed on 10/7/2019, and the comments from the responding agency (ies) is (are) available on the CEQA database for your retrieval and use. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

Check the CEQA database for submitted comments for use in preparing your final environmental document: https://ceqanet.opr.ca.gov/2018121006/2 . Should you need more information or clarification of the comments, **we recommend that you contact the commenting agency directly**.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

cc: Resources Agency

DEPARTMENT OF TRANSPORTATION
DISTRICT 7 – Office of Regional Planning
100 S. MAIN STREET, MS 16
LOS ANGELES, CA 90012
PHONE (213) 897-9140
FAX (213) 897-1337
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

September 24, 2019

Ms. Anita Juhola-Garcia
City of Long Beach
333 W. Ocean Boulevard, 5th floor
Long Beach, CA 90802

RE: 100 East Ocean Boulevard – Draft Environmental Impact Report (DEIR)
SCH # 2018121006
GTS # 07-LA-2018-02764
Vic. LA-710/PM: 5.397

Ms. Juhola-Garcia:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project's Draft Environmental Impact Report (DEIR). The project involves a 30-story, 537,075-sf building that would include 429 hotel rooms, 23,512 sf of restaurant space, and 26,847 sf of meeting and ballroom space. The proposed building would replace an existing surface parking lot on the project site. Pedestrian walkways and new landscaping would be provided. The project also includes improvements to the portion of Victory Park located within the project site boundaries, including new landscaping

After reviewing the DEIR, Caltrans does not expect project approval to result in a direct adverse impact to the existing State transportation facilities.

Further information included for your consideration:

Greenhouse gas reduction by way of reduced vehicle miles traveled (VMT) is critical. The essential component of walkable communities is mixed-use zoning. Residential and appropriate commercial uses should be intertwined to increase accessibility and allow residents to utilize active transportation modes.

Caltrans encourages the Lead Agency to consider any reduction in vehicle speeds to benefit pedestrian and bicyclist safety, as there is a direct link between impact speeds and the likelihood of fatality or serious injury. These methods include the construction of physically separated facilities such as wide sidewalks, raised medians, refuge islands, and off-road paths and trails, or a reduction in crossing distances through roadway narrowing. These suggestions can reduce pedestrian and bicyclist exposure to vehicles ensuring safety by lessening the time that the user is in the likely path of a motor vehicle.

Signal timing can be adjusted to include Leading Pedestrian Intervals, giving pedestrians a seven second head start. Pedestrian and bicyclist warning signage, flashing beacons, high-visibility continental crosswalks, scramble crossings, flashing yellow turn signals, high-visibility green bike lanes, other signage and buffer striping should be used to indicate to motorists that they should expect to see and yield to pedestrians and bicyclists.

Any development should keep livability in mind by providing shade trees, native landscaping, bioswales, street furniture, bicycle parking, bus shelters and trash cans. Bus bulb-outs can reduce conflict between bicycles and buses on busy roads. Bus only lanes are encouraged to reduce travel times and make public transit more appealing to discretionary users. Any gated communities should provide pedestrian paths and doors to ensure access to transit, shopping centers, schools and main roads. Whenever possible, a grid pattern with short blocks is recommended to promote walking. Permeable paving materials should be incorporated whenever possible. Signage can be reinforced by road design features such as lane widths, landscaping, street furniture, and other design elements.

Storm water run-off is a sensitive issue for Los Angeles County. Please be mindful that projects should be designed to discharge clean run-off water. Discharge of storm water run-off is not permitted onto State Highway facilities without a storm water management plan.

As a reminder, any transportation of heavy construction equipment and/or materials which requires use of oversized-transport vehicles on State highways will need a Caltrans transportation permit. We recommend large size truck trips be limited to off-peak commute periods.

If you have any questions regarding these comments, please contact Reece Allen, the project coordinator, at reece.allen@dot.ca.gov, and refer to GTS # 07-LA-2018-02764.

Sincerely,

MIYA EDMONSON
IGR/CEQA Branch Chief

cc: Scott Morgan, State Clearinghouse

CALIFORNIA COASTAL COMMISSION
South Coast Area Office
301 E. Ocean Boulevard, Suite 300
Long Beach, CA 90802
(562) 590-5071

October 7, 2019

City of Long Beach
Attn: Anita Juhola-Garcia
333 West Ocean Boulevard, 5th Floor
Long Beach, CA 90802

Re: Draft Environmental Impact Report for 100 East Ocean Boulevard Project
Coastal Commission Comments on Draft EIR

Anita Juhola-Garcia:

Thank you for the opportunity to review the draft Environmental Impact Report (DEIR) for the 100 East Ocean Boulevard Project (received by our office in August 2019). These comments are supplemental to the comments Commission staff previously provided on the Initial Study for this project dated January 2, 2019 (attached).

As indicated in the DEIR, the proposed project (construction of a new 30-story, 537,075 square foot hotel building up to 375.5 feet in height with 429 hotel rooms, pool, spa, and fitness facilities, restaurant, roof deck, executive office, meeting, and ballroom spaces and improvements to Victory Park) at 100 East Ocean Boulevard is located within the City of Long Beach coastal zone. In Long Beach, the requirements of the California Coastal Act are met through compliance with the certified Local Coastal Plan (LCP). The City will process a local coastal development permit for the proposed project under the provisions of the certified LCP. The project site is also located within the appealable area of the coastal zone. Therefore, the City's final action on the required local coastal development permit may be appealed to the Coastal Commission on the grounds that the approved development does not conform to the policies and standards of the LCP.

The City's Downtown Shoreline Planned Development Ordinance (PD-6) contains the relevant standards and policies of the certified LCP to which the proposed project must conform. The proposed project is located within Subarea 7 of the Downtown Shoreline Planned Development District. The standards of the certified LCP for Subarea 7 of the Downtown Shoreline Planned Development District carry out the Coastal Act requirements to protect public access to the coast and to protect visual resources, including public views toward the shoreline. Therefore, any findings regarding the project's consistency with the City of Long Beach LCP and California Coastal Act must contain a detailed discussion of how the proposed project meets the requirements laid out in certified PD-6, Subarea 7. The following policies were referenced in Coastal Commission staff's previous comments, but some do not appear to have been fully addressed in the DEIR:

Public Access

a. PD-6, General Development and Use Standards, Policy b.1: Primary vehicle access via Pine Avenue.

   The DEIR indicates that vehicular access will be provided from both Pine Avenue and Seaside way, with the retention of the existing curb cuts on Ocean Blvd for loading and unloading. This is plainly inconsistent with the LCP policy and the final EIR should analyze alternative designs that provide vehicular access from one street (preferably Pine Ave), not all three streets.

b. PD-6, General Development and Use Standards, Policy b.5 & Subarea 7, Policy e: Continuation of the east/west pedestrian walkway and improvement of the park strip and plazas.

   This element appears to have been incorporated into the DEIR. The final design should incorporate improvements to both street level walkways and the elevated bridge over Seaside Way connecting to the Convention Center.

c. PD-6, General Development and Use Standards, Policy b.3: All public walkways and viewing areas shall be guaranteed for public access through deed restrictions and/or easements.

This should be referenced as a required project element and/or public access mitigation measure in the final EIR.

Building Design

d. PD-6, General Development and Use Standards, Policy c.1: Provision of views between buildings.

This should be referenced as a required project element and/or public access mitigation measure in the final EIR. The final EIR should analyze the project's consistency with the policy, given the site conditions and the adjacent land uses.

e. PD-6, General Development and Use Standards, Policy c.4: Minimum 80-foot setback from Ocean Boulevard or setback the width of the City park strip for new development.

This should be referenced as a required project element and/or public access mitigation measure in the final EIR.

f. Provision of a northeast corner cut-off to create a cohesive entry feature to Promenade South from Pine Avenue (PD-6, Subarea 7, Policy c.1).

This should be referenced as a required project element and/or public access mitigation measure in the final EIR.

g. Conformance with the conditions required in order to exceed the 250-foot height limit (PD-6, Subarea 7, Policy c.2).

The specific conditions required for excess height (articulation, smaller footprint, setbacks, enhanced pedestrian and visitor uses at grade, enhanced public walkways, traffic analysis) should be called out as required project elements and/or mitigation measures within the final EIR. The final EIR should analyze the proposed project for consistency with each condition.

h. Payment of in-lieu fee equivalent to one-half the cost of a bridge structure across Pine Avenue (PD-6, Subarea 7, Policy c.4.G).

This LCP policy does not appear to be addressed in the draft EIR. The final EIR should referenced it as a required project element and/or public access mitigation measure – and should analyze the potential cost and feasibility to build an actual bridge across Ocean Avenue to connect to the Ocean Center building or Seaside Way sidewalk/public park on the other side of the street. Actual construction of the bridge could provide mitigation for project impacts to public access (e.g. new curb cuts or provision of less than the code-required number of parking spaces).

i. Design of building with bird-safe treatments (PD-6, General Development and Use Standards, Policy c.5).

This draft EIR references this as a project element and the final EIR should continue to do so, with reference to it as mitigation for a potential impact to biological resources (bird strikes).

Parking

j. Downtown Shoreline Policy Plan, Residential Uses and Overnight Accommodations, South Side of Ocean Boulevard [Excluding Pike Area], pages III-DS-29 & 30, states:

Each development shall supply required parking within the building, except that new hotels may be permitted with off-site parking consistent with all of the following requirements:
A. All off-site parking shall be located within 600 feet of the hotel that it serves.

B. Existing parking shall not be displaced. Existing parking which is not otherwise encumbered may be used to meet up to one-half of the peak parking demand of the hotel through a shared-use parking agreement that is consistent with an approved parking study that demonstrates that the project will provide adequate parking to meet the needs of the hotel without causing negative impacts to coastal access or access to public recreational facilities.
C. All required parking shall be constructed concurrently with the hotel and shall be open for use prior to or concurrent with the occupancy of the hotel.
D. All off-site parking shall be dedicated for use of the hotel, and all succeeding uses, for the life of the hotel structure.

The final EIR should clarify whether the proposed off site parking at the Terrace Theater Parking Garage is within 600 feet of the proposed hotel (it appears to be further away). The final EIR should clarify whether such parking is already encumbered, would be encumbered by the approval of the subject project, or be shared with another use consistent with the requirement.

k. Enclosed and subterranean parking, unless parking blends into the façade of the rest of the building (PD-6, Subarea 7, Policy d).

The DEIR notes that one level of on site parking is underground and one level is partially at grade. The enclosure requirement should be referenced in the final EIR.

l. Consistency with certified policies of Chapter 21.41, *Off-street Parking and Loading Requirements*, of the City of Long Beach Zoning Code.

Appendix E of the Draft EIR notes: a strict reading of the Municipal Code results in a requirement of 891 parking spaces. However, the draft EIR project description includes just 151 parking spaces on site (plus an undetermined number off site). The final EIR should analyze the impacts of providing the all of the required parking on site, and of alternatives which provide less than the required number of parking spaces but more than 151. Additional mitigation measures which could be required to justify reduced on site parking (or reduced net number of parking spaces provided) should be analyzed. Specifically, the proposed tunnel improvement should be considered as a potential mitigation measure for public access – with an actual connection to the street or publically accessible location. Additionally, as previously referenced, the construction of an actual bridge (rather than in lieu fee) connecting the existing elevated walkways at the convention center to the Ocean Center building or Seaside Way sidewalk/public park on the other side of the street should be considered as a mitigation measure.

Landscaping

m. Consistency with certified policies of Chapter 21.42, *Landscaping Requirements*, of the City of Long Beach Zoning Code.

The final EIR should analyze the potential provision of entirely low water use landscaping as a project element and/or public access mitigation measure. The final EIR should analyze the potential to plant new trees native to the Southern California coastal environment rather than the palm trees referenced in the draft EIR.

Park Improvements

n. 2:1 acre replacement of any displaced parkland (Open Space and Recreation Element, Program 4.5).

The final EIR should clarify whether any portion of the site is designated as parkland that would be replaced by the development (the temporary public amenities on the site would not count unless the area were actually designated as a park). If any portion of the site is designated as parkland, the

final EIR should call out the area where it is being replaced – which must be in addition to the required Victory Park dedication.

o. Consistency of all Victory Park improvements with the City's certified Victory Park Design Guidelines.

The final EIR should clarify whether the project alternatives are fully consistent with all Victory Park Design Guidelines, specifically the version of the guidelines certified by the Coastal Commission. The final EIR should specify which features may be included in the final project plans for the Victory Park portion of the property (e.g. public amenities) and which may not (e.g. utility boxes, private loading zones).

Lower Cost Accommodation

Coastal Act Section 30213 (*Lower cost visitor and recreational facilities; encouragement and provision; overnight room rentals*), encourages provision of lower cost accommodation in new development. The Commission has strongly supported the maintenance and creation of lower cost overnight accommodations in past actions statewide. The City of Long Beach has a similar policy in the certified LCP (PD-6, General Use and Development Standards, Policy j), which states: *"It shall be the goal of the City to develop a program/policy for the Downtown Shoreline area that* ***protects and encourages lower cost overnight visitor accommodations***." The lack of a City-developed program or policy and the lack of proposed lower cost accommodations in the subject project description are not consistent with the LCP or with recent Coastal Commission actions to require the provision of lower cost accommodation in new development. Please analyze project alternatives that include lower cost accommodations on the project site. The City may also analyze the potential payment of an in lieu fee for provision of lower cost accommodation nearby in the coastal zone, which could mitigate for the lack of on site affordable accommodation in the development, but the LCP and recent Coastal Commission actions on new hotels in the coastal zone statewide suggest that lower cost accommodation should be provided on site.

In addition, please take into consideration the Coastal Commission's approval of Coastal Development Permit A-5-LOB-99-135 for a similar hotel development project proposed at this site and all related permit conditions and findings, including the required provision of a public viewing deck on the roof of the hotel.

We appreciate the opportunity to comment on the draft EIR for the project at 100 East Ocean Boulevard. Coastal Commission staff request notification of any future activity associated with these or related sites. Please feel free to contact me at (562) 590-5071 with any questions.

Sincerely,

Dani Ziff & Zach Rehm
Coastal Program Analyst District Supervisor

SANITATION DISTRICTS OF LOS ANGELES COUNTY

Converting Waste Into Resources

Robert C. Ferrante
Chief Engineer and General Manager
1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
(562) 699-7411 • www.lacsd.org

August 22, 2019

Ref. DOC 5270328

Ms. Anita Juhola-Garcia
City of Long Beach
Department of Development Services
Planning Bureau
333 West Ocean Boulevard, 5th Floor
Long Beach, CA 90802

Dear Ms. Juhola-Garcia:

DEIR Response to 100 East Ocean Boulevard Project

The Sanitation Districts of Los Angeles County (Districts) received a Draft Environmental Impact Report (DEIR) for the subject project on August 13, 2019. The proposed project is located within the jurisdictional boundary of District No. 3. Previous comments submitted by the Districts in correspondence dated January 3, 2019 (copy enclosed) still apply to the subject project with the following comment and update:

1. **n. Utilities and Service Systems**, *Page VI-20*, (1) Wastewater paragraph – Table II-1, found on *Page II-8* of the subject document, lists the project as 429 hotel rooms with various amenities, a 23,512 square-foot restaurant, and 26,847 square feet of meeting rooms, ballrooms, and pre-function space. Based on the Districts' average wastewater generation factors, the expected average wastewater flow from the project, as described in the subject document, is 80,493 gallons per day of wastewater as stated in item no. 3 of the enclosed copy.

2. The Joint Water Pollution Control Plant currently processes an average flow of 261.1 million gallons per day. Adjust figures and calculations accordingly throughout the document.

All other information concerning Districts' facilities and sewerage service contained in the document is current. If you have any questions, please contact the undersigned at (562) 908-4288, extension 2717.

Very truly yours,

Adriana Raza
Customer Service Specialist
Facilities Planning Department

AR:dc

Enclosure
cc: A. Schmidt
A. Howard

COUNTY SANITATION DISTRICTS
OF LOS ANGELES COUNTY

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
Telephone: (562) 699-7411, FAX: (562) 699-5422
www.lacsd.org

GRACE ROBINSON HYDE
Chief Engineer and General Manager

January 3, 2019

Ref. Doc. No.: 4869885

Ms. Anita Juhola-Garcia
Planning Bureau
Development Services Department
City of Long Beach
333 West Ocean Boulevard, 5th Floor
Long Beach, CA 90802

Dear Ms. Juhola-Garcia:

NOP Response to 100 East Ocean Boulevard Project

The Sanitation Districts of Los Angeles County (Districts) received a Notice of Preparation of a Draft Environmental Impact Report for the subject project on December 5, 2018. The proposed project is located within the jurisdictional boundaries of District No. 3. We offer the following comments regarding sewerage service:

1. The wastewater flow originating from the proposed project will discharge to a local sewer line, which is not maintained by the Districts, for conveyance to the Districts' De Forest Avenue Trunk Sewer, located in Broadway just west of the Long Beach Freeway northbound entrance. The Districts' 36-inch diameter trunk sewer has a capacity of 39.4 million gallons per day (mgd) and conveyed a peak flow of 5.2 mgd when last measured in 2012.

2. The wastewater generated by the proposed project will be treated at the Joint Water Pollution Control Plant located in the City of Carson, which has a capacity of 400 mgd and currently produces an average flow of 254.7 mgd.

3. The expected average wastewater flow from the project, described in the notice as a 429-room hotel with 23,512 square feet of restaurant space and 26,847 square feet of meeting and ballroom space, is 80,493 gallons per day. For a copy of the Districts' average wastewater generation factors, go to www.lacsd.org, Wastewater & Sewer Systems, click on Will Serve Program, and click on the Table 1, Loadings for Each Class of Land Use link.

4. The Districts are empowered by the California Health and Safety Code to charge a fee for the privilege of connecting (directly or indirectly) to the Districts' Sewerage System for increasing the strength or quantity of wastewater discharged from connected facilities. This connection fee is a capital facilities fee that is imposed in an amount sufficient to construct an incremental expansion of the Sewerage System to accommodate the proposed project. Payment of a connection fee will be required before a permit to connect to the sewer is issued. For more information and a copy of the Connection Fee Information Sheet, go to www.lacsd.org,

Wastewater & Sewer Systems, click on Will Serve Program, and search for the appropriate link. In determining the impact to the Sewerage System and applicable connection fees, the Districts' Chief Engineer and General Manager will determine the user category (e.g. Condominium, Single Family home, etc.) that best represents the actual or anticipated use of the parcel or facilities on the parcel. For more specific information regarding the connection fee application procedure and fees, please contact the Connection Fee Counter at (562) 908-4288, extension 2727.

5. In order for the Districts to conform to the requirements of the Federal Clean Air Act (CAA), the capacities of the Districts' wastewater treatment facilities are based on the regional growth forecast adopted by the Southern California Association of Governments (SCAG). Specific policies included in the development of the SCAG regional growth forecast are incorporated into clean air plans, which are prepared by the South Coast and Antelope Valley Air Quality Management Districts in order to improve air quality in the South Coast and Mojave Desert Air Basins as mandated by the CCA. All expansions of Districts' facilities must be sized and service phased in a manner that will be consistent with the SCAG regional growth forecast for the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. The available capacity of the Districts' treatment facilities will, therefore, be limited to levels associated with the approved growth identified by SCAG. As such, this letter does not constitute a guarantee of wastewater service, but is to advise you that the Districts intend to provide this service up to the levels that are legally permitted and to inform you of the currently existing capacity and any proposed expansion of the Districts' facilities.

If you have any questions, please contact the undersigned at (562) 908-4288, extension 2717.

Very truly yours,

Adriana Raza
Customer Service Specialist
Facilities Planning Department

AR:ar

cc: A. Schmidt
A. Howard

CITY OF LONG BEACH

DEPARTMENT OF DEVELOPMENT SERVICES

411 W. Ocean Blvd. Long Beach, CA 90802 (562) 570-6458 - FAX (562) 570-6068

NOTICE OF AVAILABILITY OF A DRAFT ENVIRONMENTAL IMPACT REPORT

TO: Agencies, Organizations, and Interested Parties

SUBJECT: Notice of Availability of a Draft Environmental Impact Report (EIR) for the 100 East Ocean Boulevard Project (SCH No. 2018121006)

As the Lead Agency overseeing this project's environmental review, the City of Long Beach initiated the preparation of an EIR to determine the nature and extent of the proposed project's impact upon the environment. An EIR also identifies ways to reduce environmental effects and analyzes reasonable alternatives to avoid or minimize significant environmental effects.

Pursuant to California Code of Regulations, Title 14, Section 15087(a), this Notice has been prepared to advise that the City of Long Beach has completed a Draft EIR for the proposed project listed above and described below. The Draft EIR is available for public review.

PROJECT TITLE: 100 East Ocean Boulevard

PROJECT APPLICANT: 100 East Ocean Blvd., LP

PROJECT LOCATION: 100 East Ocean Boulevard, Long Beach, CA 90802. The property is bounded by Ocean Boulevard to the north, Pine Avenue to the west, Seaside Way to the south, and a commercial building to the east.

PROJECT DESCRIPTION: The Project proposes a 30-story, 537,075-square-foot building of up to 375.5 feet in height that would include 429 hotel rooms, 23,512 square feet of restaurant space, and 26,847 square feet of meeting and ballroom space. The proposed building would replace an existing surface parking lot on the Project Site. Pedestrian walkways and new landscaping would be provided. The Project also includes improvements to the portion of Victory Park located within the Project Site boundaries, including new landscaping and restoration of the Jergins Trust Tunnel.

SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE PROJECT: The Draft EIR has determined that the Project would have potentially significant and unavoidable environmental impacts related to cumulative construction noise. The Project would also have the potential for significant environmental impacts in the areas of air quality, historic resources, noise, and transportation/traffic in which mitigation measures have been included to reduce these impacts to a less than significant level.

PUBLIC COMMENT PERIOD: The public comment period during which the City of Long Beach will receive written comments on the Draft EIR is:

Beginning: Tuesday, August 13, 2019 **Ending:** Monday, September 30, 2019

The City of Long Beach must receive all written comments relating to the Draft EIR no later than 4:30 P.M. on Monday, September 30, 2019. Comments should be sent to:

Anita Juhola-Garcia
Planning Bureau, Development Services Department
City of Long Beach
411 W. Ocean Boulevard
Long Beach, CA 90802

Or via email to: LBDS-EIR-Comments@longbeach.gov

DOCUMENT AVAILABILITY: The Draft EIR is available for public review online and at the locations listed below during regular business hours:

City Hall, 411 W. Ocean Boulevard, 2nd Floor, Planning Counter
Long Beach Library–Alamitos Branch, 1836 E. Third Street
Online at: www.lbds.info/planning/environmental_planning/environmental_reports.asp

If you require additional information, please contact Anita Juhola-Garcia at 562-570-6469 or at anita.juhola-garcia@longbeach.gov.

No SCG facilities in work area. That area is covered by Long Beach Gas.

– William Perez
Compton Headquarters
The Gas Company

THE GAS
SEP 20 19
COMPANY

GIDEON KRACOV
Attorney at Law
801 South Grand Avenue
11th Floor
Los Angeles, California 90017

(213) 629-2071
Fax: (213) 623-7755

gk@gideonlaw.net
www.gideonlaw.net

October 7, 2019

VIA EMAIL:

Anita Juhola-Garcia
Planning Bureau, Development Services Department
City of Long Beach
411 W. Ocean Boulevard
Long Beach, CA 90802
LBDS-EIR-Comments@longbeach.gov

RE: Comments on the 100 East Ocean Project (SCH No. 2018121006)

Dear Ms. Juhola-Garcia:

On behalf of UNITE HERE Local 11 and its members (collectively "Local 11" or "Commentors"), this Office submits the following comments[1] to the City of Long Beach ("City") regarding the Draft Environmental Impact Report ("DEIR")[2] for the 30-story, 537,075 square foot ("SF"), 429-room hotel development ("Project") located at 100 East Ocean Boulevard ("Site") proposed by 100 East Ocean Blvd., LP ("Applicant"). As raised herein, Local 11 is concerned with the Project's compliance with the California Environmental Quality Act ("CEQA"),[3] the California Coastal Act ("CAA"), and the Long Beach Municipal Code ("LBMC" or "Code").

In particular, we have serious concerns with the City's failure to consider the Project's consistency with the lower cost visitor and recreational facilities mandates under the Coastal Act and the City's Local Coastal Plan ("LCP"). So too, Local 11 is concerned that the DEIR fails to consider how this new luxury hotel will further exacerbate the Downtown Long Beach's dearth of lower cost accommodations and its disparate impact on environmental justice communities' ability to access this coastal region. While the City may be motivated to increase the City's tax revenue in the form of additional Transit Occupancy Taxes ("TOT") from yet another luxury hotel, it may not do so by failing to consider environmental justice concerns and the explicit requirements of its LCP.

This comment letter includes by this reference the October 8, 2019 expert comment of SWAPE attached hereto as Exhibit A, which further identifies faults in the DEIR's analysis of the Project's air quality and greenhouse gas ("GHG") impacts under CEQA.

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[1] Please note that pages cited herein are either to the page's stated pagination (referenced herein as "p. ##") or the page's location in the referenced PDF document (referenced herein as "PDF p. ##").
[2] Inclusive of the all appendices ("APP-##"). Unless otherwise specified, all documents are retrieved from City website (http://www.longbeach.gov/lbds/planning/environmental/reports/).
[3] Inclusive of State CEQA Guidelines, 14 Cal. Code Regs. § 1500 *et seq*. ("CEQA Guidelines").

Because the DEIR fails to properly analyze the Project's land use inconsistency and air quality and GHG impacts, the City cannot make several of the Code-required land use findings for the Project. Commentors respectfully request that the City recirculates the DEIR to address the issues discussed herein.

I. STANDING OF COMMENTORS

Local 11 represents more than 30,000 workers employed in hotels, restaurants, airports, sports arenas, and convention centers throughout Southern California and Arizona. Members of Local 11, including over 500 who work in Long Beach and many Long Beach residents, join together to fight for improved living standards and working conditions. Local 11's members have a direct interest in seeing that the State's environmental/coastal laws and the City's land-use laws are being followed, and that new development does not contribute to the climate-change crisis that threatens a livable future.

II. PROJECT BACKGROUND

The Project includes the demolition of the existing parking lot on the Project Site with a new 537,075-SF, 30-story, 429-room hotel with 23,512-SF of restaurant uses, 26,847-SF of meeting rooms and ballrooms and pre-function space, as well as a variety of other amenities (e.g., pool deck and bar, fitness center, executive lounge, guest laundry, and a main floor lounge) (DEIR, p. I-5 – 1-6). To allow this new, luxury hotel totaling 14.32:1 floor area ratio ("FAR"), the Applicant is requesting various entitlements and approval of the Project's EIR (collectively "Project Approvals"), for which the City ***must*** make numerous discretionary land use and CEQA findings, including but not limited to those listed in the below table.

Project Approval	Required Findings
Site Plan Review ("SPR")	1. The design is harmonious, consistent and complete within itself and is compatible in design, character and scale, with neighboring structures and the community in which it is located; 2. The design conforms to any applicable special design guidelines adopted by the Planning Commission or specific plan requirements, such as the design guidelines for R-3 and R-4 multifamily development, the downtown design guidelines, PD guidelines or the General Plan; 3. The design will not remove significant mature trees or street trees, unless no alternative design is possible; 4. There is an essential nexus between the public improvement requirements established by this ordinance and the likely impacts of the proposed development; 5. The project conforms with all requirements set forth in Chapter 21.64 (Transportation Demand Management), which requirements are summarized in Table 25-1; and 6. The approval is consistent with the green building standards for public and private development, as listed in Section 21.45.400. (*See* LBMC § 21.25.506.A)

Local Coastal Development Permit ("CDP")	1. The proposed development conforms to the certified local coastal program including but not limited to all requirements for replacement of low and moderate-income housing; and 2. The proposed development conforms to the public access and recreation policies of Chapter 3 of the Coastal Act. This second finding applies only to development located seaward of the nearest public highway to the shoreline. (*See* LBMC § 21.25.904.C)
Certification of the Project's Final EIR, including environmental findings, Statement of Overriding Considerations ("SOC"), and Mitigation Monitoring Reporting Program ("MMRP").	1. Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR; 2. Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency; and/or 3. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR. (*See* CEQA Guidelines § 15091(a))

Because the DEIR fails to properly analyze the Project's land use inconsistency and air quality and GHG impacts, the City cannot make several of the Code-required land use findings, including those required to grant the CDP or approve the EIR. Absent a recirculated DEIR that addresses the issues discussed herein and in the attached expert comment letter, Local 11 respectfully requests that the City stay any action on the Project Approvals.

III. THE PROJECT FAILS TO SATISFY CEQA REQUIREMENTS

A. BACKGROUND ON CEQA

CEQA requires lead agencies to analyze the potential environmental impacts of its actions in an environmental impact report ("EIR"). *See, e.g.,* Pub. Res. Code § 21100; *Cmtys. for a Better Env't v. S. Coast Air Quality Mgmt. Dist.* (2010) 48 Cal.4th 310. The EIR is the very heart of CEQA. *Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652. A prejudicial abuse of discretion occurs "if the failure to include relevant information precludes informed decisionmaking and informed public participation, thereby thwarting the statutory goals of the EIR process." *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 722. Courts will not blindly trust bare conclusions, bald assertions, and conclusory comments without the "disclosure of the 'analytic route the . . . agency traveled from evidence to action.'" *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 404 405 (quoting *Topanga Assn. for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 515).

B. CEQA REQUIRES ANALYSIS OF LAND USE INCONSISTENCY

An EIR must identify, fully analyze, and mitigate any inconsistencies between a proposed project and the general, specific, regional, and other plans that apply to the project. *See e.g.,* CEQA Guidelines § 15125(d); *Pfeiffer v. City of Sunnyvale City Council* (2011) 200 Cal.App.4th 1552, 1566; *Friends of the Eel River v. Sonoma County Water Agency* (2003) 108 Cal.App.4th 859, 881. Here, the City determined land use impact were not an area of concerned through its Initial Study ("IS") and, thus, did not warrant further analysis in the DEIR (DEIR, pp. I-1 – I-2, I-13). As such, the DEIR fails identify the Project's inconsistency with several applicable zoning provisions, namely the Coastal Act's and the City's Local Coastal Plan ("LCP") requirements concerning low cost overnight visitor accommodations.

1. THE EIR FAILS TO ADEQUATELY ADDRESS CONFLICTS WITH THE COASTAL ACT AND LCP

During the IS public review, the California Coastal Commission ("Coastal Commission") submitted comments requesting a detailed discussion of how the proposed project meets the various requirements under the City's LCP, PD-6, Subarea 7 (DEIR, APP-A, Part-7, PDF pp. 12-13; *see also* figures below and on the following page). However, neither the IS nor the DEIR address these specific issues (*see* DEIR, APP-A, Part-1, PDF pp. 88-96 [IS, pp. 79-87]). Instead, the IS provides mere general descriptions of the Project and claims it would be generally consistent with relevant goals and policies under applicable plans. This is inadequate. The EIR must respond in "detail" how the Project complies with the specific LCP, PD-6, Subarea 7 policies listed in the below figure.

> The City's Downtown Shoreline Planned Development Ordinance (PD-6) contains the relevant standards and policies of the certified LCP to which the proposed project must conform. The proposed project is located within Subarea 7 of the Downtown Shoreline Planned Development District. The standards of the certified LCP for Subarea 7 of the Downtown Shoreline Planned Development District carry out the Coastal Act requirements to protect public access to the coast and to protect visual resources, including public views toward the shoreline. Therefore, any findings regarding the project's consistency with the City of Long Beach LCP and California Coastal Act must contain a detailed discussion of how the proposed project meets the requirements laid out in certified PD-6, Subarea 7, and other LCP policies including, but not limited to:
>
> **Access.**
>
> a. Primary vehicle access via Pine Avenue (PD-6, General Development and Use Standards, Policy b.1).
>
> b. Continuation of the east/west pedestrian walkway and improvement of the park strip and plazas (PD-6, General Development and Use Standards, Policy b.5 & Subarea 7, Policy e).
>
> c. All public walkways and viewing areas shall be guaranteed for public access through deed restrictions and/or easements (PD-6, General Development and Use Standards, Policy b.3).

* * *

Building Design.

a. Provision of views between buildings (PD-6, General Development and Use Standards, Policy c.1).

b. Minimum 80-foot setback from Ocean Boulevard or setback the width of the City park strip for new development (PD-6, General Development and Use Standards, Policy c.4).

c. Provision of a northeast corner cut-off to create a cohesive entry feature to Promenade South from Pine Avenue (PD-6, Subarea 7, Policy c.1).

d. Conformance with the conditions required in order to exceed the 250-foot height limit (PD-6, Subarea 7, Policy c.2).

e. Payment of in-lieu fee equivalent to one-half the cost of a bridge structure across Pine Avenue (PD-6, Subarea 7, Policy c.4.G).

f. Design of building with bird-safe treatments (PD-6, General Development and Use Standards, Policy c.5).

Parking.

a. Consistency with requirements for off-street parking associated with new hotels (Downtown Shoreline Policy Plan, Residential Uses and Overnight Accommodations, South Side of Ocean Boulevard [Excluding Pike Area]).

b. Enclosed and subterranean parking, unless parking blends into the façade of the rest of the building (PD-6, Subarea 7, Policy d).

c. Consistency with certified policies of Chapter 21.41, *Off-street Parking and Loading Requirements*, of the City of Long Beach Zoning Code.

Landscaping.

a. Consistency with certified policies of Chapter 21.42, *Landscaping Requirements*, of the City of Long Beach Zoning Code.

Park Improvements.

a. 2:1 acre replacement of any displaced parkland (Open Space and Recreation Element, Program 4.5).

b. Consistency of all Victory Park improvements with the City's certified Victory Park Design Guidelines.

So too, the Coastal Commission raised significant concerns regarding the Project's lack of lower cost overnight accommodations, and the City's failure to develop a program/policy on this issue (see excerpt below).

In addition, please take into consideration the Coastal Commission's approval of Coastal Development Permit A-5-LOB-99-135 for a similar hotel development project proposed at this site and all related permit conditions and findings, including the required provision of a public viewing deck on the roof of the hotel. Furthermore, in accordance with Section 30213 of the Coastal Act (*Lower cost visitor and recreational facilities; encouragement and provision; overnight room rentals*), the Commission has strongly supported the maintenance and creation of lower cost overnight accommodations in past actions. The City of Long Beach has a similar policy in the certified LCP (PD-6, General Use and Development Standards, Policy j), which states: *"It shall be the goal of the City to develop a program/policy for the Downtown Shoreline area that* ***protects and encourages lower cost overnight visitor accommodations***." The lack of a City-developed program or policy and the lack of proposed lower cost accommodations in the subject project description are of concern to Coastal Commission staff. Please consider project alternatives that include lower cost accommodations.

Yet, neither the IS nor the DEIR address the issue of lower cost overnight accommodations, nor does the DEIR consider an alternative including lower cost overnight accommodations. At most, the DEIR identifies a variety of rooms (i.e., 171 king rooms, 152 double queens, 76 suites, and 30 penthouses) (DEIR, p. I-5). Yet, there is no discussion given to whether these rooms will provide low cost overnight opportunities (unlikely), whether it is feasible to do so, or whether the City will consider in-lieu fees (which has been done before in other City projects).[4] This lack of information has been grounds for the Coastal Commission to find substantial conflicts under Section 30213 of the Coastal Act,[5] which provides "[l]ower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred." Pub. Res. Code § 30213.

So too, the IS and DEIR fail to place this luxury hotel Project in the appropriate context of the area's desperate need for greater low cost overnight accommodations. Since 1989, the California coast has lost 24,720 economy hotel rooms, more than twice the number of non-economy rooms, and roughly 70 percent of all rooms that have been lost during that period.[6] This has resulted in coastal cities having as little as five percent lower cost hotel rooms, with the remaining 95 percent higher cost.[7] According to recently published date from the Downtown Long Beach Alliance,[8] Downtown Long Beach contains a total 3,255 hotel rooms, of which 2,101 rooms or 65 percent are upscale at an average rate of $364; 810 rooms (25 percent) are mid-level at an average rate of $229; and a mere 344 rooms (11 percent) are economy at an average rate of $113 (as reflected in the table and chart on the following page).

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[4] Coastal Commission (10/26/16) Staff Report: Public Workshop: Lower Cost Visitor Serving Accommodations, p. 37, https://documents.coastal.ca.gov/reports/2016/11/th6-11-2016.pdf.

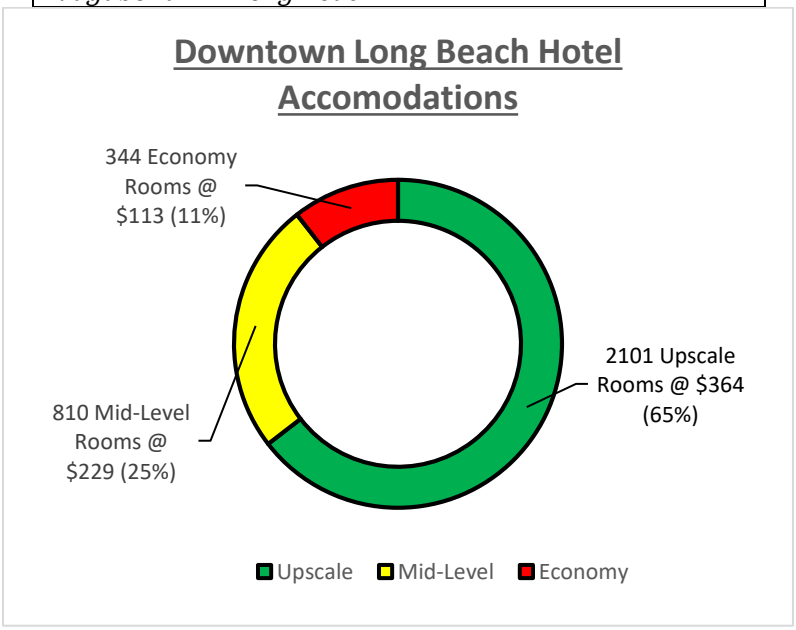
[5] *See e.g.,* Coastal Commission (7/13/18) Staff Report: 34344 Street of the Green Lantern, City of Dana Point, Orange County, APN No. 672-232-06, pp. 1, 11-13 (Finding a substantial issue where city approved 100-room resort hotel without addressing or include low cost overnight opportunities as required under Section 30213 of the Coastal Act), https://documents.coastal.ca.gov/reports/2019/9/W25c/W25c-9-2019-report.pdf; Coastal Commission (11/2/16) Staff Report: Redondo Beach Waterfront, LLC and City of Redondo Beach, A-5-RDB-16-0092, pp. 17-18 (Finding a substantial issue where city approved a 4-star, 120 room boutique hotel with projected rates of approximately $250 per night on the oceanfront would not provide lower cost overnight accommodations, and the city failed to provide feasibility study or require in-lieu fees), https://documents.coastal.ca.gov/reports/2017/5/f15a/f15a-5-2017-report.pdf; *San Diego Unified Port Dist. v. California Coastal Com.* (2018) 27 Cal.App.5th 1111, 1142 (where Commission denied certification of an amendment of a port master plan that would allow the construction of a 175-room hotel, the Fourth District found "… it is within Commission's broad authority to apply its expertise and devise solutions to promote the policy of providing 'lower cost visitor . . . facilities,' including by specifying overnight accommodations that are the 'type of development . . . designed in such a manner to be intrinsically lower cost,' in District's master plan.").

[6] Coastal Commission (10/26/16), *supra* fn. 4, p. 17.

[7] *Ibid*., p. 2.

[8] Downtown Long Beach Alliance, 2019 Economic Profile, PDF p. 38, https://downtownlongbeach.org/wp-content/uploads/DLBA_Economic-Profilee-2019-Single-150dpi.pdf.

Hotel	# Rooms	Average Rate
Upscale	**2101**	**364**
Hilton Long Beach	397	348
Hyatt Regency Long Beach	528	407
Hyatt The Pike Hotel	138	414
Renaissance Long Beach Hotel	374	351
Westin Long Beach	469	339
Hotel Maya	195	325
Mid-Level	**810**	**229**
Best Western	66	279
Courtyard Marriott	216	269
Hotel Queen Mary	315	189
Residence Inn	178	243
Varden Boutique Hotel	35	165
Economy	**344**	**113**
Beach Inn Motel	25	95
City Center Motel	49	80
Greenleaf Hotel	45	90
Inn of Long beach	51	99
Rodway Inn	35	165
Travel King Motor Inn	15	N/A
Travelodge	63	144
Vagabond Inn Long Beach	61	116



As the chart above shows, there is a glaring disparity between economy and mid/high-end hotel options in Downtown Long Beach, which has a disparate impact on those with less means to access this coastal area. Additionally, as noted by the Coastal Commission, even economy hotels are unaffordable for the vast majority of Californians, which disproportionately impacts lower income visitors and limit their ability to access and recreate along the coast.[9] For this reason, low cost overnight accommodation mandates under Coastal Act Section 30213 also serves to promote environmental justice—"The Coastal Act's requirement to maximize access and promote lower cost visitor and recreational facilities is *critical in providing opportunities for individuals and families from underserved communities to visit the coast* when they might not be able to do so otherwise due to costs, including the lack of affordable lodging."[10] (Emphasis added). Hence, when acting on a coastal development permit, the Coastal Commission "may consider environmental justice, or the equitable distribution of environmental benefits throughout the state" (Pub. Resources Code § 30604)—particularly when acting in its appellate capacity where local governments ignore policies that implement environmental justice principles.[11]

Here, the Project is subject to the City's LCP, PD-6 General Development and Use Standard "j" that provides:

> "*Affordable Overnight Visitor Accommodations. It shall be the goal of the City to develop a program/policy for the Downtown Shoreline area that protects and encourages lower cost overnight visitor accommodations. The purpose of the program/policy shall be to provide lower cost overnight visitor accommodations within or in close proximity to the coastal zone, including but not limited to hostel accommodations, campground accommodations, or low-cost hotel or motel accommodations*."[12]

Because this mirrors the objectives under Section 30213, which as discussed above serve the principles of environmental justice, it is necessary to consider this Project's impacts on environmental justice grounds—something which the IS and DEIR completely fails to do.

Here, we have serious concerns with the City's failure to consider the Project's consistency with the lower cost visitor and recreational facilities mandates under Section 30213 and the City's LCP. So too, Local 11 is concerned with the DEIR's failure to consider how this new luxury hotel Project will further exacerbate the Downtown Long Beach's dearth of lower cost accommodations and its disparate impact on environmental justice communities' ability to access this coastal region.

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[9] Coastal Commission (10/26/16), *supra* fn. 4, p. 24
[10] *Ibid*., p. 8.
[11] Coastal Commission (3/8/19) California Coastal Commission Environmental Justice Policy, p. 7 ("Where a local government fails to consider environmental justice when evaluating a proposed development that has the potential to adversely or disproportionately affect a historically disadvantaged group's ability to reach and enjoy the coast, that failure may be the basis for an appeal to the Coastal Commission. Similarly, where a local coastal program includes policies that implement environmental justice principles, a local government's failure to consider those principles may also be the basis of an appeal to the Coastal Commission."), https://documents.coastal.ca.gov/assets/env-justice/CCC_EJ_Policy_FINAL.pdf.
[12] Ord. 11-2017, pp. 14-15, http://www.longbeach.gov/globalassets/lbds/media-library/documents/planning/current/zoning-ordinances/pd-6-adopted-2011-08-16-with-better-maps.

While the City may be motivated to increase the City's tax revenue in the form of additional Transit Occupancy Taxes ("TOT") from yet another luxury hotel,[13] it may not do so by failing to consider environmental justice concerns and the explicit requirements under its LCP,[14] especially when full TOT funds may not materialize for 20 years under a deferred TOT plan amounting to a $28 million subsidy from the City to the Applicant.[15] As warned by the Coastal Commission, the City cannot ignore its Coastal Act obligations in the face of "strong financial incentive" to increase TOT revenue.[16]

Here, the DEIR fails to provide any meaningful discussion of the Project's consistency with Section 30213 or the LCP Measure "j" low cost visitor and recreational facility mandates. The DEIR must be recirculated to address this issue and to consider feasible mitigation measures and alternatives, includes those recommended by the Coastal Commission,[17] such as:

- Requiring the Project to provide an adequate share of lower cost overnight accommodations, such as 25 percent of its proposed 429 rooms; and
- If lower cost units cannot be provided as part of the Project, as demonstrated with substantial evidence, require in-lieu fees that are adequate to cover the cost of developing those units elsewhere near the Project Site.

2. THE DEIR FAILS TO ADEQUATELY ADDRESS CONFLICTS WITH THE DOWNTOWN PLAN

Here, the Project appears to conflict with the City's FAR/incentive structure under the Downtown Plan. Under the City's proposed Land Use Update,[18] the Project Site falls within the Waterfront area directly south of the Downtown Plan area. As compared to the rest of the City, the recently adopted Downtown Plan concentrates the tallest and most dense allowed development (i.e., FAR) along Ocean Blvd.[19] Under the Downtown Plan, the most liberal base zoning allows 240-feet/8.0 FAR with the possibility of 500-feet/11.0 FAR if a proposed development includes various features (e.g., LEED certification, green/eco-roofs, renewable energy, open space "in excess of required open space standards", rehabilitation of historic buildings, and affordable housing

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[13] Coastal Commission (10/26/16), *supra* fn. 4, p. 20 (noting a 42 percent increase in City TOT taxes between 2005-2015).
[14] *Supra* fn. 11.
[15] Coastal Commission (10/26/16), *supra* fn. 4, p. 21 ("For example, in 2016, the City of Long Beach considered a TOT sharing agreement between the City and a developer for a new hotel project."); *see also* City (12/12/17) Economic Development Subsidy Report, p. 1-2 ("The economic development subsidy is equal to up to eighty percent (80%) of the transient occupancy tax revenue received by the City from the American Life owned hotel property. The estimated total subsidy of up to eighty percent (80%) of the transient occupancy tax revenue received by the City for up to 20 years is $28 million."), http://www.longbeach.gov/globalassets/economic-development/media-library/documents/resources/americanlife-subsidy-report53083-posting-12-12-17.
[16] Coastal Commission (10/26/16), *supra* fn. 4, p. 20.
[17] *Ibid*., pp. 2-3, 24, 26, 30-31, 35-41.
[18] City (Nov. 2017) Draft 2040 Land Use Element, p. 65 (Tbl. LU-3), http://www.longbeach.gov/globalassets/city-news/media-library/documents/lue/june-2019/lue-draft-presented-to-pc-on-12-11-17-and-council-on-3-6-18; *see also* City (rev. Mar. 2018) Council District 2, Draft 2040 PlaceType and Height Map, http://www.longbeach.gov/globalassets/city-news/media-library/documents/lue/march-2018-district-maps/2040-landuse-height---cd2.
[19] City (Jan. 2012) Downtown Plan, pp. 46-49, http://www.longbeach.gov/globalassets/lbds/media-library/documents/planning/advance/downtown/downtownplan_section-3-part-2-reduced.

components).[20] Here, while the Project does include some of these features (e.g., LEED Silver certification, rehabbing Jergins Tunnel), the Applicant is not installing solar panels on the Project's roof,[21] or providing affordable housing or low cost accommodations, nor do the improvements to Victory Park considered "in excess" of open space requirements given the LCP requires the space to remain open for pedestrian use.[22] Hence, it would appear that the Project will exceed FAR incentives allowed by the City without satisfying the City's incentive requirements. If approved, this Project will likely be cited by future project proponents to justify development more than the 11:1 FAR limit and without satisfying the City's carefully crafted incentive structure.

Therefore, the DEIR must explain how this Project's proposed 14.32:1 FAR is compatible with and in keeping with the City's downtown plans. Additionally, the Project fails to discuss consistency with helipad requirements. The Downtown Plan provides that helipads must be integrated to support the larger design idea and meet necessary code requirements.[23] However, the DEIR fails to mention anything regarding a helipad, and none of the Project renderings show a helipad incorporated into the building. So too this must be explained in the DEIR.

E. THE DEIR'S AIR QUALITY ANALYSIS IS FAULTY

Air quality impacts and their concomitant impacts on human health must be studied in CEQA documents. *See Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1220 (quoting CEQA Guidelines § 15126.2(a)). Here, as pointed out by environmental experts SWAPE comments (attached hereto as Exhibit A), the DEIR fails to adequately evaluate the Project's air quality and health risk impacts. As discussed therein, the DEIR's air impact analysis:

- Relied on Outdated Guidance and completely failed to mention mobile source Carbon Monoxide ("CO") hot spot analysis.
- Relied on a Localized Significance Threshold ("LST") analysis using incorrect sensitive receptor distances.
- Utilized an air emissions modeling that relied on numerous unsubstantiated input parameters (e.g., land uses, construction equipment and usages, mitigation measures not accounted for, incorrect length and number of vendor/hauling/worker trips, vehicle emission factors and fleet mixes, changed Title-24 electricity energy intensity factors, etc.).
- When corrected, the environmental experts find the Project's construction-related VOC and NOx emissions increase significantly, and exceed applicable South Coast AQMD thresholds.
- The Project failed to prepare a construction or operational health risk assessment despite nearby sensitive receptors.
- When performing a screening-level risk assessment on the Project, the experts find the adult, child, infant, and lifetime cancer risks all exceed the SCAQMD's threshold of 10 in one million for both the closest receptor and the other affected populations, thus, resulting in a potentially significant impact not previously addressed or identified by the DEIR.

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[20] *Ibid*.
[21] While the Project may be considered solar-ready (DEIR, p. IV.C-55), the Project is not required to install solar panels to offset the Project's energy needs.
[22] LCP, PDF p. 112, http://www.longbeach.gov/globalassets/lbds/media-library/documents/planning/advance/general-plan/local-coastal-program.
[23] Downtown Plan (Jan. 2012) p. 84, http://www.longbeach.gov/globalassets/lbds/media-library/documents/planning/advance/downtown/downtownplan_section-4-reduced.

Because the DEIR fails to conduct an adequate air quality analysis, the DEIR incorrectly concludes that the Project would not cause any significant impacts and, thus, avoids additional feasible mitigation measures or meaningful project alternatives. For this reason, the DEIR must be recirculated to address the issues identified in the expert comment letter.

F. GREENHOUSE GAS IMPACTS ARE IMPROPERLY ANALYZED

The California Supreme Court demands robust GHG analysis to assess a project's impact on climate change. Lead agencies must provide "the contours of their logical argument," leaving no "analytical gaps" in their analysis, and supporting determinations "through substantial evidence and reasoned explanation." *Center for Biological Diversity v. Cal. Dept. of Fish and Wildlife* ("Newhall Ranch") (2015) 62 Cal.4th 204, 227; *see also Cleveland II*, 3 Cal.5th at 519 (analysis must be "based to the extent possible on scientific and factual data … stay[ing] in step with evolving scientific knowledge and state regulatory schemes.") (quoting CEQA Guidelines § 15064(b)). Here, as pointed out by environmental experts SWAPE comments (attached hereto as Exhibit A), the DEIR fails to adequately evaluate the Project's GHG impacts. As discussed therein, the DEIR fails to adequately evaluate the Project's GHG impacts because:

- It relies solely on a qualitative analysis (i.e., consistency with the California Air Resources Board ("CARB") AB 32 Scoping Plan and the Southern California Association of Governments ("SCAG") Regional Transportation Plan/Sustainable Community Strategies ("RTP/SCS"))—which contain no binding, Project-specific requirements necessary under the CEQA Guidelines.
- The DEIR's qualitative analysis fails to identify Project inconsistencies with CARB's 2017 Scoping Plan and SCAG RTP/SCS.
- Relies on the City of Long Beach's Sustainable City Action Plan which does not provide goals beyond 2020.
- The DEIR incorrectly credits the Project for GHG reductions from statewide regulatory programs having nothing to with the Project, which circumvents the Project's requirement to provide additional GHG reductions necessary for newer land use developments.
- Notwithstanding the DEIR's use of incorrect and unsubstantiated parameters in its qualitative analysis that underestimates the Project's GHG emissions, the DEIR nevertheless demonstrates the Project exceeds numeric bright-line and efficiency thresholds—some of which are proposed and even used by the City for other hotel projects.
- When performing a correct qualitative analysis of the Project's GHG emissions, the Project would greatly exceed applicable bright-line and efficiency thresholds, thus, resulting in a significant impact that was not previously identified or addressed by the DEIR.
- The DEIR failed to apply South Coast AQMD's bright-line (Tier 3) and efficiency (Tier 4) thresholds to Project emissions, which is inconsistent with evolving scientific knowledge and regulatory schemes as made evident by the actions taken by other air districts and even the City in prior hotel CEQA reviews.

Because the DEIR fails to conduct an adequate GHG analysis, the DEIR incorrectly concludes that the Project would not cause any significant impacts and, thus, avoids additional feasible mitigation measures or meaningful project alternatives. For this reason, the DEIR must be recirculated to address the issues identified in the expert comment letter.

IV. CONCLUSION

Local 11 appreciates the opportunity to provide these comments. Local 11 works to make the City of Long Beach a place of opportunity for all—a place where its members can work and afford to live. Here, the DEIR is fundamentally flawed because it fails to properly analyze the Project's land use, air quality, and GHG impacts, or provide an adequate alternative with low cost accomodation. Because the DEIR fails to properly analyze the Project's land use inconsistency and air quality and GHG impacts, the City cannot make several of the Code-required land use findings for the Project.

Sincerely,

Gideon Kracov
Attorney for Commentors

Attachment: Exhibit A: SWAPE expert comment letter dated October 7, 2019

Exhibit A

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

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October 7, 2019

Anita Juhola-Garcia
Planning Bureau, Development Services Department
City of Long Beach
411 W. Ocean Boulevard
Long Beach, CA 90802
LBDS-EIR-Comments@longbeach.gov

Subject: Comments on the 100 East Ocean Project (SCH No. 2018121006)

Dear Ms. Juhola-Garcia,

We have reviewed the August 2019 Draft Environmental Impact Report ("DEIR") for the 100 East Ocean Project ("Project") located in the City of Long Beach ("City"). The Project proposes to construct a 537,075 square foot hotel with 429 rooms, 23,512 square feet of restaurant use, 26,847 square feet of meeting rooms, ballrooms, and pre-function space, 11,288 square feet of pool deck and bar space, and 151 parking spaces on the 1.36-acre site.

Our review concludes that the DEIR fails to adequately evaluate the Project's Air Quality, Health Risk, and Greenhouse Gas impacts. As a result, emissions and health risk impacts associated with construction and operation of the proposed Project are underestimated and inadequately addressed. An updated DEIR should be prepared to adequately assess and mitigate the potential air quality and health risk impacts that the project may have on the surrounding environment.

Air Quality

Reliance on Outdated Guidance

Review of the DEIR demonstrates that the DEIR relies on the Southern California Air Quality Management District's ("SCAQMD") 2003 Air Quality Management Plan ("AQMP") to determine that a Carbon Monoxide ("CO") hot spot analysis is not necessary (p. IV.A-26). However, this is incorrect, as the 2003 AQMP is outdated.

The DEIR attempts to justify the omission of a CO hot spot analysis by stating,

> "Potential localized CO concentration from induced traffic at nearby intersections are also addressed consistent with the methodologies and assumptions used in the consistency analysis provided in the 2003 AQMP" (p. IV.A-26).

However, this is entirely incorrect, as the SCAQMD has adopted several, more recent AQMPs, including the 2007 AQMP, the 2012 AQMP, and the 2016 AQMP. The DEIR acknowledges this, stating that "[t]he 2016 AQMP, which was released in March 2017, incorporates the latest scientific and technological information and planning assumptions" (p. IV.A-10). Without providing any sort of justification for choosing the 2003 AQMP, the DEIR relies on outdated guidance to determine that a CO hotspot analysis is not necessary. In order to determine this, the DEIR should have used the most recent guidance, the 2016 AQMP, or provided justification for why the 2003 AQMP is more applicable. Therefore, in order to demonstrate consistency with the applicable guidelines and analyses, the DEIR should have analyzed the Project under 2016 AQMP guidelines, justified the use of the 2003 AQMP, or simply conducted a CO hotspot analysis for the Project.

Furthermore, regarding the determination that the Project's localized mobile source CO emissions are less than significant, the DEIR states that "[t]he supporting data for this analysis is included in Appendix B of this Draft EIR" (p. IV.A-39). However, review of Appendix B reveals that the DEIR completely fails to mention mobile source CO emissions. As a result, the mobile source CO emission analysis cannot be verified, and the omission of a CO hot spot analysis is unsubstantiated. An updated DEIR should be prepared to adequately assess the impacts of the Project's CO emissions on the surrounding environment.

Use of Incorrect Localized Significance Thresholds

Review of the DEIR demonstrates that Project emissions were evaluated using a Localized Significance Threshold ("LST") analysis. The DEIR states that,

> "The localized effects from the on-site portion of daily emissions were evaluated at sensitive receptor locations potentially impacted by the Project according to the SCAQMD's localized significance thresholds (LST) methodology, which uses on-site mass emissions rate look-up tables and Project-specific modeling, where appropriate" (p. IV.A-24 – IV.A-25).

Furthermore, the DEIR states that,

> "The nearest sensitive receptors to Project construction activities are residential uses located west of the site (approximately 450 feet or roughly 150 meters). However, this analysis conservatively assumes an approximately 100-meter or 328-foot receptor distance (p. I-20).

However, this is incorrect, as there are closer sensitive receptors to the Project site (see excerpt below) (Table III-1, p. III-6).

Table III-1
List of Related Projects

Map No.	Project Location	Project Description	Use	Size
1	1628–1724 E. Ocean Blvd.	Add 51-unit condominium to a 47-unit motel.	Condominiums	51 du
2	245 W. Broadway	New mixed-use project on 1.7-acre site.	Residential	219 du
			Retail	6,000 sf
3	2010 Ocean Blvd.	New mixed-use project with shared amenities on a 1.04-acre site.	Residential	33 du
			Hotel	72 rm
4	207 Seaside Way	Apartment building with two levels of parking.	Apartments	117 du
5	100 Aquarium Way	Expand existing aquarium front by 22,642 sf.	Theater Expansion	22,642 sf 300 seats
6	495 The Promenade North	Mixed-Use	Apartments	20 du
			Retail	5,200 sf
7	110 W. Ocean Blvd.	Adaptive reuse conversion of existing 15-story Ocean Center Building from office use to residential. Re-establish retail use on Ocean & Pine.	Residential	74 du

After inputting the sensitive receptors listed above into Google Earth, you can see that the sensitive receptors located at 110 W. Ocean Blvd and 207 Seaside Way are 30 meters and 75 meters from the Project site, respectively. Thus, the LST analysis included in the DEIR is incorrect, as it is based on a 100-meter receptor distance. Therefore, the sensitive receptor distance used in the DEIR is overestimated and may result in an underestimated impact.

Unsubstantiated Input Parameters Used to Estimate Project Emissions

The DEIR's air quality analysis relies on emissions calculated with CalEEMod.2016.3.2.[1] CalEEMod provides recommended default values based on site-specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but the California Environmental Quality Act ("CEQA") requires that such changes be justified by substantial evidence.[2] Once all of the values are inputted into the model, the Project's construction and operational emissions are calculated, and "output files" are generated. These output files disclose to the reader what parameters were utilized in calculating the Project's air pollutant

[1] CAPCOA (November 2017) CalEEMod User's Guide, http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4.
[2] *Ibid*., p. 1, 9.

emissions, and make known which default values were changed as well as provide justification for the values selected.[3]

Review of the Project's air modeling demonstrates that the DEIR underestimates emissions associated with Project activities. As previously stated, the DEIR's air quality analysis relies on air pollutant emissions calculated using CalEEMod. When we reviewed the Project's CalEEMod output files, provided in Appendix B to the DEIR, we found that several of the values inputted into the model were not consistent with information disclosed in the DEIR. As a result, the Project's construction and operational emissions are underestimated. An updated EIR should be prepared to include an updated air quality analysis that adequately evaluates the impacts that construction and operation of the Project will have on local and regional air quality.

Use of Incorrect Land Use Type

As previously stated, the DEIR relies upon CalEEMod to estimate the Project's construction and operational emissions. Review of the Project's CalEEMod files demonstrates that the "Land Use Type" inputted into the CalEEMod model is inconsistent with information disclosed in the DEIR. As a result, the Project's construction and operational emissions may be underestimated.

According to the DEIR, the Project includes the development of "26,847 square feet of meeting rooms, ballrooms, and pre-function space" (p. I-5). Thus, in order to be consistent with what the DEIR proposes and accurately estimate the criteria air pollutant and GHG emissions that will be generated during construction and operation of the Project, CalEEMod should have modeled the 26,847 square feet as part of the Hotel land use. According to the CalEEMod User's Guide, Hotels are defined as "places of lodging that provide sleeping accommodations and supporting facilities such as restaurants; cocktail lounges; meeting and banquet rooms or convention facilities; limited recreational facilities and other retail and service shops."[4] Thus, the 26,847 square feet of meeting rooms, ballrooms, and pre-function space is included in the Hotel land use. Review of the Project's CalEEMod output files, however, demonstrates that this is not the case (see excerpt below) (Appendix B, pp. 4, 52, 97).

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	151.00	Space	0.85	40,593.00	0
Hotel	429.00	Room	14.30	446,123.00	0
Quality Restaurant	23.51	1000sqft	0.54	23,512.00	0
Racquet Club	26.85	1000sqft	0.62	26,847.00	0

As seen in the excerpt above, emissions resulting from construction and operation were modeled as a 26,847 square foot "Racquet Club," rather than including the space for meeting rooms, ballrooms, and pre-function space as part of the Hotel land use. The inconsistencies found between the "Land Uses"

[3] *Supra*, fn 1, p. 11, 12 – 13. A key feature of the CalEEMod program is the "remarks" feature, where the user explains why a default setting was replaced by a "user defined" value. These remarks are included in the report.
[4] *Supra*, fn 1, p. 24.

inputted into the model and the descriptions provided in the DEIR present a significant issue. The land use types and size features are used throughout CalEEMod in determining default variables and emission factors that go into the model's calculations.[5] CalEEMod assigns each land use type with its own set of energy usage emission factors.[6] Review of Appendix D to the CalEEMod User's Guide demonstrates that a hotel land use consumes more energy than a racquet club use.[7] Therefore, by modeling the proposed meeting rooms, ballrooms, and pre-function space as a "Racquet Club," the emissions from the Project's land use's energy consumption are not properly accounted for. As a result, we find the emissions estimates within the DEIR's air pollution model to be incorrect and unreliable for determining Project significance.

Unsubstantiated Reduction of Default Construction Equipment Pieces and Usage Hours

Review of the Project's CalEEMod output files demonstrates that the number of pieces of off-road construction equipment were manually reduced, as well as the usage hours for several pieces of equipment, without providing proper justification for doing so (see excerpts below) (Appendix B, pp. 6, 7, 54, 55, 99, 100).

Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

[5] *Supra*, fn 1, p. 17.
[6] CAPCOA (September 2016) CalEEMod User's Guide, Appendix D, http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/05_appendix-d2016-3-1.pdf?sfvrsn=2.
[7] *Ibid*.

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00

As a result of these reductions, construction-related Project emissions may be underestimated. As previously stated, CalEEMod's default construction equipment list was determined to be "the most appropriate" and the CalEEMod User Guide requires that any non-default values inputted must be justified.[8] However, the "User Entered Comments & Non-Default Data" section states that these changes were made according to construction assumptions (Appendix B, pp. 4, 52, 97). Review of the Project documents, however, reveals that the DEIR fails to provide a complete construction equipment list, or any substantive justification for the artificially reduced number of construction equipment pieces or usage hours. Without a Project-specific equipment list provided, an explanation of how the necessary equipment amount and usage hours were determined, and substantial evidence that non-default construction equipment list/usage is realistic (e.g., compared to similar projects of this scale), we are unable to verify the reductions in pieces of construction equipment and usage hours. Therefore, the air model inputs utilized to calculate emissions cannot be verified and the resultant emissions estimates may be underestimated.

Incorrectly Applied Mitigation Measure to Construction Emissions

The DEIR recommends mitigation measures in order to reduce construction emissions. According to Mitigation Measure (MM) AIR-1,

> "The Project shall utilize off-road diesel-powered construction equipment that meets or exceeds CARB and USEPA Tier 4 off-road emissions standards for excavators and loaders during Project excavation and grading activities" (p. I-32).

[8] *Supra*, fn 1, p. 7, 13, 31-32.

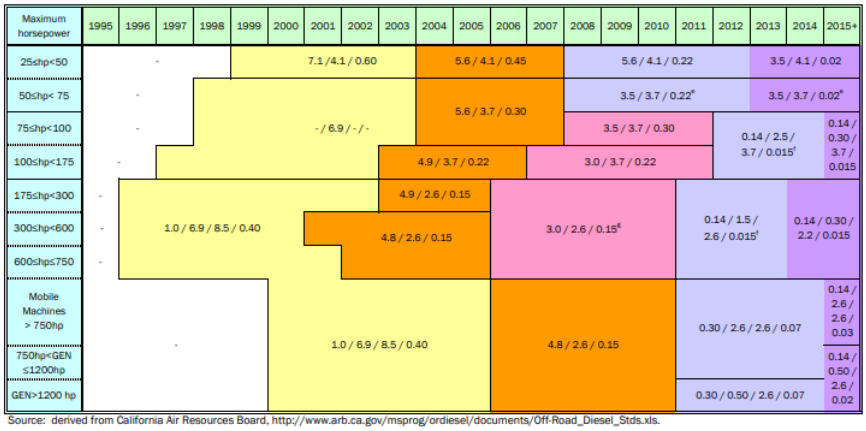
However, review of the CalEEMod output files demonstrates that this mitigation measure was incorrectly applied, as the model assumes that Tier 4 *Final* engines would be used. According to the CalEEMod output files, the model assumes that 9 pieces of construction equipment would be equipped with Tier 4 Final engines (see excerpt below) (Appendix B, pp. 5, 58, 98).

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

As can be seen in the excerpt above, the CalEEMod model assumes that all of the loaders and excavators, totaling 9 pieces of equipment, used during the construction of the Project would be mitigated with Tier 4 Final equipment. This specification, however, is not stated in MM AIR-1 nor anywhere else in the DEIR. This presents a significant issue, as the DEIR does not commit to the use of the more efficient Tier 4 Final equipment.

The United States Environmental Protection Agency ("U.S. EPA") has slowly adopted more stringent standards to lower the emissions from off-road construction equipment since 1994. Since that time, Tier 1, Tier 2, Tier 3, Tier 4 Interim, and Tier 4 Final construction equipment have been phased in over time. Tier 4 Final represents the cleanest burning equipment and therefore has the lowest emissions compared to other tiers, including Tier 4 Interim equipment (see excerpt below).[9]

[9] County of San Francisco (August 2015) San Francisco Clean Construction Ordinance Implementation Guide for San Francisco Public Projects, p. 6, https://www.sfdph.org/dph/files/EHSdocs/AirQuality/San_Francisco_Clean_Construction_Ordinance_2015.pdf.



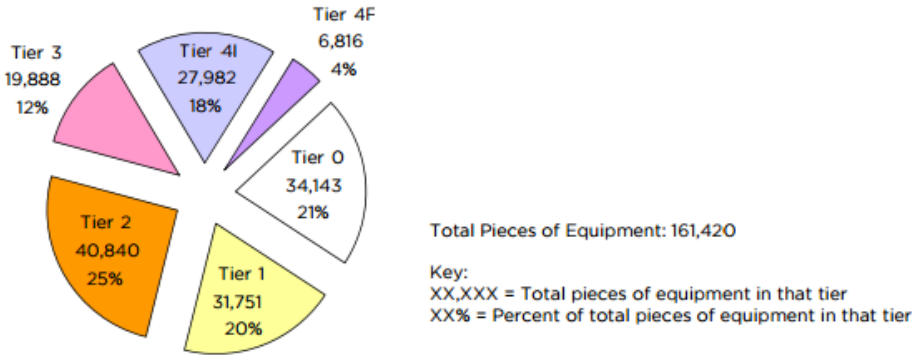
Source: derived from California Air Resources Board, http://www.arb.ca.gov/msprog/ordiesel/documents/Off-Road_Diesel_Stds.xls.

a) When ARB and USEPA standards differ, the standards shown here represent the more stringent of the two.
b) Standards given for all sizes of Tier 1 engines are hydrocarbons/oxides of nitrogen (NOx)/carbon monoxide (CO)/particulate matter (PM) in grams per brakehorspower per hour (g/bhp-hr).
c) Standards given for all sizes of Tier 2 and Tier 3 engines, and Tier 4 engines below 75 horsepower are non-methane hydrocarbons (NMHC)+NOx/CO/PM in g/bhp-hr.
d) Standards given for Tier 4 engines above 75 horsepower are NMHC/NOx/CO/PM in g/bhp-hr.
e) Engine families in this power category may alternately meet Tier 3 PM standards (0.30 g/bhp-hr) from 2008-2011 in exchange for introducing final PM standards in 2012.
f) The implementation schedule shown is the three-year alternate NOx approach. Other schedules are available.
g) Certain manufacturers have agreed to comply with these standards by 2005.

As demonstrated in the figure above, Tier 4 Final equipment has lower emissions than Tier 4 Interim equipment. Therefore, since MM AIR-1 fails to specify whether the Project will use Tier 4 Interim or Tier 4 Final equipment, it is incorrect to model emissions assuming that the more efficient Tier 4 Final equipment will be used for all construction equipment. Until the DEIR commits to the use of Tier 4 Final equipment, the Project's potential impacts should not be evaluated assuming the use of this cleaner burning equipment. As a result, construction emissions are underestimated and the CalEEMod model should not be used to determine Project significance.

Furthermore, review of the DEIR demonstrates that the DEIR failed to evaluate the feasibility in obtaining Tier 4 equipment. Due to the limited number of Tier 4, especially Tier 4 Final, equipment available, the DEIR should have assessed the feasibility in obtaining equipment with Tier 4 Final (or interim) engines (see excerpt below).[10]

Figure 4: 2014 Statewide All Fleet Sizes (Pieces of Equipment)



[10] *Ibid*.

As demonstrated in the figure above, the Tier 4 Final and Interim equipment only account for 4% and 18%, respectively, of all off-road equipment currently available in California. Thus, emissions are modeled assuming that the Project will be able to obtain 9 pieces of Tier 4 final equipment even though this equipment only accounts for 4% of available off-road equipment currently available in California. As a result, the model represents the best-case scenario even though obtaining these types of equipment may not be feasible.

Failure to Include All Operational Land Uses

According to the DEIR, "[t]he existing Long Beach Bike Share station located at the northwest corner of the Project Site would remain in place as part of the Project" (p. I-6). However, review of the Project's CalEEMod output files demonstrates that the Long Beach Bike Share station was excluded from the operational model (see excerpt below) (CalEEMod, pp. 4, 52, 97).

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	151.00	Space	0.85	40,593.00	0
Hotel	429.00	Room	14.30	446,123.00	0
Quality Restaurant	23.51	1000sqft	0.54	23,512.00	0
Racquet Club	26.85	1000sqft	0.62	26,847.00	0

As you can see in the excerpt above, the air model fails to include the Long Beach Bike Share station. The land usage parameters, including land use types and sizes, are used throughout CalEEMod to determine default variables and emission factors that go into the model's calculations.[11] For example, land use areas are used for certain calculations such as determining the wall space to be painted (i.e., VOC emissions from architectural coatings) and volume that is heated or cooled (i.e., energy impacts). Therefore, by failing to include the existing Long Beach Bike Share station, the operational emissions are not properly accounted for. Therefore, an updated air quality analysis should be prepared in an updated DEIR to adequately evaluate the Project's operational air quality impacts.

Incorrect Length and Number of Vendor, Hauling, and Worker Trips

The CalEEMod model relies on incorrect trip lengths and number of worker, hauling, and vendor trips to estimate the Project's construction emissions. As a result, the Project's construction-related air pollutant emissions and associated impacts are underestimated and inadequately addressed.

According to the DEIR, during the mat foundation (i.e., concrete pour) phase of construction, "there would be up to a maximum of 415 concrete trucks (415 inbound trips and 415 outbound trips) per day" (p. I-55). This is a total of 830 one-way trips. According to the CalEEMod User's Guide, cement trucks may be modeled as vendor trips.[12] Review of the CalEEMod output files, however, demonstrates that this is not the case. In addition, the DEIR and associated appendices mention nothing else regarding vendor, hauling, and vehicle trips. However, review of the CalEEMod output files reveals that the air

[11] *Supra*, fn 1, p. 14.
[12] *Supra*, fn 1, p. 26.

model includes 17 changes from the default values for vendor, hauling, and worker trips (see excerpt below) (Appendix B, pp. 37,).

Table Name	Column Name	Default Value	New Value
tblTripsAndVMT	HaulingTripLength	20.00	75.00
tblTripsAndVMT	HaulingTripLength	20.00	75.00
tblTripsAndVMT	HaulingTripNumber	237.00	1,250.00
tblTripsAndVMT	HaulingTripNumber	2,938.00	2,000.00
tblTripsAndVMT	VendorTripLength	6.90	0.00
tblTripsAndVMT	VendorTripNumber	88.00	0.00
tblTripsAndVMT	VendorTripNumber	88.00	50.00
tblTripsAndVMT	VendorTripNumber	88.00	15.00
tblTripsAndVMT	VendorTripNumber	88.00	5.00
tblTripsAndVMT	VendorTripNumber	0.00	5.00
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	HHDT
tblTripsAndVMT	WorkerTripNumber	15.00	13.00
tblTripsAndVMT	WorkerTripNumber	226.00	248.00
tblTripsAndVMT	WorkerTripNumber	226.00	248.00
tblTripsAndVMT	WorkerTripNumber	226.00	248.00
tblTripsAndVMT	WorkerTripNumber	226.00	248.00
tblTripsAndVMT	WorkerTripNumber	45.00	50.00

As you can see in the excerpt above, the vendor trip length and total daily trips during the mat foundation (i.e., concrete pour) phase of construction were manually reduced from the default values of 6.90 and 88 to 0, respectively. Thus, without inputting the 830 one-way trips discussed in the DEIR and by reducing the trip length to 0, the air model fails to include emissions due to vendor trips for the mat foundation phase of construction. As a result, construction emissions are underestimated. In order to provide the most conservative analysis, as is required by CEQA, the DEIR's air model should have utilized the indicated trip values indicated for the mat foundation phase to model the Project's construction-related air pollutant emissions.

Furthermore, as previously stated, the CalEEMod User Guide requires that any non-default values inputted must be justified.[13] However, review of the "User Entered Comments & Non-Default Data" section of the CalEEMod output files shows that, in regards to the changes to worker, hauling, and vendor trips, as well as hauling and vendor trip lengths, the only justification is to "see assumptions" (Appendix B, pp. 4, 52, 97). However, the DEIR and Appendix E, which contains the Traffic Study and Transportation Impact Study, both fail to address any of these changes. Thus, without any justification for the 17 changes made to worker, hauling, and vehicle trips, the air model cannot be relied upon to evaluate Project emissions.

[13] *Supra*, fn 1, p. 7, 13.

Failing to account for the correct length and number of worker, hauling, and vendor trips that would occur during Project construction presents a significant issue. The number of worker, hauling, and vendor trips and associated vehicle miles traveled (VMT) are used by CalEEMod to determine both the exhaust emissions associated with on-road vehicle use and fugitive dust emissions.[14] Therefore, by failing to account for the correct length and number of worker, hauling, and vendor trips that would be required during construction, the Project's construction emissions are underestimated.

Unsubstantiated Changes to Vehicle Emission Factors

The vehicle emission factors used to estimate the proposed Project's mobile source operational emissions were changed from the CalEEMod default values without justification. As a result, the Project's operational emissions are incorrect and unsubstantiated.

Review of the Project's CalEEMod output files demonstrates that 1,203 of the vehicle emission factors were manually changed from their default values (Appendix B, pp. 7-32, 56-81, 100-125). According to the "User Entered Comments & Non-Default Data" table, the model's vehicle emission factors were artificially changed based on "assumptions" (Appendix B, pp. 4, 52, 97). However, review of Appendix E, which contains the Traffic Study and Transportation Impact Study, demonstrates that vehicle emission factors were not mentioned. The DEIR does state that "[d]etails of the modeling assumptions and emission factors are provided in Appendix B of this Draft EIR" (p. IV.C-39 and IV.A-24). However, because the DEIR and associated appendices failed to provide further explanation for changing the vehicle emission factors, we are unable to verify these values. Therefore, without substantial evidence as to why these factors should have been altered, we find the Project's air quality model to be incorrect and potentially underestimated.

Unsubstantiated Changes to Fleet Mix

The fleet mix used to estimate the proposed Project's mobile source operational emissions was changed from the CalEEMod default values without justification. As a result, the Project's operational emissions are incorrect and unsubstantiated.

According to the Project's CalEEMod output files, the following fleet mix values were used to estimate the Project's operational emissions (see excerpt below) (Appendix B, pp. 5-6, 53-54, 98-99).

[14] CAPCOA (Oct 2017) CalEEMod User's Guide: Appendix A, p. 13, http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6.

Table Name	Column Name	Default Value	New Value
tblFleetMix	HHD	0.03	0.03
tblFleetMix	HHD	0.03	0.03
tblFleetMix	HHD	0.03	0.03
tblFleetMix	HHD	0.03	0.03
tblFleetMix	LDA	0.55	0.55
tblFleetMix	LDA	0.55	0.55
tblFleetMix	LDA	0.55	0.55
tblFleetMix	LDA	0.55	0.55
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT2	0.20	0.20
tblFleetMix	LDT2	0.20	0.20
tblFleetMix	LDT2	0.20	0.20
tblFleetMix	LDT2	0.20	0.20
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD2	5.8630e-003	5.8640e-003
tblFleetMix	LHD2	5.8630e-003	5.8640e-003
tblFleetMix	LHD2	5.8630e-003	5.8640e-003
tblFleetMix	LHD2	5.8630e-003	5.8640e-003

tblFleetMix	MCY	4.8030e-003	4.7660e-003
tblFleetMix	MCY	4.8030e-003	4.7660e-003
tblFleetMix	MCY	4.8030e-003	4.7660e-003
tblFleetMix	MCY	4.8030e-003	4.7660e-003
tblFleetMix	MDV	0.12	0.12
tblFleetMix	MDV	0.12	0.12
tblFleetMix	MDV	0.12	0.12
tblFleetMix	MDV	0.12	0.12
tblFleetMix	MH	8.9600e-004	9.2400e-004
tblFleetMix	MH	8.9600e-004	9.2400e-004
tblFleetMix	MH	8.9600e-004	9.2400e-004
tblFleetMix	MH	8.9600e-004	9.2400e-004
tblFleetMix	MHD	0.02	0.02
tblFleetMix	MHD	0.02	0.02
tblFleetMix	MHD	0.02	0.02
tblFleetMix	MHD	0.02	0.02
tblFleetMix	OBUS	2.0870e-003	2.0590e-003
tblFleetMix	OBUS	2.0870e-003	2.0590e-003
tblFleetMix	OBUS	2.0870e-003	2.0590e-003
tblFleetMix	OBUS	2.0870e-003	2.0590e-003
tblFleetMix	SBUS	7.0800e-004	7.0600e-004
tblFleetMix	SBUS	7.0800e-004	7.0600e-004
tblFleetMix	SBUS	7.0800e-004	7.0600e-004
tblFleetMix	SBUS	7.0800e-004	7.0600e-004
tblFleetMix	UBUS	1.8180e-003	1.8660e-003
tblFleetMix	UBUS	1.8180e-003	1.8660e-003
tblFleetMix	UBUS	1.8180e-003	1.8660e-003
tblFleetMix	UBUS	1.8180e-003	1.8660e-003

According to the "User Entered Comments & Non-Default Data" table, the model's fleet mix values were artificially changed based on "assumptions" (Appendix B, pp. 4, 52, 97). However, review of the DEIR and associated appendices reveals that no information was provided on the fleet mix. As previously stated, the CalEEMod User Guide requires that any non-default values inputted must be justified.[15] Because the DEIR failed to provide any explanation for changing the fleet mix, we are unable to verify these values. Therefore, an updated DEIR is required to either provide justification for these changes or eliminate them from the air model and we find the DEIR's air quality analysis to be unsubstantiated and should not be relied upon to determine Project significance.

[15] *Supra*, fn 1, p. 7, 13.

Unsubstantiated Changes to Title-24 Electricity Energy Intensity

The CalEEMod model relies on incorrect Title-24 Electricity Energy Intensity values to model emissions. As a result, the Project's energy usage and operational emissions are significantly underestimated.

Review of the Project's CalEEMod output files demonstrates that the Title-24 Electricity Energy Intensity value was artificially changed from the default value of 3.92 to 0.43 (see excerpt below) (Appendix B, pp. 5, 53, 98).

tblEnergyUse	T24E	3.92	0.43

As you can see in the excerpt above, the CalEEMod model assumes a Title-24 Electricity Energy Intensity value of 0.43 to calculate emissions. As a result of this reductions, operational Project emissions may be underestimated. As previously stated, the CalEEMod User Guide requires that any non-default values inputted must be justified.[16] However, in the "User Entered Comments & Non-Default Data" section, the DEIR merely states, "see assumptions" (Appendix B, pp. 4, 52, 97). Review of the Project documents reveals that the DEIR says that the Project will either meet or exceed "Title 24, Part 6, California Energy Code baseline standard requirements by 10 percent for energy efficiency, based on the 2016 Building Energy Efficiency Standards requirements" (p. IV.C-44). However, meeting or exceeding standard requirements, does not justify a manual change to the electricity energy intensity value. Furthermore, a 10% reduction from the default value of 3.92 would be approximately 3.53. As a result, the change to the Title-24 Electricity Energy Intensity is unsubstantiated. Therefore, the air model inputs utilized to calculate operational emissions cannot be verified and the resultant emissions estimates cannot be relied upon to evaluate the Project's air quality impacts.

Updated Analysis Indicates Significant Pollutant Emissions

In an effort to accurately determine the proposed Project's construction and operational emissions, we prepared an updated CalEEMod model that includes more site-specific information and correct input parameters, as provided by the DEIR. In the updated model (output files attached hereto as Exhibit A), we added the meeting rooms, ballrooms, and pre-function space to the hotel land use to reflect the appropriate land use type for this space. We also left the default values for construction equipment, vehicle emission factors, and fleet mix. Values for vendor, worker, and hauling trips were left as default for all phases except the mat foundation phase of construction to reflect the 830 one-way trips indicated in the DEIR (p. I-55). Finally, we ran the model without Tier 4 Final mitigation and changes to the T24 Electricity Energy Intensity, as these changes were unsubstantiated in the DEIR. Please also note that we were unable to include the addition of the Long Beach Bike Share station in an operational model, as would be appropriate, due to the fact that the DEIR provided no information about it, except for its location. As a result, we are unable to model for its emissions. In an updated DEIR, this should be included and added to the operational emissions for correct analysis.

[16] *Supra*, fn 1, p. 7, 13.

When correct, site-specific input parameters are used to model emissions, *we find that the Project's construction-related VOC and NOx emissions increase significantly when compared to the DEIR's model*. Furthermore, we find that the *Project's construction-related VOC and NOx emissions exceed the 100 and 75 pounds per day (lbs/day) thresholds*, respectively, set by the SCAQMD (see table below).[17]

	Maximum Daily Construction Emissions (lbs/day)	
Model	**VOC**	**NOx**
DEIR	44.83	83.99
SWAPE	75.12	166.24
Percent Increase	**67.55**	**97.93**
SMAQMD Regional Threshold (lbs/day)	75	100
Exceed?	***Yes***	***Yes***

When correct input parameters are used to model the Project's emissions, construction-related VOC and NOx emissions increase by approximately 68% and 98% and exceed the SCAQMD thresholds of 75 lbs/day and 100 lbs/day, respectively.

Our updated model demonstrates that when the Project's construction and operational emissions are estimated correctly, the Project would result in a potentially significant air quality impact that was not previously identified or addressed in the DEIR. As a result, an updated DEIR should be prepared to include an updated air pollution model to adequately estimate the Project's construction and operational emissions and incorporate mitigation measures to reduce these emissions to a less than significant level.

Diesel Particulate Matter Health Risk Emissions Inadequately Evaluated

The DEIR concludes that the proposed Project would have a less than significant health risk impact on nearby sensitive receptors without conducting a construction or operational health risk assessment ("HRA") (p. IV.A-36, p. IV.A-40). The DEIR attempts to justify this determination by stating,

> "SCAQMD's CEQA guidance does not require a health risk assessment (HRA) for short-term construction emissions. It is, therefore, not necessary to evaluate long-term cancer impacts from construction activities which occur over a relatively short duration. In addition, there would be no residual emissions or corresponding individual cancer risk after construction. As such, Project-related TAC impacts during construction would be less than significant" (p. IV.A-36).

The DEIR goes on to state,

> "As the Project would not contain substantial TAC sources and is consistent with the CARB and SCAQMD guidelines, the Project would not result in the exposure of off-site sensitive receptors to carcinogenic or toxic air contaminants that exceed the maximum incremental cancer risk of

[17] SCAQMD (June 2015) Risk Assessment Procedures for Rules 1401, 1401.1 and 212, p. IX-2, http://www.aqmd.gov/docs/default-source/planning/risk-assessment/riskassprocjune15.pdf?sfvrsn=2.

> 10 in one million or an acute or chronic hazard index of 1.0, and potential TAC impacts would be less than significant" (p. IV.A-40).

These justifications for failing to conduct a construction or operational health risk analysis are incorrect for several reasons.

First, simply stating that the Project's construction phase is "short-term" does not justify the omission of a construction HRA. According to the SCAQMD, it is recommended that health risk impacts for short-term projects also be assessed. The Guidance document states,

> "Since these short-term calculations are only meant for projects with limits on the operating duration, these short-term cancer risk assessments can be thought of as being the equivalent to a 30-year cancer risk estimate and the appropriate thresholds would still apply (i.e. for a 5-year project, the maximum emissions during the 5-year period would be assessed on the more sensitive population, from the third trimester to age 5, after which the project's emissions would drop to 0 for the remaining 25 years to get the 30-year equivalent cancer risk estimate)".[18]

Thus, an HRA is required to determine whether or not the proposed Project would expose sensitive receptors to substantial air pollutants. The DEIR should have conducted some sort of quantitative analysis and compared the results of this analysis to applicable thresholds. The SCAQMD provides a specific numerical threshold of 10 in one million for determining a project's health risk impact.[19] Therefore, the DEIR should have conducted an assessment that compares the Project's construction and operational health risks to this threshold in order to determine the Project's health risk impact. By failing to prepare an HRA, the DEIR fails to provide a comprehensive analysis of the sensitive receptor impacts that may occur as a result of exposure to substantial air pollutants.

Additionally, the omission of a quantified construction and operational HRA is inconsistent with the most recent guidance published by the Office of Environmental Health Hazard Assessment ("OEHHA"), the organization responsible for providing recommendations for health risk assessments in California. In February of 2015, OEHHA released its most recent *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments*, which was formally adopted in March of 2015.[20] This guidance document describes the types of projects that warrant the preparation of a health risk assessment. Construction of the Project will produce emissions of DPM, through the exhaust stacks of construction equipment over a construction period of 30 months (p. I-22). The OEHHA document recommends that

[18] *Ibid*.
[19] SCAQMD (April 2019) South Coast AQMD Air Quality Significance Thresholds, http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2.
[20] OEHHA (Feb 2015) Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments, http://oehha.ca.gov/air/hot_spots/hotspots2015.html

all short-term projects lasting at least two months be evaluated for cancer risks to nearby sensitive receptors.[21]

Furthermore, once construction of the Project is complete, the Project will operate for a long period of time. During operation, the Project will generate vehicle trips, which will generate additional exhaust emissions, thus continuing to expose nearby sensitive receptors to emissions. The OEHHA document recommends that exposure from projects lasting more than 6 months should be evaluated for the duration of the project, and recommends that an exposure duration of 30 years be used to estimate individual cancer risk for the maximally exposed individual resident ("MEIR").[22] Even though we were not provided with the expected lifetime of the Project, we can reasonably assume that the Project will operate for at least 30 years, if not more. Therefore, health risks from Project operation should have also been evaluated by the DEIR, as a 30-year exposure duration vastly exceeds the 2-month and 6-month requirements set forth by OEHHA. These recommendations reflect the most recent health risk policy, and as such, an updated assessment of health risks to nearby sensitive receptors from Project construction and operation should be included in an updated DEIR for the project.

Finally, as discussed above, the DEIR states that the "nearest sensitive receptors to Project construction activities are residential uses located west of the site (approximately 450 feet or roughly 150 meters). However, this analysis conservatively assumes an approximately 100-meter or 328-foot receptor distance" (p. I-20). This is incorrect, as the DEIR includes a table with nearby projects, including several closer sensitive receptors (see excerpt below) (Table III-1, p. III-6).

Table III-1
List of Related Projects

Map No.	Project Location	Project Description	Use	Size
1	1628–1724 E. Ocean Blvd.	Add 51-unit condominium to a 47-unit motel.	Condominiums	51 du
2	245 W. Broadway	New mixed-use project on 1.7-acre site.	Residential	219 du
			Retail	6,000 sf
3	2010 Ocean Blvd.	New mixed-use project with shared amenities on a 1.04-acre site.	Residential	33 du
			Hotel	72 rm
4	207 Seaside Way	Apartment building with two levels of parking.	Apartments	117 du
5	100 Aquarium Way	Expand existing aquarium front by 22,642 sf.	Theater Expansion	22,642 sf 300 seats
6	495 The Promenade North	Mixed-Use	Apartments	20 du
			Retail	5,200 sf
7	110 W. Ocean Blvd.	Adaptive reuse conversion of existing 15-story Ocean Center Building from office use to residential. Re-establish retail use on Ocean & Pine.	Residential	74 du
8	150 W. Ocean Blvd.	Apartments	Apartments	216 du

[21] *Ibid*., p. 8-18.
[22] *Supra*, fn 20, p. 8-6, 8-15.

As you can see in the excerpt above, the DEIR includes a list of several nearby projects. Review of these locations in Google Earth reveals that the projects located at 110 W. Ocean Blvd and 207 Seaside Way are 30 meters and 75 meters from the Project site, respectively. These receptors would be exposed during construction of the proposed Project that will require the use of off-road equipment and heavy-duty on-road hauling trucks, which both emit diesel particulate matter ("DPM") emissions, a type of TAC. Furthermore, once operational, the Project will generate additional vehicle trips that will emit substantial amounts of DPM emissions. Therefore, the health risk from the Project's construction and operational emissions should have been evaluated by the DEIR. By failing to do so, the Project's air quality impacts are not adequately addressed or evaluated.

Updated Analysis Demonstrates Significant Health Risk

In an effort to demonstrate the potential risk posed by Project construction and operation to nearby sensitive receptors, we prepared a simple screening-level HRA. The results of our assessment, as described below, demonstrate that the Project will have a significant health risk.

In order to conduct our screening-level risk assessment we relied upon AERSCREEN (output files attached hereto as Exhibit B), which is a screening level air quality dispersion model.[23] The model replaced SCREEN3, and AERSCREEN is included in the OEHHA[24] and the California Air Pollution Control Officers Associated (CAPCOA)[25] guidance as the appropriate air dispersion model for Level 2 health risk screening assessments ("HRSAs"). A Level 2 HRSA utilizes a limited amount of site-specific information to generate maximum reasonable downwind concentrations of air contaminants to which nearby sensitive receptors may be exposed. If an unacceptable air quality hazard is determined to be possible using AERSCREEN, a more refined modeling approach is required prior to approval of the Project.

We prepared a preliminary HRA of the Project's health-related impact to sensitive receptors using the annual PM_{10} exhaust estimates from SWAPE's annual CalEEMod output files. As previously discussed, the closest sensitive residential receptor is approximately 30 meters from the Project site boundary (Table III-1, p. III-6). Consistent with recommendations set forth by OEHHA, we used a residential exposure duration of 30 years, starting from the 3rd trimester stage of life. We also assumed that construction and operation of the Project would occur in quick succession, with no gaps between each Project phase. The SWAPE annual CalEEMod model's annual emissions indicate that construction activities will generate approximately 375.8 pounds of DPM over the 30-month, or 912-day construction period. The AERSCREEN model relies on a continuous average emission rate to simulate maximum downward concentrations from point, area, and volume emission sources. To account for the variability in equipment usage and truck trips over Project construction, we calculated an average DPM emission rate by the following equation.

[23] U.S. EPA (April 2011) AERSCREEN Released as the EPA Recommended Screening Model, http://www.epa.gov/ttn/scram/guidance/clarification/20110411_AERSCREEN_Release_Memo.pdf.
[24] *Supra*, fn 20.
[25] CAPCOA (July 2009) Health Risk Assessments for Proposed Land Use Projects, http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA_HRA_LU_Guidelines_8-6-09.pdf.

$$Emission\ Rate\ \left(\frac{grams}{second}\right) = \frac{375.8\ lbs}{912\ days} \times \frac{453.6\ grams}{lbs} \times \frac{1\ day}{24\ hours} \times \frac{1\ hour}{3{,}600\ seconds} = \mathbf{0.002163\ g/s}$$

Using this equation, we estimated a construction emission rate of 0.002163 grams per second (g/s). The SWAPE's annual CalEEMod output files indicate that operational activities will generate approximately 194.8 pounds of DPM per year over 27.5 years of operation. Applying the same equation used to estimate the construction DPM emission rate, we estimated the following emission rate for Project operation.

$$Emission\ Rate\ \left(\frac{grams}{second}\right) = \frac{194.8\ lbs}{365\ days} \times \frac{453.6\ grams}{lbs} \times \frac{1\ day}{24\ hours} \times \frac{1\ hour}{3{,}600\ seconds} = \mathbf{0.002802\ g/s}$$

Using this equation, we estimated an operational emission rate of 0.002802 g/s. Construction and operation were simulated as a 1.36-acre rectangular area source in AERSCREEN, with dimensions of 106 meters by 52 meters. A release height of three meters was selected to represent the height of stacks of operational equipment and other heavy-duty vehicles, and an initial vertical dimension of one and a half meters was used to simulate instantaneous plume dispersion upon release. An urban meteorological setting was selected with model-default inputs for wind speed and direction distribution.

The AERSCREEN model generates maximum reasonable estimates of single-hour DPM concentrations from the Project Site. EPA guidance suggests that in screening procedures, the annualized average concentration of an air pollutant be estimated by multiplying the single-hour concentration by 10%.[26] For example, for the closest sensitive receptor the single-hour concentration estimated by AERSCREEN for Project construction is approximately 7.921 µg/m^3 DPM at approximately 25 meters downwind. Multiplying this single-hour concentration by 10%, we get an annualized average concentration of 0.7921 µg/m^3 for Project construction at the closest sensitive receptor. For Project operation, the single-hour concentration at the closest sensitive receptor estimated by AERSCREEN is approximately 10.26 µg/m^3 DPM at approximately 25 meters downwind. Multiplying this single-hour concentration by 10%, we get an annualized average concentration of 1.026 µg/m^3 for Project operation at the closest sensitive receptor.

Furthermore, the closest sensitive receptor is not necessarily the receptor experiencing the highest concentration of Toxic Air Contaminant ("TAC") exposure. AERSCREEN models emissions at different distances, with the maximum one-hour concentration increasing and then decreasing with distance. As a result, the closest sensitive receptor is not always the receptor experiencing the maximum exposure. In this case, for our construction and operational AERSCREEN models, the maximum exposed individual receptor ("MEIR") is located at 50 meters from the Project site, with maximum single-hour DPM concentrations of 8.742 µg/m^3 and 11.32 µg/m^3, respectively. These exposures are higher than both at the closest sensitive receptor to the Project site, described previously. Multiplying these single-hour concentrations by 10%, we get annualized average concentrations of 0.8742 µg/m^3 and 1.132 µg/m^3, respectively.

[26] U.S. EPA (October 1992) Screening Procedures for Estimating the Air Quality Impact of Stationary Sources Revised, http://www.epa.gov/ttn/scram/guidance/guide/EPA-454R-92-019_OCR.pdf.

We calculated the excess cancer risk to the residential receptors both maximally exposed and located closest to the Project site using applicable HRA methodologies prescribed by OEHHA and the SCAQMD. Consistent with the construction schedule proposed by the DEIR, the annualized average concentration for construction was used for the entire third trimester of pregnancy (0.25 years), the entire infantile stage of life (0—2 years), and the first 0.25 years of the child stage of life (2—16) years. The annualized average concentration for operation was used for the remainder of the 30-year exposure period, which makes up the remainder of the child stage of life (2 – 16 years) and the entire adult stage of life (16 – 30 years). Consistent with OEHHA, SCAQMD, Bay Area Air Quality Management District ("BAAQMD"), and San Joaquin Valley Unified Air Pollution Control District ("SJVAPCD") guidance, we used Age Sensitivity Factors ("ASFs") to account for the heightened susceptibility of young children to the carcinogenic toxicity of air pollution.[27, 28, 29, 30] According to the most updated guidance, quantified cancer risk should be multiplied by a factor of ten during the third trimester of pregnancy and during the first two years of life (infant). Furthermore, in accordance with guidance set forth by OEHHA, we used the 95th percentile breathing rates for infants.[31] Finally, according to SCAQMD guidance, we used a Fraction of Time At Home ("FAH") Value of 1 for the 3rd trimester and infant receptors.[32] We used a cancer potency factor of 1.1 (mg/kg-day)$^{-1}$ and an averaging time of 25,550 days. The results of our calculations are shown in the tables on the following page.

[27] OEHHA (Feb 2015) Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments, https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.

[28] SCAQMD (March 2019) Draft Environmental Impact Report (DEIR) for the Proposed The Exchange (SCH No. 2018071058), p. 4, http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2019/march/RVC190115-03.pdf?sfvrsn=8.

[29] BAAQMD (May 2017) California Environmental Quality Act Air Quality Guidelines, p. 56, http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en; *see also* BAAQMD (May 2011) Recommended Methods for Screening and Modeling Local Risks and Hazards, p. 65, 86, http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/BAAQMD%20Modeling%20Approach.ashx.

[30] SJVAPCD (May 2015) Update to District's Risk Management Policy to Address OEHHA's Revised Risk Assessment Guidance Document, p. 8, 20, 24, https://www.valleyair.org/busind/pto/staff-report-5-28-15.pdf.

[31] SCAQMD (Jun 2015) Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics 'Hot Spots' Information and Assessment Act, p. 19, http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab2588-risk-assessment-guidelines.pdf?sfvrsn=6; *see also* OEHHA (Feb 2015) Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments, https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf.

[32] SCAQMD (Aug 2017) Risk Assessment Procedures for Rules 1401, 1401.1, and 212, p. 7, http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1401/riskassessmentprocedures_2017_080717.pdf.

The Closest Exposed Individual at a Residential Receptor (25 meters)					
Activity	**Duration (years)**	**Concentration (ug/m3)**	**Breathing Rate (L/kg-day)**	**ASF**	**Cancer Risk**
Construction	0.25	0.7921	361	10	1.1E-05
3rd Trimester Duration	***0.25***			***3rd Trimester Exposure***	***1.1E-05***
Construction	2.00	0.7921	1090	10	2.6E-04
Infant Exposure Duration	***2.00***			***Infant Exposure***	***2.6E-04***
Construction	0.25	0.7921	572	3	5.1E-06
Operation	13.75	1.026	572	3	3.6E-04
Child Exposure Duration	***14.00***			***Child Exposure***	***3.7E-04***
Operation	14.00	1.026	261	1	4.1E-05
Adult Exposure Duration	***14.00***			***Adult Exposure***	***4.1E-05***
Lifetime Exposure Duration	**30.00**			**Lifetime Exposure**	**6.8E-04**

The Maximum Exposed Individual at a Residential Receptor (MEIR) (50 meters)					
Activity	**Duration (years)**	**Concentration (ug/m3)**	**Breathing Rate (L/kg-day)**	**ASF**	**Cancer Risk**
Construction	0.25	0.8742	361	10	1.2E-05
3rd Trimester Duration	***0.25***			***3rd Trimester Exposure***	***1.2E-05***
Construction	2.00	0.8742	1090	10	2.9E-04
Infant Exposure Duration	***2.00***			***Infant Exposure***	***2.9E-04***
Construction	0.25	0.8742	572	3	5.7E-06
Operation	13.75	1.132	572	3	4.0E-04
Child Exposure Duration	***14.00***			***Child Exposure***	***4.1E-04***
Operation	14.00	1.132	261	1	4.5E-05
Adult Exposure Duration	***14.00***			***Adult Exposure***	***4.5E-05***
Lifetime Exposure Duration	**30.00**			**Lifetime Exposure**	**7.5E-04**

The excess cancer risk posed to adults, children, infants, and during the third trimester of pregnancy at the closest sensitive receptor, located approximately 25 meters away, over the course of Project construction and operation, are approximately 41, 370, 260, and 11 in one million, respectively. *The excess cancer risk over the course of a residential lifetime (30 years) at the closest receptor is approximately 680 in one million*. Furthermore, the excess cancer risk posed to adults, children, infants, and during the third trimester of pregnancy at the maximally exposed receptor, located at 50 meters away over the course of Project construction and operation, are approximately 45, 410, 290, and 12 in one million, respectively. The excess cancer risk over the course of a residential lifetime (30 years) at the maximally exposed receptor ("MEIR") is approximately 750 in one million. Consistent with OEHHA guidance, exposure was assumed to begin during the 3rd trimester of pregnancy to provide the most conservative estimates of air quality hazards. *The adult, child, infant, and lifetime cancer risks all exceed the SCAQMD's threshold of 10 in one million for both the closest receptor and the MEIR, thus resulting in a potentially significant impact not previously addressed or identified by the DEIR*.

Furthermore, we conducted a health risk analysis using older OEHHA guidance from 2003.[33] This guidance utilizes a less health protective scenario than what is currently recommended by SCAQMD, the air quality district responsible for the City, and several other air districts in the state. In the 2003 Guidance Manual, OEHHA suggests calculating the excess cancer risk to nearby sensitive receptors without adjusting for the heightened susceptibility of young children to the carcinogenic toxicity of air pollution. Although it is not the most recent or health protective guidance, we have calculated the excess cancer risk to nearby sensitive receptors following OEHHA's 2003 guidance, not adjusting for age sensitivity. All other HRA methodologies are the same as described above. The results of our calculations are shown below.

The Closest Exposed Individual at a Residential Receptor (25 meters)				
Activity	**Duration (years)**	**Concentration (ug/m3)**	**Breathing Rate (L/kg-day)**	**Cancer Risk**
Construction	0.25	0.7921	361	1.1E-06
3rd Trimester Duration	***0.25***		***3rd Trimester Exposure***	***1.1E-06***
Construction	2.00	0.7921	1090	2.6E-05
Infant Exposure Duration	***2.00***		***Infant Exposure***	***2.6E-05***
Construction	0.25	0.7921	572	1.7E-06
Operation	13.75	1.026	572	1.2E-04
Child Exposure Duration	***14.00***		***Child Exposure***	***1.2E-04***
Operation	14.00	1.026	261	4.1E-05
Adult Exposure Duration	***14.00***		***Adult Exposure***	***4.1E-05***
Lifetime Exposure Duration	**30.00**		**Lifetime Exposure**	**1.9E-04**

[33] OEHHA (Aug 2003) The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, https://oehha.ca.gov/media/downloads/crnr/hrafinalnoapp.pdf.

The Maximum Exposed Individual at a Residential Receptor (MEIR) (50 meters)				
Activity	**Duration (years)**	**Concentration (ug/m3)**	**Breathing Rate (L/kg-day)**	**Cancer Risk**
Construction	0.25	0.8742	361	1.2E-06
3rd Trimester Duration	***0.25***		***3rd Trimester Exposure***	***1.2E-06***
Construction	2.00	0.8742	1090	2.9E-05
Infant Exposure Duration	***2.00***		***Infant Exposure***	***2.9E-05***
Construction	0.25	0.8742	572	1.9E-06
Operation	13.75	1.132	572	1.3E-04
Child Exposure Duration	***14.00***		***Child Exposure***	***1.4E-04***
Operation	14.00	1.132	261	4.5E-05
Adult Exposure Duration	***14.00***		***Adult Exposure***	***4.5E-05***
Lifetime Exposure Duration	**30.00**		**Lifetime Exposure**	**2.1E-04**

The excess cancer risk posed to adults, children, infants, and during the third trimester of pregnancy at the closest receptor, located approximately 25 meters away, over the course of Project construction and operation, are approximately 41, 120, 26, and 1.1 in one million, respectively. The excess cancer risk over the course of a residential lifetime (30 years) at the closest receptor is approximately 190 in one million. Furthermore, the excess cancer risk posed to adults, children, infants, and during the third trimester of pregnancy at the closest exposed receptor, located at 50 meters away over the course of Project construction and operation, are approximately 45, 140, 29, and 1.2 in one million, respectively. The excess cancer risk over the course of a residential lifetime (30 years) at the maximally exposed receptor ("MEIR") is approximately 210 in one million. Consistent with OEHHA guidance, exposure was assumed to begin during the 3rd trimester of pregnancy to provide the most conservative estimates of air quality hazards. *Even when calculating a less health protective HRA using outdated OEHHA guidelines, the adult, child, infant, and lifetime cancer risks significantly exceed the SCAQMD threshold of 10 in one million*. This again reveals potentially significant impacts not previously addressed or identified by the DEIR.

An agency must include an analysis of health risks that connects the Project's air emissions with the health risk posed by those emissions. Our analysis represents a screening-level HRA, which is known to be conservative and tends to err on the side of health protection.[34] The purpose of the screening-level construction HRA shown above is to demonstrate the link between the proposed Project's emissions and the potential health risk. Our screening-level HRA demonstrates that construction of the Project could result in a potentially significant health risk impact, when correct exposure assumptions and up-to-date, applicable guidance are used. Therefore, since our screening-level construction HRA indicates a potentially significant impact, the DEIR should include a reasonable effort to connect the Project's air quality emissions and the potential health risks posed to nearby receptors. Thus, an updated DEIR should include a quantified air pollution model as well as an updated, quantified refined health risk

[34] *Supra*, fn 20*,* p. 1-5.

assessment which adequately and accurately evaluates health risk impacts associated with both Project construction and operation.

Greenhouse Gas

Failure to Adequately Evaluate the Project's Greenhouse Gas Impacts

The DEIR determines that the Project's GHG impact would be less than significant as a result of consistency with the 2008 CARB Climate Change Scoping Plan and updates, the Southern California Association of Governments' (SCAG) 2016-2014 Regional Transportation Plan/Sustainable Community Strategies (RTP/SCS), and the City of Long Beach's Sustainable City Action Plan (p. I-42). Specifically, the DEIR states,

> "Thus, given the Project's consistency with state, SCAG and City of Long Beach GHG emission reduction goals and objectives, the Project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. In the absence of adopted standards and established significance thresholds, and given this regulatory consistency, it is concluded that the Project's impacts with respect to GHG emissions would be less than significant and would not be cumulatively considerable" (p. I-49).

However, the above claim is entirely incorrect because:

(1) The California Air Resources Board ("CARB") AB 32 Scoping Plan and the Southern California Association of Governments ("SCAG") Regional Transportation Plan/Sustainable Community Strategies ("RTP/SCS") cannot be relied upon to determine Project significance;
(2) Compliance with the City of Long Beach's Sustainable City Action Plan cannot be relied upon to determine Project significance;
(3) The DEIR fails to adequately demonstrate Project compliance with the 2017 Scoping Plan and SCAG RTP/SCS;
(4) The EIR Fails to Demonstrate Additionality,
(5) Notwithstanding the DEIR's use of incorrect and unsubstantiated qualitative analysis to underestimate the Project's GHG emissions, it nevertheless demonstrates the Project exceeds bright-line and efficiency thresholds numeric thresholds—some of which are proposed and even used by the City for other hotel projects;
(6) An updated, CalEEMod-compliant qualitative analysis of the Project's GHG emissions shows the Project will greatly exceed applicable bright-line and efficiency thresholds, thus, resulting in a significant impact that was not previously identified or addressed by the DEIR; and
(7) The DEIR's failure to apply the SCAQMD's bright-line and efficiency thresholds to Project emissions is inconsistent with evolving scientific knowledge and regulatory schemes.

1) CARB's AB 32 Scoping Plans and SCAG's RTP/SCS Contain No Binding, Project-Specific Requirements and, Thus, Cannot Be the Sole Justification for GHG Significance

While CEQA Guidelines § 15064.4(a) provides lead agencies the discretion to conduct a quantitative and/or qualitative analysis, both shall be "based to the extent possible on scientific and factual data" and "must reasonably reflect evolving scientific knowledge and state regulatory schemes." CEQA Guidelines § 15064.4 subds. (a) & (b). So too, the selection of any threshold must be supported by substantial evidence. CEQA Guidelines § 15604.7(c).

Here, while the DEIR provides a quantitative analysis for "informational purposes only," the EIR relies solely on a qualitative analysis to determine the Project's GHG significance (DEIR, p. IV.C-36 – IV.C-37). The DEIR's qualitative analysis seeks to show the Project's consistency with the CARB's AB 32 2008 Climate Change Scoping Plan and subsequent updates, SCAG's 2016–2040 RTP/SCS, and the City's Sustainable City Action Plan ("SCAP"). However, none of these are qualified plans as envisioned under CEQA Guidelines §§ 15064.4(b)(3), 15183.5(b), and 15064(h)(3).

First, CEQA Guidelines § 15064.4(b)(3) allows a lead agency to consider "[t]he extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions (*see, e.g., section 15183.5(b)*)." (Emph. added). When adopting this language, the California Natural Resources Agency ("Resources Agency") explained in its 2018 Final Statement of Reasons for Regulatory Action ("2018 Statement of Reason")[35] that it explicitly added referenced to section 15183.5(b) because it was "needed to clarify that lead agencies may rely on plans *prepared pursuant to section 15183.5* in evaluating a project's [GHG] emissions … [and] consistent with the Agency's Final Statement of Reasons for the addition of section 15064.4, which states that 'proposed section 15064.4 is intended to be *read in conjunction with . . . proposed section 15183.5*. Those sections each indicate that local and regional plans may be developed to reduce GHG emissions.'" 2018 Final Statement of Reason, p. 19 (emph. added); *see also* 2009 Final Statement of Reasons for Regulatory Action, p. 27.[36] When read in conjunction, CEQA Guidelines §§ 15064.4(b)(3) and 15183.5(b)(1) make clear qualified GHG reduction plans (also commonly referred to as a Climate Action Plan ["CAP"]) should include the following features:

(1) **Inventory**: Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities (e.g., projects) within a defined geographic area (e.g., lead agency jurisdiction);
(2) **Establish GHG Reduction Goal**: Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable;

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[35] Resources Agency (Nov. 2018) Final Statement of Reasons For Regulatory Action: Amendments To The State CEQA Guidelines, http://resources.ca.gov/ceqa/docs/2018_CEQA_Final_Statement_of%20Reasons_111218.pdf.
[36] Resources Agency (Dec. 2009) Final Statement of Reasons for Regulatory Action, p. 27 ("Those sections each indicate that local and regional plans may be developed to reduce GHG emissions. If such plans reduce community-wide emissions to a level that is less than significant, a later project that complies with the requirements in such a plan may be found to have a less than significant impact."), http://resources.ca.gov/ceqa/docs/Final_Statement_of_Reasons.pdf.

(3) **Analyze Project Types**: Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area;
(4) **Craft Performance-Based Mitigation Measures**: Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level; and
(5) **Monitoring**: Establish a mechanism to monitor the CAP progress toward achieving said level and to require amendment if the plan is not achieving specified levels.

The above-listed CAP features provide the necessary *substantial evidence demonstrating a project's incremental contribution is not cumulative considerable*, as required under CEQA Guidelines § 15064.4(b)(3).[37] Here, however, none of the plans identified in the DEIR include the above-listed features to be considered a qualified CAP for the City, such as: inventorying the City's contribution to the State's GHG emissions, establishing the City's fair share in GHG reduction goal, quantifying the GHG impact of various project types in the City, crafting performance-based mitigation measures that quantifiably meets City-specific reduction goal, or including a City monitoring program that ensures the plan's effectiveness.

Second, none of these plans satisfy requirements under CEQA Guideline § 15064(H)(3). Subdivision (h)(3) permits lead agencies to find projects not cumulative considerable when a project complies with an approved plan or mitigation program that "provides *specific requirements* that will avoid or substantially lessen the cumulative problems *within the geographic area* in which the project is located … [and] the lead agency should *explain* how implementing the particular requirements in the plan, regulation or program ensure that the *project's incremental contribution* to the cumulative effect is not cumulatively considerable." (Emph. added). When adopted, the Resources Agency explained that this subsection provides a "rebuttable presumption" for "certain" plans, such as local CAPs. 2009 Final Statement of Reason, p. 14-15. As further explained, "consistency with plans that are *purely aspirational* (i.e., those that include *only unenforceable goals without mandatory reduction measures*), and *provide no assurance that emissions within the area governed by the plan will actually address the cumulative problem*, may not achieve the level of protection necessary to give rise to this subdivision's presumption." *Id*., p. 16 (emph. added). Hence, lead agencies must "*draw a link* between the project and the *specific provisions of a binding plan or regulation*," before subsection (h)(3) rebuttable presumption is to take effect.

Here, however, the AB 32 Scoping Plan is not City specific. Furthermore, the actions and strategies listed in the DEIR (Tbls. IV.C-6 & IV.C-7) only tangentially related to the Project (e.g., Cap-and-Trade, Renewables Portfolio Standard, Low Carbon Fuel Standards, etc.). For example, the DEIR suggest that the Project's GHG emissions from mobile sources are covered by CARB's Cap-and-Trade program. See

[37] *See Mission Bay Alliance v. Office of Community Investment & Infrastructure* (2016) 6 Cal.App.5th 160, 200-201 (Upheld qualitative GHG analysis when based on city's adopted its greenhouse gas strategy that contained "multiple elements" of CEQA Guidelines § 15183.5(b), "quantification of [city's] baseline levels of [GHG] emissions and planned reductions[,]" approved by the regional air district, and "[a]t the heart" of the city's greenhouse gas strategy was "specific regulations" and measures to be implemented on a "project-by-project basis … designed to achieve the specified citywide emission level.").

e.g., DIER, p. IV.C-19 ("… virtually all, if not all, of GHG emissions from CEQA projects associated with vehicle miles traveled (VMT) are covered by the Cap-and-Trade Program."), p. IV.C-55 ["Cap-and-Trade Program also covers the GHG emissions associated with the combustion of transportation fuels in California, whether refined in-state or imported."). However, CARB has stated it would be "misguided" to suggest Cap-and-Trade covers mobile emissions from local land use projects, and made it abundantly clear that its Scoping Plans are "non-binding" on local governments. *See* CARB (12/5/18) RE Centennial Specific Plan Final EIR, p. 3-4, 6-7, 10-11 (https://ww3.arb.ca.gov/toxics/ttdceqalist/centennialfeir.pdf). Similarly, SCAG's 2016 RTP/SCS is not City-specific and contains purely aspirational language without any binding, mandatory requirements on specific projects.[38] While the City's SCAP is geographic-specific, it too contains only aspirational actions without and specific requirements for private developments.[39] None of the CARB, SCAG, or City actions/strategies cited are specific, mandatory, binding requirements for the Project. As such, the EIR leaves an analytical gap showing compliance with said plans will translate into a project-level insignificance determination for the Project, and/or that the City is meeting its fair share in reducing the State's GHG emissions required under AB 32.[40]

Third, the City's current efforts to adopt its own CAP (i.e., the Climate Action and Adaptation Plan), which would purportedly satisfy CEQA Guidelines 15064(h)(3) (DEIR, p. IV.C-29), begs the question why would the City go forth with its own CAP if the AB 32 Scoping Plans, 2016 RTP/SCS, and SCAP already qualify under 15064(h)(3). The clear indication is that those existing plans are not appropriate to determine GHG significance at a City, project-level.

In sum, none of the plans relied upon in the DEIR are geographic-specific with mandatory, binding mitigation measures specific for the Project. The DEIR fails to draw the link between any ***specific***

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[38] See SCAG (Apr. 2016) 2016 RTP/SCS, Chapter 5 ("***Reflect*** the changing population and demands … ***Focus*** new growth around transit … ***Plan*** for growth around livable corridors … ***Provide*** more options for short trips … ***Support*** local sustainability planning … ***Protect*** natural and farm lands … ***Preserve*** our existing [transportation] system … ***Manage*** congestion … ***Promote*** zero-emissions vehicles … ***Promote*** safety and security ….") (Emphasis added), http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS.pdf.

[39] See City (Feb. 2010) SCAP, ("***Explore*** green development requirements … ***Incorporate*** sustainability strategies … ***Encourage*** neighborhood and business groups to sponsor and participate in community clean-up … ***Employ*** best practices to avoid, minimize or mitigate greenhouse gas emissions … ***Educate*** and ***encourage*** residents and businesses to calculate their carbon footprint … ***Pursue*** emerging cutting-edge renewable energy technologies … ***Implement*** energy efficiency and conservation measures … ***Encourage*** the community to participate in energy efficiency and conservation programs … ***Promote*** the development of renewable energy and emerging greenhouse gas technologies … ***Encourage*** local car-pool programs to reduce the number of single occupancy commute trips … ***Support*** the use of neighborhood electric vehicles … ***Promote*** bike share opportunities throughout the city ….") (Emphasis added), http://www.longbeach.gov/globalassets/sustainability/media-library/documents/nature-initiatives/action-plan/scap-final.

[40] *See Golden Door Properties, LLC v. County of San Diego* (2018) 27 Cal.App.5th 892, 905 (held County's GHG threshold relying on statewide standards failed to comply with CEQA Guidelines § 15064.7(c) because it did not address the County specifically); *Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 62 Cal.4th 204, 230 ("Local governments thus bear the primary burden of evaluating a land use project's impact on greenhouse gas emissions. Some of this burden can be relieved by using geographically specific greenhouse gas emission reduction plans to provide a basis for the tiering or streamlining of project-level CEQA analysis.");

provisions that ensure the Project's incremental contribution to climate change is not cumulatively considerable.

2) The City of Long Beach's Sustainable City Action Plan is Not Applicable to the Project

As previously mentioned, the Project relies upon consistency with the City of Long Beach's Sustainable City Action Plan to determine Project significance. However, review of the plan demonstrates that the City has failed to include goals or targets beyond 2020.[41]

Given the construction schedule, the Project is not set to become operational until July 2022 (p. I-22). However, the City's Sustainability Action Plan is only applicable to projects that will be fully operational by 2020. Because the City's Sustainable Action Plan fails to include an emissions reduction target for 2030, it is therefore not applicable to the proposed Project. Thus, we require that an updated DEIR be prepared to include an adequate evaluation and mitigation of the proposed Project's GHG emissions to ensure that impacts are reduced to a less than significant level.

3) Failure to Demonstrate Compliance with the CARB 2017 Scoping Plan, and SCAG RTP/SCS

As previously mentioned, the EIR attempts to show compliance with CARB's various Scoping Plans and SCAG's RTP/SCS. The DEIR's chief claim is that the Project is an "infill" development (DEIR, p. IV.C-49, IV.C-56, IV.C-61 – IV.C-62, IV.C-67 – IV.C-69) and, therefore, consistent with the aspirational actions/strategies under these plans. Notwithstanding these plans fail to qualify under the CEQA Guidelines (discussed *supra*), the EIR failed to discuss the Project's inconsistency with numerous non-binding measures and policies under CARB's 2017 Scoping Plan and SCAG's 2016 RTP/SCS.

CARB 2017 Scoping Plan[42]
The California Global Warming Solutions Act of 2006 ("AB 32") was signed into law in September 2006. The law instructs the California Air Resources Board ("CARB") to develop and enforce regulations for the reporting and verifying of statewide GHG emissions. The heart of AB 32 is the requirement that statewide GHG emissions be reduced to 1990 levels by 2020 (Health & Saf. Code § 38500 *et seq*.). However, in April 2015, Governor Edmund G. Brown Jr. issued Executive Order B-30-15 that, *inter alia*, establish a California GHG reduction target of 40 percent below 1990 levels by 2030 as a step toward the ultimate goal of reducing emissions by 80 percent below 1990 levels by 2050. In September 2016, this goal was made into law with Governor Brown's signing of Senate Bill 32 ("SB 32") (enacting Health & Saf. Code § 38566). To this end, CARB released various guidance documents outlining how the State is to achieve the abovementioned goals, including its adoption of its 2017 Scoping Plan in November 2017 that proposes various project-specific, measures lead agencies *could* consider in mitigation a Project's GHG impact, such as:
Optional Measures - Operation

[41] *Supra* fn. 39.

[42] CAPCOA, (Jan 2017) 2017 Scoping Plan, Appendix B-Local Action, p. 7-9, https://www.arb.ca.gov/cc/scopingplan/app_b_local_action_final.pdf

Require on-site EV charging capabilities for parking spaces serving the project to meet jurisdiction-wide EV proliferation goals.	Here, the DEIR fails to mention on-site EV charging capabilities for parking spaces.
Dedicate on-site parking for shared vehicles.	Here, the DEIR fails to discuss on-site parking for shared vehicles.
Require organic collection in new developments.	Here, the DEIR states that the Project would comply with "AB 1826 which requires organic waste recycling" (p. VI-3). However, the DEIR also claims that "[t]he Project would be consistent with AB 341 which requires not less than 75 percent of solid waste generated to be source reduced through recycling, composting, or diversion" (p. IV.C-63-64). However, neither of these claims indicate any actual programs or policies regarding implementation or enforcement of organic collection.
Require low-water landscaping in new developments. Require water-efficient landscape maintenance to conserve water and reduce landscape waste.	Here, the DEIR claims that the Project will include "water efficient plantings with drought-tolerant species" (p. I-53). However, the DEIR fails to indicate which species, how they will be maintained, what the watering process will be like, or any other details.
Achieve Zero Net Energy performance targets prior to dates required by CALGreen.	Here, the DEIR states, while describing the 2008 CARB Climate Change Scoping Plan, that it includes "new residential and commercial building energy improvements, specifically identifying progress towards zero net energy buildings" (p. IV.C-16). Although the DEIR acknowledges this as part of the 2008 Scoping Plan, it fails to address how the Project will help achieve this goal.
Require preferential parking spaces for park and ride to incentivize carpooling, vanpooling, commuter bus, electric vehicles, and rail service use.	Here, the DEIR states that "[a]n on-site parking stall will be reserved for a car share vehicle, or be placed within walking distance of the hotel" (Appendix E, pp. 251). However, this does not verify that the Project will include any preferential spaces for park and ride, but rather there may be one on site, or somewhere nearby. This is insufficient, as the SCAG RTP/SCS measure indicates more than one space, and that it is part of the Project.
Require a transportation management plan for specific plans which establishes a numeric target for non- single occupancy vehicles ("SOV") travel and overall vehicles miles traveled ("VMT").	Here, while the DEIR does include a transportation demand management plan, it is not required for specific plans to establish a numeric target for SOV travel and VMT.

Develop a rideshare program targeting commuters to major employment centers.	Here, the DEIR states that "[r]ideshare matching programs help carpools to form by matching drivers and passengers. Information about other ridesharing apps will be disseminated to employees in their orientation packages and on the hotel website for guests. The Transportation Coordinator will also facilitate carpool matching for employees with common residence locations" (Appendix E, pp. 253).
Require the design of bus stops/shelters/express lanes in new developments to promote the usage of mass transit.	Here, the DEIR states that "[t]here are existing bus stops on Ocean Boulevard and Pine Avenue adjacent to the Project site" (Appendix E, pp. 50). However, the DEIR fails to mention any new bus stops, shelters, or express lanes to promote mass transit use.
Require electric vehicle charging station (conductive/inductive) and signage for non-residential developments.	Here, the DEIR fails to mention electric vehicle charging stations. The DEIR does mention wayfinding signage, but nothing for EV charging stations (I-53).
Provide electric outlets to promote the use of electric landscape maintenance equipment to the extent feasible on parks and public/quasi-public lands.	Here, the DEIR fails to address electric outlets to promote the use of electric landscape maintenance equipment.
Require the installation of energy conserving appliances such as on-demand tank-less water heaters and whole-house fans.	Here, the DEIR states that it will include the "[u]se of high-efficiency fixtures and appliances" and the "[u]se of high-efficiency Energy Star-rated dishwashers and clothes washers where appropriate" (p. II-24). However, the DEIR fails to specify which fixtures and appliances will be high-efficiency, how they define "appropriate" for Energy Star-rated dishwashers and clothes washers, or how they will be enforced and maintained.
Require large-scale residential developments and commercial buildings to report energy use, and set specific targets for per-capita energy use.	Here, the DEIR fails to mention any reporting of energy use or specific per-capita targets for energy use.
Require each residential and commercial building to utilize low flow water fixtures such as low flow toilets and faucets.	Here, the DEIR claims that "the Project would incorporate water conservation features that would contribute towards meeting this performance based standard. Examples include: high-efficiency toilets and urinals" (p. IV.C-58). However, the DEIR states that these are merely examples, which fails to ensure that they will be included in the Project. In

	addition, the DEIR fails to mention low flow faucets, or other water fixtures.
Incorporate water retention in the design of parking lots and landscaping.	Here, the DEIR states that the Project will include an "on-site storm water treatment and re-use system" (p. I-11).
Require the development project to propose an off-site mitigation project which should generate carbon credits equivalent to the anticipated GHG emission reductions. This would be implemented via an approved protocol for carbon credits from California Air Pollution Control Officers Association ("CAPCOA"), the California Air Resources Board, or other similar entities determined acceptable by the local air district.	Here, the DEIR fails to propose an off-site mitigation project that would generate carbon credits.
Require the project to purchase carbon credits from the CAPCOA GHG Reduction Exchange Program, American Carbon Registry ("ACR"), Climate Action Reserve ("CAR") or other similar carbon credit registry determined to be acceptable by the local air district.	Here, the DEIR fails to mention the Project purchasing carbon credits from the CAPCOA GHG Reduction Exchange Program, ACR, CAR, or any other similar carbon credit registry.
Encourage the applicant to consider generating or purchasing local and California-only carbon credits as the preferred mechanism to implement its offsite mitigation measure for GHG emissions and that will facilitate the State's efforts in achieving the GHG emission reduction goal.	Here, the DEIR fails to address generating or purchasing local and California-only carbon credits as the preferred mechanism to implement offsite mitigation measures.

SCAG 2012-2035 and 2016-2040 RTP/SCS

In April 2012, SCAG adopted its 2012-2035 RTP/ SCS ("2012 RTP/SCS"), which proposed ***aspirational*** land use policies and transportation strategies for local governments to implement that would help the region achieve GHG emission reductions of nine percent per capita in 2020 and 16 percent per capita in 2035.[43] In April 2016, SCAG adopted the 2016-2040 RTP/SCS ("2016 RTP/SCS"), which incorporated and built upon the policies and strategies in the 2012 RTP/SCS, that would help the region achieve GHG emission reductions that would reduce the region's per capita transportation emissions by eight percent by 2020 and 18 percent by 2035.[44] The table below outlines applicable land use policies and transportation strategies identified in the 2012 and 2016 RTP/SCS that the DEIR ignores.

[43] SCAG (Apr. 2012) 2012 RTP/SCS, p. 107-164, http://rtpscs.scag.ca.gov/Documents/2012/final/f2012RTPSCS.pdf.
[44] SCAG (Apr. 2016) 2016 RTP/SCS, p. 8, 15, 69, 75-115, 153, 166, http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS.pdf.

Land Use Policies[45]	
Affordable Housing: Local municipalities should incorporate strategies such as collaborate with local jurisdictions and agencies to acquire a regional fair share housing allocation that reflects existing and future needs.	Here, the Project is inconsistent given it includes no residential uses, much less affordable.
Combating Gentrification and Displacement: Adding to the local housing stock rather than maintaining the current stock by changing the residential population, as well as pursuing the production of permanent affordable housing that will provide some units for affordable to lower-income households.	Here, the Project provides no residential uses and therefore adds no additional housing stock, much less affordable.
Provide More Options for Short Trips: Given 38 percent of all trips in the SCAG region are less than three miles, projects that further policies that encourage replacing motor vehicle use with Neighborhood Electric Vehicle ("NEV") is encouraged. These land use policies shifting retail growth from large centralized retail strip malls to smaller distributed centers and the creation of these mixed-use districts by co-locating housing, employment, and a mix of retail and services that meet most daily needs of local residents with the opportunity to patronize their local area and run daily errands by walking or cycling rather than traveling by automobile.	Here, the Project fails to encourage electric vehicle use. While the DEIR claims that the Project is consistent with various GHG reduction plans, including this one, it fails to provide any additional information about policies or programs it will implement.
Transportation Network Strategies[46]	
Transit Fare Discounts: Incorporating strategies such as encourage transit fare discounts and local vendor product and service discounts for residents and employees of TOD/HQTAs, or for a jurisdiction's local residents in general who have fare media.	Here, the Project claims consistency because "all parking would be valet only" (p. IV.C-62). However, this fails to provide or encourage transit fare discounts, local vendor product and service discounts, or for the local residents who have fare media.
Transit Integration Strategies: This refers to a suite of strategies designed to better integrate active transportation and transit by improving access for pedestrians, bicyclists and other people traveling under their own power around transit stations. Strategies include: • Bike share services in closely packed bike rental kiosks in heavily urbanized areas designed to replace short-distance motor	Here, while the Project includes the existing Long Beach Bike Share station, it does nothing to improve upon or increase its accessibility. Furthermore, the DEIR fails to mention any sort of education or encouragement campaigns.

[45] SCAG 2012 RTP/SCS, *supra* fn. 43, Tbls. 4.3 – 4.7; *see also* SCAG 2016 RTP/SCS, *supra* fn. 44, p. 75-114.
[46] *Ibid*.

vehicle trips, reduce parking demand and complement local bus services such as DASH in the City of Los Angeles; • Education/encouragement campaigns such as advertising, public service announcements and media kits designed to educate the public on the importance of safety.	
Transportation Demand Management (TDM) Strategies[47]	
Expand and encourage the implementation of TDM strategies to their fullest extent such as: • Rideshare incentives and rideshare matching • Parking management and parking cash-out policies • Preferential parking or parking subsidies for carpoolers, • Intelligent parking programs, • Promotion and expansion of Guaranteed Ride Home programs, • Incentives for telecommuting and flexible work schedules, • Integrated mobility hubs and first/last mile strategies, • Incentives for employees who bike and walk to work, • Investments in active transportation infrastructure, and • Investments in Safe Routes to School programs and infrastructure.	Here, the DEIR provides a Transportation Demand Management Plan in Appendix E.3 of the DEIR. However, they are only suggestive and fails to set any specific performance metric.
Clean Vehicle Technology Strategies[48]	
NEVs: Support sub-regional strategies to develop infrastructure and supportive land uses to accelerate fleet conversion to electric technologies, zero-emissions vehicles, and Neighborhood Electric Vehicles ("NEVs").	Here, the DEIR relies on not conflicting with various plans and policies, including this one, to show compliance. However, the DEIR fails to include specific programs that the Project will implement regarding electric technologies, zero-emissions vehicles, and NEVs.
Anticipating Shared Mobility Platforms, Car-To-Car Communication, and Automated Vehicle Technologies: Shared Mobility encompasses a wide range of services including Return Trip Car Sharing, Point-to-Point Car Sharing, Peer-to-Peer Car Sharing, Ridesourcing, Dynamic On-Demand	Here, the Project models vehicle trips assuming ridesharing and on-demand transportation such as Uber and Lyft, but claims "[t]his assumption is based on the urban location of the Project Site, the proposed land uses, and the movement towards a shared economy transportation system" (p. IV.E-20).

[47] *Ibid*.
[48] *Ibid*.

Private Transit, Vanpool and Private Employer Charters.	However, the DEIR fails to include any Project-specific programs, and instead relies on the trends of the area in which it exists.

The following optional, project-level GHG reduction measures outlined in SCAG's RTP/SCS were also not addressed in the DEIR:

SCAG's RTP/SCS Optional Project-Level Environmental Mitigation Measures[49]

For both the 2012 and 2016 RTP/SCS, SCAG prepared Program Environmental Impact Reports ("PEIR") that include Mitigation Monitoring and Reporting Programs ("MMRP") that list project-level environmental mitigation measures that directly and/or indirectly relate to a project's GHG impacts and contribution to the region's GHG emissions.[50] These *optional* environmental mitigation measures serve to help local municipalities when identifying mitigation to reduce impacts on a project-specific basis that can and should be implemented when they identify and mitigate project-specific environmental impacts.[51] The DEIR should be recirculated to consider consistency with and/or implementation of the following project-level measures recommended as part of SCAG's RTP/SCS to reduce project-level GHG emissions.

GHG Emissions

- Reduction in emissions resulting from a project through implementation of project features, project design, or other measures, such as those described in Appendix F of the State CEQA Guidelines,[52] such as:
  - Potential measures to reduce wasteful, inefficient and unnecessary consumption of energy during construction, operation, maintenance and/or removal. The discussion should explain why certain measures were incorporated in the project and why other measures were dismissed.
  - The potential siting, orientation, and design to minimize energy consumption, including transportation energy.
  - The potential for reducing peak energy demand.
  - Alternate fuels (particularly renewable ones) or energy systems.
  - Energy conservation which could result from recycling efforts.
- Off-site measures to mitigate a project's emissions.

[49] SCAG 2012 RTP/SCS (Mar. 2012) Final PEIR MMRP, p. 6-2—6-14 (including mitigation measures ("MM") AQ3, BIO/OS3, CUL2, GEO3, GHG15, HM3, LU14, NO1, POP4, PS12, TR23, W9 [stating "[l]ocal agencies *can and should comply* with the requirements of CEQA to mitigate impacts to [the environmental] as applicable and feasible … [and] may refer to *Appendix G* of this PEIR for examples of potential mitigation to consider when appropriate in reducing environmental impacts of future projects." (Emphasis added)]), http://rtpscs.scag.ca.gov/Documents/peir/2012/final/Final2012PEIR.pdf; *see also id.*, Final PEIR Appendix G (including MMs AQ1-23, GHG1-8, PS1-104, TR1-83, W1-62), http://rtpscs.scag.ca.gov/Documents/peir/2012/final/2012fPEIR_AppendixG_ExampleMeasures.pdf; *see also* SCAG 2016 RTP/SCS (Mar. 2016) Final PEIR MMRP, p. 11–63 (including MMs AIR-2(b), AIR-4(b), EN-2(b), GHG-3(b), HYD-1(b), HYD-2(b), HYD-8(b), TRA-1(b), TRA-2(b), USS-4(b), USS-6(b)), http://scagrtpscs.net/Documents/2016/peir/final/2016fPEIR_ExhibitB_MMRP.pdf.

[50] *Ibid*., p. 116-124; *see also* SCAG 2012 RTP/SCS, *supra* fn. 43, p. 77-86; *see also* SCAG 2016 RTP/SCS, *supra* fn.44, p. 77-86115-124.

[51] *Ibid*.

[52] CEQA Guidelines, Appendix F-Energy Conservation, http://resources.ca.gov/ceqa/guidelines/Appendix_F.html.

- Measures that consider incorporation of Best Available Control Technology (BACT) during design, construction and operation of projects to minimize GHG emissions, including but not limited to:
  - Use energy and fuel-efficient vehicles and equipment;
  - Deployment of zero- and/or near zero emission technologies;
  - Use cement blended with the maximum feasible amount of flash or other materials that reduce GHG emissions from cement production;
  - Incorporate design measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse;
  - Incorporate design measures to reduce energy consumption and increase use of renewable energy;
  - Incorporate design measures to reduce water consumption;
  - Use lighter-colored pavement where feasible;
  - Recycle construction debris to maximum extent feasible;
- Adopting employer trip reduction measures to reduce employee trips such as vanpool and carpool programs, providing end-of-trip facilities, and telecommuting programs.
- Designate a percentage of parking spaces for ride-sharing vehicles or high-occupancy vehicles, and provide adequate passenger loading and unloading for those vehicles;
- Land use siting and design measures that reduce GHG emissions, including:
  - Measures that increase vehicle efficiency, encourage use of zero and low emissions vehicles, or reduce the carbon content of fuels, including constructing or encouraging construction of electric vehicle charging stations or neighborhood electric vehicle networks, or charging for electric bicycles; and
  - Measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse.

Hydrology & Water Quality

- Incorporate measures consistent in a manner that conforms to the standards set by regulatory agencies responsible for regulating water quality/supply requirements, such as:
  - Reduce exterior consumptive uses of water in public areas, and should promote reductions in private homes and businesses, by shifting to drought-tolerant native landscape plantings (xeriscaping), using weather-based irrigation systems, educating other public agencies about water use, and installing related water pricing incentives.
  - Promote the availability of drought-resistant landscaping options and provide information on where these can be purchased. Use of reclaimed water especially in median landscaping and hillside landscaping can and should be implemented where feasible.
  - Implement water conservation best practices such as low-flow toilets, water-efficient clothes washers, water system audits, and leak detection and repair.
  - Ensure that projects requiring continual dewatering facilities implement monitoring systems and long-term administrative procedures to ensure proper water management that prevents degrading of surface water and minimizes, to the greatest extent possible, adverse impacts on groundwater for the life of the project. Comply with appropriate building codes and standard practices including the Uniform Building Code.
  - Maximize, where practical and feasible, permeable surface area in existing urbanized areas to protect water quality, reduce flooding, allow for groundwater recharge, and preserve wildlife habitat. Minimized new impervious surfaces to the greatest extent possible, including the use of in-lieu fees and off-site mitigation.
  - Avoid designs that require continual dewatering where feasible.

- Where feasible, do not site transportation facilities in groundwater recharge areas, to prevent conversion of those areas to impervious surface.

- Incorporate measures consistent in a manner that conforms to the standards set by regulatory agencies responsible for regulating and enforcing water quality and waste discharge requirements, such as:
  - Complete, and have approved, a Stormwater Pollution Prevention Plan ("SWPPP") before initiation of construction.
  - Implement Best Management Practices to reduce the peak stormwater runoff from the project site to the maximum extent practicable.
  - Comply with the Caltrans stormwater discharge permit as applicable; and identify and implement Best Management Practices to manage site erosion, wash water runoff, and spill control.
  - Complete, and have approved, a Standard Urban Stormwater Management Plan, prior to occupancy of residential or commercial structures.
  - Ensure adequate capacity of the surrounding stormwater system to support stormwater runoff from new or rehabilitated structures or buildings.
  - Prior to construction within an area subject to Section 404 of the Clean Water Act, obtain all required permit approvals and certifications for construction within the vicinity of a watercourse (e.g., Army Corps § 404 permit, Regional Waterboard § 401 permit, Fish & Wildlife § 401 permit).
  - Where feasible, restore or expand riparian areas such that there is no net loss of impervious surface as a result of the project.
  - Install structural water quality control features, such as drainage channels, detention basins, oil and grease traps, filter systems, and vegetated buffers to prevent pollution of adjacent water resources by polluted runoff where required by applicable urban stormwater runoff discharge permits, on new facilities.
  - Provide structural stormwater runoff treatment consistent with the applicable urban stormwater runoff permit where Caltrans is the operator, the statewide permit applies.
  - Provide operational best management practices for street cleaning, litter control, and catch basin cleaning are implemented to prevent water quality degradation in compliance with applicable stormwater runoff discharge permits; and ensure treatment controls are in place as early as possible, such as during the acquisition process for rights-of-way, not just later during the facilities design and construction phase.
  - Comply with applicable municipal separate storm sewer system discharge permits as well as Caltrans' stormwater discharge permit including long-term sediment control and drainage of roadway runoff.
  - Incorporate as appropriate treatment and control features such as detention basins, infiltration strips, and porous paving, other features to control surface runoff and facilitate groundwater recharge into the design of new transportation projects early on in the process to ensure that adequate acreage and elevation contours are provided during the right-of-way acquisition process.
  - Design projects to maintain volume of runoff, where any downstream receiving water body has not been designed and maintained to accommodate the increase in flow velocity, rate, and volume without impacting the water's beneficial uses. Pre-project flow velocities, rates, and volumes must not be exceeded. This applies not only to increases in stormwater runoff from the project site, but also to hydrologic changes induced by flood plain encroachment. Projects should not cause or contribute to conditions that degrade the physical integrity or ecological function of any downstream receiving waters.

- Provide culverts and facilities that do not increase the flow velocity, rate, or volume and/or acquiring sufficient storm drain easements that accommodate an appropriately vegetated earthen drainage channel.
- Upgrade stormwater drainage facilities to accommodate any increased runoff volumes. These upgrades may include the construction of detention basins or structures that will delay peak flows and reduce flow velocities, including expansion and restoration of wetlands and riparian buffer areas. System designs shall be completed to eliminate increases in peak flow rates from current levels.
- Encourage Low Impact Development ("LID") and incorporation of natural spaces that reduce, treat, infiltrate and manage stormwater runoff flows in all new developments, where practical and feasible.

- Incorporate measures consistent with the provisions of the Groundwater Management Act and implementing regulations, such as:
  - For projects requiring continual dewatering facilities, implement monitoring systems and long-term administrative procedures to ensure proper water management that prevents degrading of surface water and minimizes, to the greatest extent possible, adverse impacts on groundwater for the life of the project, Construction designs shall comply with appropriate building codes and standard practices including the Uniform Building Code.
  - Maximize, where practical and feasible, permeable surface area in existing urbanized areas to protect water quality, reduce flooding, allow for groundwater recharge, and preserve wildlife habitat. Minimize to the greatest extent possible, new impervious surfaces, including the use of in-lieu fees and off-site mitigation.
  - Avoid designs that require continual dewatering where feasible.
  - Avoid construction and siting on groundwater recharge areas, to prevent conversion of those areas to impervious surface.
  - Reduce hardscape to the extent feasible to facilitate groundwater recharge as appropriate.
- Incorporate mitigation measures to ensure compliance with all federal, state, and local floodplain regulations, consistent with the provisions of the National Flood Insurance Program, such as:
  - Comply with Executive Order 11988 on Floodplain Management, which requires avoidance of incompatible floodplain development, restoration and preservation of the natural and beneficial floodplain values, and maintenance of consistency with the standards and criteria of the National Flood Insurance Program.
  - Ensure that all roadbeds for new highway and rail facilities be elevated at least one foot above the 100-year base flood elevation. Since alluvial fan flooding is not often identified on FEMA flood maps, the risk of alluvial fan flooding should be evaluated and projects should be sited to avoid alluvial fan flooding. Delineation of floodplains and alluvial fan boundaries should attempt to account for future hydrologic changes caused by global climate change.

Transportation, Traffic, and Safety

- Institute teleconferencing, telecommute and/or flexible work hour programs to reduce unnecessary employee transportation.
- Create a ride-sharing program by designating a certain percentage of parking spaces for ride sharing vehicles, designating adequate passenger loading and unloading for ride sharing vehicles, and providing a web site or message board for coordinating rides.
- Provide a vanpool for employees.
- Provide a Transportation Demand Management (TDM) plan containing strategies to reduce on-site parking demand and single occupancy vehicle travel. The TDM shall include strategies to increase bicycle, pedestrian, transit, and carpools/vanpool use, including:

- Inclusion of additional bicycle parking, shower, and locker facilities that exceed the requirement.
- Direct transit sales or subsidized transit passes.
- Guaranteed ride home program.
- Pre-tax commuter benefits (checks).
- On-site car-sharing program (such as City Car Share, Zip Car, etc.).
- On-site carpooling program.
- Distribution of information concerning alternative transportation options.
- Parking spaces sold/leased separately.
- Parking management strategies; including attendant/valet parking and shared parking spaces.

- Promote ride sharing programs e.g., by designating a certain percentage of parking spaces for high-occupancy vehicles, providing larger parking spaces to accommodate vans used for ride-sharing, and designating adequate passenger loading and unloading and waiting areas.
- Encourage the use of public transit systems by enhancing safety and cleanliness on vehicles and in and around stations, providing shuttle service to public transit, offering public transit incentives and providing public education and publicity about public transportation services.
- Build or fund a major transit stop within or near transit development upon consultation with applicable CTCs.
- Work with the school districts to improve pedestrian and bike access to schools and to restore or expand school bus service using lower-emitting vehicles.
- Purchase, or create incentives for purchasing, low or zero-emission vehicles.
- Provide the necessary facilities and infrastructure to encourage the use of low or zero-emission vehicles.
- Promote ride sharing programs, if determined feasible and applicable by the Lead Agency, including:
  - Designate a certain percentage of parking spaces for ride-sharing vehicles.
  - Designate adequate passenger loading, unloading, and waiting areas for ride-sharing vehicles.
  - Provide a web site or message board for coordinating shared rides.
  - Encourage private, for-profit community car-sharing, including parking spaces for car share vehicles at convenient locations accessible by public transit.
  - Hire or designate a rideshare coordinator to develop and implement ridesharing programs.
- Support voluntary, employer-based trip reduction programs, if determined feasible and applicable by the Lead Agency, including:
  - Provide assistance to regional and local ridesharing organizations.
  - Advocate for legislation to maintain and expand incentives for employer ridesharing programs.
  - Require the development of Transportation Management Associations for large employers and commercial/ industrial complexes.
  - Provide public recognition of effective programs through awards, top ten lists, and other mechanisms.
- Implement a “guaranteed ride home” program for those who commute by public transit, ride-sharing, or other modes of transportation, and encourage employers to subscribe to or support the program.
- Encourage and utilize shuttles to serve neighborhoods, employment centers and major destinations.
- Create a free or low-cost local area shuttle system that includes a fixed route to popular tourist destinations or shopping and business centers.
- Work with existing shuttle service providers to coordinate their services.
- Facilitate employment opportunities that minimize the need for private vehicle trips, such as encourage telecommuting options with new and existing employers, through project review and incentives, as appropriate.

- Organize events and workshops to promote GHG-reducing activities.
- Implement a Parking Management Program to discourage private vehicle use, including:
  - Encouraging carpools and vanpools with preferential parking and a reduced parking fee.
  - Institute a parking cash-out program or establish a parking fee for all single-occupant vehicles.

Utilities & Service Systems

- Integrate green building measures consistent with CALGreen (Title 24, part 11), U.S. Green Building Council's Leadership in Energy and Environmental Design, energy Star Homes, Green Point Rated Homes, and the California Green Builder Program into project design including, but not limited to the following:
  - Reuse and minimization of construction and demolition (C&D) debris and diversion of C&D waste from landfills to recycling facilities.
  - Inclusion of a waste management plan that promotes maximum C&D diversion.
  - Development of indoor recycling program and space.
  - Discourage exporting of locally generated waste outside of the SCAG region during the construction and implementation of a project. Encourage disposal within the county where the waste originates as much as possible. Promote green technologies for long-distance transport of waste (e.g., clean engines and clean locomotives or electric rail for waste-by-rail disposal systems) and consistency with SCAQMD and 2016 RTP/SCS policies can and should be required.
  - Develop ordinances that promote waste prevention and recycling activities such as: requiring waste prevention and recycling efforts at all large events and venues; implementing recycled content procurement programs; and developing opportunities to divert food waste away from landfills and toward food banks and composting facilities.
  - Develop alternative waste management strategies such as composting, recycling, and conversion technologies.
  - Develop and site composting, recycling, and conversion technology facilities that have minimum environmental and health impacts.
  - Require the reuse and recycle construction and demolition waste (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard).
  - Integrate reuse and recycling into residential industrial, institutional and commercial projects.
  - Provide recycling opportunities for residents, the public, and tenant businesses.
  - Provide education and publicity about reducing waste and available recycling services.
  - Implement or expand city or county-wide recycling and composting programs for residents and businesses. This could include extending the types of recycling services offered (e.g., to include food and green waste recycling) and providing public education and publicity about recycling services.

4) Failure to Demonstrate Additionality

As discussed above, the Project solely relies upon compliance with select local, state, and regional objectives, namely the 2008 CARB scoping plan and updates, SCAG's 2016-2014 RTP/SCS, the City of Long Beach's Sustainable City Action Plan (p. I-42). This is inadequate, as projects must incorporate emissions reductions measures beyond those that comprise basic requirements. The California Supreme Court has made clear that just because "a project is designed to meet high building efficiency and conservation standards … does not establish that its [GHG] emissions from transportation activities lack significant impacts." *Center for Biological Diversity v. Cal. Dept. of Fish and Wildlife* ("*Newhall Ranch*")

(2015) 62 Cal.4th 204, 229 (citing Natural Resources Agency).[53] This concept is known as "additionality" whereby GHG emission reductions otherwise required by law or regulation are appropriately considered part of the baseline and, pursuant to CEQA Guideline § 15064.4(b)(1), a new project's emissions should be compared against that existing baseline.[54] Hence, a "project should not subsidize or take credit for emissions reductions which would have occurred regardless of the project."[55] In short, as observed by the Court, newer developments must be more GHG-efficient. *See Newhall Ranch,* 62 Cal.4th at 226.

The Project fails to provide more aggressive mitigation measures required for newer developments to reach Assembly Bill 32's long-term goals—such as the net-zero approach utilized in the wake of the Supreme Court's *Newhall Ranch* decision. *See Center for Biological Diversity v. Cal. Dept. of Fish and Wildlife* (2015) 62 Cal.4th 204, 226 ("a greater degree of reduction may be needed from new land use projects …."); *see also Californians for Alternatives to Toxics v. Department of Food and Agriculture* (2005) 136 Ca1.App.4th 1, 17 ("[c]ompliance with the law is not enough to support a finding of no significant impact under the CEQA."). Additional reduction efforts should be required for the Project, including those new, feasible mitigation measures found in CAPCOA's Quantifying Greenhouse Gas Mitigation Measures, which attempt to reduce GHG levels.

5) DEIR's Incorrect and Unsubstantiated Analysis Demonstrates Significant GHG Impact

In addition to the Project's incorrect reliance upon consistency with various plans and regulations to determine Project significance, the DEIR fails to compare the Project's annual GHG emissions to the applicable SCAQMD interim thresholds. While the DEIR does quantify the Project's GHG emissions to get a "combined total of 4,284 $MTCO_2e$ per year", it completely fails to compare this number to applicable thresholds (p. I-42).

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[53] *See* Final Statement of Reasons for Regulatory Action: Amendments to State CEQA Guidelines Addressing Analysis and Mitigation of GHG Emissions Pursuant to SB-97 ("*Final Statement of Reasons*") Dec. 2009, http://resources.ca.gov/ceqa/docs/Final_Statement_of_Reasons.pdf, p. 23 *See* Resources Agency (Dec. 2009), *supra* fn. 36, p. 23 (while a Platinum LEED® rating may be relevant to emissions from a building's energy use, "that performance standard may not reveal sufficient information to evaluate transportation-related emissions associated with that proposed project").

[54] *See* Final Statement of Reasons, *Ibid.*, p. 89; *see also* California Air Pollution Control Officers Association ("*CAPCOA*") (Aug. 2010) Quantifying Greenhouse Gas Mitigation Measures, pp. 32, A3, http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf p. 32, A3 ("in practice is that if there is a rule that requires, for example, increased energy efficiency in a new building, the project proponent cannot count that increased efficiency as a mitigation or credit unless the project goes beyond what the rule requires; and in that case, only the efficiency that is in excess of what is required can be counted."."), http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf.

[55] CAPCOA (Aug 2010) Quantifying Greenhouse Gas Mitigation Measures, p. 433, http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

The DEIR's approach is incorrect. In December 2008, the SCAQMD released its *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules, and Plans* report ("*Interim Thresholds*") that proposed a multi-tiered approach for evaluating the GHG impacts of a project.[56] As subsequently clarified, the SCAQMD recommended that for projects not exempt from CEQA (Tier 1) or consistent with a qualified GHG reduction plan (Tier 2), lead agencies should compare a project's GHG emissions to numeric screening thresholds (Tier 3).[57] Under Tier 3, the lead agencies may choose between two options: Option 1 proposes the use of a 1,400 metric tons of carbon dioxide equivalents per year (MT CO_2e/yr) threshold for commercial developments, 3,000 MT CO_2e/yr threshold for mixed-use developments, a 3,500 MT CO_2e/yr threshold for residential developments, and a 10,000 MT CO_2e/yr threshold for industrial projects; whereas Option 2 proposes a single numerical threshold of 3,000 MT CO_2e/yr for non-industrial projects. Furthermore, according to SCAQMD's *GHG CEQA Significance Threshold Stakeholder Working Group #15*, the working group determined that while either the separate numerical thresholds (Option 1) or a single numerical threshold (Option 2) could be used, a lead agency "must consistently use that same option for all projects where it is lead agency."[58]

The DEIR quantifies the Project's annual GHG emissions and determines that emissions will reach a "combined total of 4,284 MTCO$_2$e per year" (p. I-42). Here, the Project is entirely commercial without any residential uses, thus, the Project's annual GHG emissions should be compared to the applicable SCAQMD interim threshold of 1,400 MTCO$_2$e/year for commercial projects under Tier 3 Option 1 analysis. As demonstrated in the below table, the Project exceeds this threshold. So too, the Project's emissions exceed SCAQMD's interim threshold of 3,000 MTCO$_2$e/year for mixed-use (Tier 3 Option 1) and SCAQMD's interim threshold of 3,000 MTCO$_2$e/year for non-industrial projects (Tier 3 Option 2) (see table below).

Annual Project Greenhouse Gas Emissions	
	Emissions (MT CO2e/year)
Amortized Construction + Operational	4,284
SCAQMD Commercial Threshold	**1,400**
Threshold Exceeded?	***Yes***
SCAQMD Mixed-Use/Non-Industrial Threshold	***3,000***
Threshold Exceeded?	***Yes***

[56] SCAQMD (December 2008) Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgboardsynopsis.pdf?sfvrsn=2; *see also* SCAQMD (Oct 2008) Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold, http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgattachmente.pdf.

[57] SCAQMD (Sep. 28, 2010) Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group # 15, http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-minutes.pdf.

[58] *Ibid*., p. 1.

As the above table demonstrates, the Project exceeds even the higher SCAQMD threshold of 3,000 $MTCO_2e$/year—*a threshold routinely used by the City for other hotel projects*[59]—and indicates significant impacts not previously identified or addressed by the DEIR.

Furthermore, according to the SCAQMD, if a project's emissions exceed the screening-level threshold, a more detailed review of the project's GHG emissions is warranted.[60] SCAQMD proposed per capita efficiency targets to be used in these detailed reviews. SCAQMD proposed a 2035 efficiency threshold of 3.0 MT CO_2e/SP/year for project-level analyses, which is based on AB 32's GHG reduction target.[61] SCAQMD created the 2035 efficiency threshold by reducing the 2020 threshold of 4.8 MT CO_2e/SP/year by 40 percent. Therefore, per SCAQMD guidance, because the Project's GHG emissions exceed the SCAQMD's 1,400 MT CO_2e/year screening-level threshold (as well as the 3,000 MT CO_2e/year screening-level threshold routinely used by the City) and the DEIR asserts that the Project will not be operational until 2022, the Project's emissions should be compared to the proposed 2035 efficiency target of 3.0 MT CO_2e/SP/year (DEIR, I-22).

According to CAPCOA's CEQA & Climate Change report, a service population is defined as "the sum of the number of residents and the number of jobs supported by the project."[62] The DEIR states that the proposed Project will generate 588 new employees (p. I-45). This number is highly suspect given it is premised on a Long Beach Unified District Development Fee Study (DEIR, p. I-45 [fn. 26]), which derived an employee generation rate derived from a San Diego Traffic Generator report from 1990.[63] In practice, similar hotel projects including a variety of commercial uses and hotel amenities generate roughly an

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[59] *See e.g.,* Oceanaire Apartment project (Mar. 2013) IS/MND, p. 59-60, http://www.longbeach.gov/globalassets/lbds/media-library/documents/planning/environmental/environmental-reports/approvedcertified-part-2/oceanaire-apartment/oceanaire_public-review-draft-is-mnd-reduce-size; 442 W. Ocean Blvd. project IS/MND, p. 57-58, http://www.longbeach.gov/globalassets/lbds/media-library/documents/planning/environmental/environmental-reports/approvedcertified/442-w.-ocean-blvd/442-ocean_public-review-draft-is-mnd; 207 Seaside Way project (Mar. 2015) IS/MND, p. 59-60, http://www.longbeach.gov/globalassets/lbds/media-library/documents/planning/environmental/environmental-reports/approvedcertified/207-seaside-way/207-seaside_public-review-draft-is-mnd; Staybridge Suite Hotel project IS/MND (Nov. 2016), p. 37-38, http://www.longbeach.gov/globalassets/lbds/media-library/documents/planning/environmental/environmental-reports/approvedcertified-part-2/staybridge-suites-hotel/staybridge-suites-hotel-project-is-mnd.

[60] SCAQMD (12/5/08), *supra* fn. 56, p. 6; *see also* SCAQMD (9/28/10), *supra* fn. 57, p. 2.

[61] SCAQMD (9/28/10), *supra* fn. 57, p. 2.

[62] CAPCOA *(*Jan. 2008) CEQA & Climate Change, p. 71-72, http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA-White-Paper.pdf.

[63] Long Beach Unified School District (3/7/18) Commercial/Industrial Development School Fee Justification Study, p. 9 (employee impact estimates are based on "employment generation factors were derived from the report entitled 'San Diego Traffic Generators' prepared by SANDAG[,]" prepared pursuant to Cal. Ed. Code § 17621(e)(1)(B)), http://www.lbschools.net/Asset/Files/Business_Services/Developer_Fees/2018/2018-Commercial-Fee-Justification-Study.pdf; *see also* Cal. Ed. Code § 17621(e)(1)(B) ("Those employee generation estimates shall be based upon commercial and industrial factors within the district or upon, in whole or in part, the applicable employee generation estimates set forth in the *January 1990* edition of "San Diego Traffic Generators," a report of the San Diego Association of Governments.

average 0.55 jobs per hotel room,[64] resulting in 236 operational jobs for this 429-room Project. Nevertheless, assuming the Project will create an overly optimistic 588 jobs, we assume that the Project's service population would be approximately 588 people because the proposed Project will have no permanent residents. Dividing the Project's GHG emissions by a service population value of 588 people, we find that the Project would emit approximately 7.28 MT CO_2e/SP/year.[65] When we compare the Project's per service population GHG emissions to the SCAQMD 2035 efficiency target of 3.0 MT CO_2e/SP/year, or even SCAQMD 2020 efficiency target of 4.8 MT CO_2e/SP/year, we find that the Project would result in a significant GHG impact (see table below)

Annual Greenhouse Gas Emissions Efficiency		
Source	**Project Emissions**	**Unit**
DEIR Annual Emissions	4,284	MT CO_2e/year
Service Population	588	Residents & Employees
Per Service Population Annual Emissions	**7.28**	**MT CO_2e/sp/year**
2035 SCAQMD Project Level Efficiency Threshold	3.0	MT CO_2e/sp/year
Exceed?	***Yes***	**-**
2020 SCAQMD Project Level Efficiency Threshold	4.8	MT CO_2e/sp/year
Exceed?	***Yes***	**-**

Furthermore, even if you consider the hotel guests as part of the service population, the Project would still exceed applicable thresholds. Utilizing the 75 percent room occupancy rate used in the DEIR's Traffic Study (Appendix E, pp. 234),[66] and using a 1.5 person per room ratio used by the City of Los Angeles,[67] it can be estimated that the proposed 429-room Project will typically serve 483 hotel guests. Dividing the Project's GHG emissions by a service population value of 1,071 people (588 employees + 483 guests), we

[64] *See e.g.,* Lizard Hotel project (City of Los Angeles Case No. ENV-2015-2356-EIR) Draft EIR, pp. 24 (120 employees for a 170-room hotel with 7,050-SF restaurant, 3,780-SF rooftop bar/lounge, 1,00-SF gym, 2,940-SF gallery bar, 12,460-SF of open space), https://planning.lacity.org/eir/SpringStHotel/Deir/DEIR%20Sections/Spring%20St%20Hotel%20IV.E%20Greenhouse%20Gas%20Emissions.pdf and https://planning.lacity.org/eir/SpringStHotel/DEIR/DEIR%20Spring%20Street%20Hotel%20Project.html; Bixel Mixed-Use Hotel project (City of Los Angeles Case No. ENV-2015-3927-MND) MND, pp. 1, 99, 205 (69 new employees for the 126-room extended stay hotel component with two underground parking levels, 8,313-SF open space and providing lounge entertainment, fitness area, and pool/outdoor lounge), http://cityplanning.lacity.org/staffrpt/mnd/Pub_102716/ENV-2015-3927.pdf; Selma Wilcox Hotel project (City of Los Angeles Case No. ENV-2016-2602-MND) MND, pp. 1, 144 (94 hotel jobs for the 114-room hotel with 26,000-plus-SF of restaurant, bar, pool, amenity deck, and rooftop bar uses), https://planning.lacity.org/staffrpt/mnd/Pub_010418/ENV-2016-2602.pdf.

[65] Calculated: (4,284 MT CO_2e/year) / (588 service population) = (7.28 MT CO_2e/SP/year).

[66] Roughly the same as the 80 percent occupancy rate widely reported in the City of Los Angeles. *See* City of Los Angeles (2017) Hotel Market Study, p. 3, 7, https://d3n8a8pro7vhmx.cloudfront.net/cd14/pages/2723/attachments/original/1508870241/CD14_Hotel_Market_Study-2017_Full___Report-Final.pdf?1508870241; *see also* City of Los Angeles (2017) 2017 Annual Report, p. 6, https://ctd.lacity.org/sites/default/files/2017%20CTD%20Annual%20Report.pdf.

[67] Lizard Hotel project (City of Los Angeles Case No. ENV-2015-2356-EIR) Draft EIR, pp. 24, https://planning.lacity.org/eir/SpringStHotel/Deir/DEIR%20Sections/Spring%20St%20Hotel%20IV.E%20Greenhouse%20Gas%20Emissions.pdf.

find that the Project would still emit approximately 4.0 MT CO_2e/SP/year (see table below)—which still exceeds SCAQMD 2035 efficiency target. So too, would it exceed the City's proposed efficiency target of 3.06 MT CO_2e/SP/year under its draft CAAP (see table below).[68]

Annual Greenhouse Gas Emissions Efficiency		
Source	**Project Emissions**	**Unit**
DEIR Annual Emissions	4,284	MT CO_2e/year
Service Population	1,071	Residents & Employees & Guests
Per Service Population Annual Emissions	**4.0**	**MT CO_2e/sp/year**
2035 SCAQMD Project Level Efficiency Threshold	3.0	MT CO_2e/sp/year
Exceed?	***Yes***	**-**
2030 City Draft CAAP Level Efficiency Threshold	3.06	MT CO_2e/sp/year
Exceed?	***Yes***	**-**

As illustrated by the above tables, the Project's GHG emissions will exceed thresholds considered to be normally significant. However, the DEIR incorrectly omits a quantitative GHG analysis that compares emissions to SCAQMD thresholds—including SCAQMD Tier 3 threshold for mixed-use/non-industrial projects (3,000 MT CO_2e/year), which has routinely been used by the City. The DEIR fails to provide any explanation, much less substantial evidence, why this threshold should not be used here.

Even so, these emissions are based on an incorrect and underestimated CalEEMod model (discussed *supra*). Thus, regardless of what is stated within the DEIR, the SCAQMD provides applicable interim GHG thresholds that can be used to determine the Project's significance when modeled correctly (as discussed below).

6) Updated Analysis Demonstrates Significant GHG Impact

Notwithstanding the flawed GHG evaluation discussed above, applicable thresholds and site-specific modeling demonstrate that the Project will have a significant GHG impact. The updated CalEEMod output files, modeled by SWAPE and attached hereto as Exhibit A, disclose the Project's mitigated emissions, which include approximately 2,972.96 MT CO_2e of total construction emissions and approximately 6,036.09 (sum of 2020, 2021, and 2022) MT CO_2e/year of annual operational emissions (sum of area, energy, mobile, waste, and water-related emissions). When these emissions are compared to the 1,400 MT CO_2e/year commercial and 3,000 mixed-use/non-industrial project threshold (SCAQMD Tier 3), we find that the Project's GHG emissions exceed the thresholds (see table on following page).

[68] City (5/31/19) Draft CAAP GHG Emissions, Forecasts and Targets, p. 16, http://longbeach.gov/globalassets/lbds/media-library/documents/planning/caap/caap-greenhouse-gas--ghg--emissions-forecasts-and-targets--draft-released-053119-logos; *see also* City (5/8/19) CAAP GHG Emissions Reduction Target Options Memo#2 –2045 Carbon Neutrality, p. 26, http://www.longbeach.gov/globalassets/lbds/media-library/documents/planning/caap/190508_caap-target-setting-memo-2_2045-carbon-neutrality.

DEIR Annual Greenhouse Gas Emissions	
Project Phase	**Proposed Project (MT CO_2e/year)**
Construction (amortized over 30 years)	99.10
Area	0.016
Energy	2,116.08
Mobile	3,830.77
Stationary	1.38
Waste	0
Water	87.85
Total	**6,135.19**
SCAQMD Commercial Threshold	1,400
Exceed?	***Yes***
SCAQMD Mixed-Use/Non-Industrial Threshold	3,000
Exceed?	***Yes***

As demonstrated in the table above, the proposed Project would generate a total of approximately 6,135.19 MT CO_2e/year, which exceeds the SCAQMD's 1,400 MT CO_2e/year commercial project screening threshold, and SCAQMD's 3,000 MT CO_2e/year mixed-use/non-industrial project screening threshold. Hence, a Tier 4 analysis is warranted. When dividing the Project's GHG emissions by a service population value of 588 people (residents and employees), we find that the Project would emit approximately 10.43 MT CO_2e/SP/year.[69] This exceeds SCAQMD 2020 efficiency target of 4.8 MT CO_2e/SP/year, SCAQMD 2035 efficiency target of 3.0 MT CO_2e/SP/year, and even the City's 2030 proposed draft efficiency target of 3.06 MT CO_2e/SP/year (see table following page). So too would the Project exceed all thresholds if you included all hotel patrons for a service population of 1,071 people (588 employees + 483 hotel patrons), resulting in approximately 5.72 MT CO_2e/SP/year (see table following page).

[69] Calculated: (6,135.19 MT CO_2e/year) / (588 service population) = (10.433 MT CO_2e/SP/year).

Annual Greenhouse Gas Emissions Efficiency		
Source	**Project Emissions**	**Unit**
DEIR Annual Emissions	6,135.19	MT CO_2e/year
Service Population	588	Residents & Employees
Per Service Population Annual Emissions	**10.43**	**MT CO_2e/sp/year**
2020 SCAQMD Project Level Efficiency Threshold	4.8	MT CO_2e/sp/year
Exceed?	***Yes***	**-**
2035 SCAQMD Project Level Efficiency Threshold	3.0	MT CO_2e/sp/year
Exceed?	***Yes***	**-**
2030 City CAAP Level Efficiency Threshold	3.06	MT CO_2e/sp/year
Exceed?	***Yes***	**-**
Source	**Project Emissions**	**Unit**
DEIR Annual Emissions	6,135.19	MT CO_2e/year
Service Population	1,071	Residents & Employees & Guests
Per Service Population Annual Emissions	**5.72**	**MT CO_2e/sp/year**
2020 SCAQMD Project Level Efficiency Threshold	4.8	MT CO_2e/sp/year
Exceed?	***Yes***	**-**
2035 SCAQMD Project Level Efficiency Threshold	3.0	MT CO_2e/sp/year
Exceed?	***Yes***	**-**
2030 City Draft CAAP Level Efficiency Threshold	3.06	MT CO_2e/sp/year
Exceed?	***Yes***	**-**

As you can see in the table above, when we compare the Project's per service population emissions estimated by a CalEEMod-compliant model to the SCAQMD threshold of 438 and 3.0 MT CO_2e/SP/year for 2020 and 2035, respectively, and to the City's target of 3.06 MT CO_2e/SP/year for 2030, we find that the Project's emissions would exceed thresholds, thus, resulting in a potentially significant impact. According to CEQA Guidelines § 15064.4(b), if there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, a full CEQA analysis must be prepared for the project. The results of the above analysis provide substantial evidence that the proposed Project's GHG emissions are still cumulatively considerable notwithstanding its purported compliance with the City's Sustainability City Action Plan, SCAG's RTP/SCS, and the CARB 2017 Scoping Plan (as challenged herein). Therefore, an updated DEIR must be prepared for the Project, and additional mitigation should be implemented where necessary, per CEQA guidelines.

7) Failure to Evaluate Cumulative Greenhouse Gas Impact Consistent with Evolving Scientific Knowledge and Regulatory Schemes

It is commonly recognized by California air districts that a project's impact on climate change is cumulative in nature.[70] According to the Technical Advisory prepared by the Office of Planning and Research ("OPR"), "[t]he potential effects of a project may be individually limited but cumulatively considerable[]" and that "[l]ead agencies should not dismiss a proposed project's direct and/or indirect climate change impacts without careful consideration, supported by substantial evidence … [including] analysis should be provided for any project that may significantly contribute to new GHG emissions, either individually or cumulatively, directly or indirectly."[71] Furthermore, OPR rightfully acknowledge, consistent with state regulatory scheme and CEQA case law, that "thresholds cannot be used to determine automatically whether a given effect will or will not be significant; instead, thresholds of significance can be used only as a measure of whether a certain environmental effect will normally be determined to be significant or normally will be determined to be less than significant by the agency."[72] Recognizing this principle, CEQA Guidelines § 15064.7(c) permits the use of thresholds developed by other public agencies.

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[70] *See e.g.,* SCAQMD (Oct. 2008), *supra* fn. 56, p. 1-4 - 1-5 (citing the OPR Technical Advisor: "When assessing whether a project's effects on climate change are 'cumulatively considerable' even though its GHG contribution may be individually limited, the lead agency must consider the impact of the project when viewed in connection with the effects of past, current, and probable future projects."), http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgattachmente.pdf; Bay Area Air Quality Management District ("BAAQMD") (May 2017) CEQA Air Quality Guidelines, p. 2-1 ("No single project could generate enough GHG emissions to noticeably change the global average temperature [but rather] [t]he combination of GHG emissions from past, present, and future projects contribute substantially to the phenomenon of global climate change and its associated environmental impacts."), http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en; San Luis Obispo County Air Pollution Control District ("SLOAPCD") (Mar. 28, 2012) GHG Threshold and Supporting Evidence, p. 5 ("No single land use project could generate enough GHG emissions to noticeably change the global average temperature. Cumulative GHG emissions, however, contribute to global climate change and its significant adverse environmental impacts. Thus, the primary goal in adopting GHG significance thresholds, analytical methodologies, and mitigation measures is to ensure new land use development provides its fair share of the GHG reductions needed to address cumulative environmental impacts from those emissions.), https://storage.googleapis.com/slocleanair-org/images/cms/upload/files/Greenhouse%20Gas%20Thresholds%20and%20Supporting%20Evidence%204-2-2012.pdf; Sacramento Metropolitan Air Quality Management District ("SMAQMD") (May 2018) Guide to Air Quality Assessment in Sacramento County, p. 6-1-3, ("(GHG) emissions adversely affect the environment through contributing, on a cumulative basis, to global climate change … *the District recommends that lead agencies address the impacts of climate change on a proposed project and its ability to adapt to these changes in CEQA documents* … [thus urging] evaluating whether the GHG emissions associated with a proposed project will be responsible for making a cumulatively considerable contribution to global climate change."[emphasis original]), http://www.airquality.org/LandUseTransportation/Documents/Ch6GHGFinal5-2018.pdf.

[71] OPR (6/19/08) Technical Advisory on CEQA and Climate Change, p. 6, http://opr.ca.gov/docs/june08-ceqa.pdf.

[72] OPR (Nov. 2017) Proposed Updates to the CEQA Guidelines, p. 7 (citing CEQA Guidelines §§ 15064 and 15064.7 and *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th 1099, 1108-1109), http://opr.ca.gov/docs/20171127_Comprehensive_CEQA_Guidelines_Package_Nov_2017.pdf.

Similarly, the California Supreme Court has made clear that CEQA demands robust GHG analysis to assess a project's impact on climate change, and while lead agencies have discretion, that discretion must be exercised "based to the extent possible on scientific and factual data" and "stay[ing] in step with evolving scientific knowledge and state regulatory schemes." *Cleveland National Forest Foundation v. San Diego Assn. of Governments* ("*Cleveland II*") (2017) 3 Cal.5th 497, 504, 515, 518 (quoting CEQA Guidelines § 15064(b)); *see also* 519 (noting to meet the State's long-term climate goals, "regulatory clarification, together with improved methods of analysis, may well change the manner in which CEQA analysis of long-term [GHG] emission impacts is conducted."). Hence, a GHG analysis which "understates the severity of a project's impacts impedes meaningful public discussion and skews the decisionmaker's perspective concerning the environmental consequences of the project, the necessity for mitigation measures, and the appropriateness of project approval." *Id*., on remand ("*Cleveland III*"), 17 Cal.App.5th 413, 444; *see also Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564 (quoting *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 392).

Here, the SCAQMD's multi-tiered approach under its *Interim Thresholds,* although not officially adopted, represents the current standard of evolving scientific data and regulatory scheme notwithstanding even more aggressive efforts taken at the State level (i.e., Senate Bill 32, CARB's 2017 Scoping Plan). Given the City's Sustainability Climate Action Plan is outdated, and the SCAG RTP/SCS and the CARB 2017 Scoping Plan are inapplicable as CAPs with a quantified threshold, the DEIR cannot ignore the *Interim Thresholds* simply because SCAQMD failed to adopt these measures. To do so would not be in keeping with the evolving scientific knowledge and state regulatory schemes—*nor in keeping with the City's past practices*.

Consistent with the edicts of SB 32, other air control districts have adopted more aggressive GHG thresholds for project-level analysis that mirror SCAQMD's *Interim Thresholds*, including but not limited to the Sacramento Metropolitan Air Quality Management District ("SMAQMD"), Bay Area Air Quality Management District ("BAAQMD"), and San Luis Obispo Air Pollution Control District ("SLOAPCD") (as summarized in the table on the following pages). Given the cumulative nature of GHG emissions and consistent with CEQA Guidelines § 15064.7(c), these recommended thresholds complement SCAQMD's *Interim Thresholds* and further support the conclusion that they constitute the current standard for evaluating a project's GHG significance.

Current GHG Thresholds from Other Air Districts

SMAQMD (May 2018) Guide to Air Quality Assessment[73]

Land Development and Construction Projects		
	Construction Phase	Operational Phase
Greenhouse Gas Emissions (GHG) Thresholds		
GHG as CO2e	1,100 metric tons/year	1,100 metric tons/year

Stationary Source Only		
	Construction Phase	Operational Phase
Greenhouse Gas Emissions (GHG) Thresholds		
GHG as CO2e	1,100 metric tons/year	10,000 metric tons/year

1) Construction phase of all project types – 1,100 MT CO_2e/yr.
2) Operational phase of a land development project – 1,100 MTCO_2e/yr.
3) Stationary source operational emissions – 10,000 MT CO_2e/yr.

BAAQMD (May 2017) CEQA Air Quality Guidelines[74]

GHGs – Projects other than Stationary Sources	Compliance with Qualified GHG Reduction Strategy OR 1,100 MT of CO_2e/yr OR 4.6 MT CO_2e/SP/yr (residents+employees)
GHGs –Stationary Sources	10,000 MT/yr

While providing 10,000 MTCO_2e/year for stationary-source projects, other projects (e.g., residential, commercial, public land uses):

1) **CAP**: Compliance with a qualified GHG Reduction Strategy; or
2) **Bright Line**: Annual emissions less than 1,100 MTCO_2e/year; or
3) **Efficiency Level**: 4.6 MTCO_2e/SP/year (residents + employees).

[73] SMAQMD (May 2018), *supra* fn. 70, p. 6-10-12; *see also* SMAQMD Thresholds of Significance Table, http://www.airquality.org/LandUseTransportation/Documents/CH2ThresholdsTable5-2015.pdf.

[74] BAAQMD (May 2017), *supra* fn. 70, p. 2-2 - 2-4. Like the SCAQMD area, BAAQMD is designated as a nonattainment area for state/national ozone and particulate matter ("PM") and thresholds would seem particularly apt for the Project. *Compare id*. at p. 2-1 *with* SCAQMD NAAQS/CAAQS Attainment Status (noting "extreme" and "serious" nonattainment for multiple ozone and PM standards), http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf.

SLOAPCD (Mar. 2012) GHG Thresholds and Supporting Evidence[75]

GHG Emissions Threshold Summary	
Residential and Commercial Projects	Compliance with Qualified GHG Reduction Strategy OR Bright-Line Threshold of 1,150 MT of CO_2e/yr. OR Efficiency Threshold of 4.9 MT CO_2e/SP*/yr.
Industrial (Stationary Sources)	10,000 MT of CO_2e/yr.

1) **CAP**: Consistency with qualitative reduction strategies (e.g., Climate Action Plans).
2) **Bright-Line Threshold**: 1,150 $MTCO_2e$/year after inclusion of emission-reducing features of a proposed project, those still exceeding the threshold would have to reduce their emissions below that level to be considered less than significant.
3) **Efficiency-Based Threshold**: 4.9 $MTCO_2e$/SP/year dependent on per capita basis for residential projects or the sum of jobs and residents for mixed-use projects.

PCAPCD (Oct. 2016) CEQA Threshold Significance Justification Report[76]

Bright-line Threshold 10,000 MT CO2e/yr			
Efficiency Matrix			
Residential		Non-residential	
Urban	Rural	Urban	Rural
(MT CO2e/capita)		(MT CO2e/1,000sf)	
4.5	5.5	26.5	27.3
De Minimis Level 1,100 MT CO2e/yr			

Although more demanding, the above-listed thresholds adopted by these air districts are analogous with the application of SCAQMD's Tier 3 screening threshold for commercial and mixed-use/non-industrial developments (1,400 and 3,000 $MTCO_2e$/year, respectively) and SCAQMD's Tier 4 efficiency target goals

[75] SLOAPCD (Mar. 28, 2012), *supra* fn. 70, p. 25-30, 42.

[76] PCAPCD (Oct. 2016) CEQA thresholds of Significance Justification Report, pp. E-2, 2, 17-22 ("CEQA requires that the lead agency review not only a project's direct effects on the environment, but also the cumulative impacts of a project and other projects causing related impacts. When the incremental effect of a project is cumulatively considerable, the lead agency must discuss the cumulative impacts in an EIR. [citing CEQA Guidelines § 15064]"), https://www.placer.ca.gov/DocumentCenter/View/2061/Threshold-Justification-Report-PDF; *see also* PCAPCD (11/21/17) CEQA Thresholds And Review Principles, http://www.placerair.org/landuseandceqa/ceqathresholdsandreviewprinciples.

(4.8 and 3.0 $MTCO_2e$/SP/year for target year 2020 and 2035, respectively).[77] The overwhelming weight of the actions taken by the other air districts, the regulatory agencies with the most expertise in the area of assessing GHG emission impacts, is the most compelling rationale for why the *Interim Thresholds* apply here as the current standard set of evolving scientific knowledge and regulatory schemes. Thus, only through application of SCAQMD's Tier 3 screening thresholds and comparison to SCAQMD's Tier 4 efficiency target goals can the City be consistent with the improved analysis methods that are regularly practiced by other air districts, consistent with City's past practices, and further CEQA's demand for "'conservative analysis' to afford 'fullest possible protection of the environment.'"[78] Absent this, the DEIR's GHG analysis is inconsistent with evolving scientific knowledge or regulatory standards, and its conclusion that the Project has an insignificant GHG impact is not supported by substantial evidence. An updated DEIR must be prepared to include a more robust GHG emissions analysis and mitigation to the extent necessary.

SWAPE has received limited discovery regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

Sincerely,

Matt Hagemann, P.G., C.Hg.

Paul E. Rosenfeld, Ph.D.

Attachments:

Curriculum Vitae
Exhibit A: Updated CalEEMod Output Files (10/3/19)
Exhibit B: AERSCREEN Output Files (10/4/19)

[77] SCAQMD (12/5/08), *supra* fn. 56; *see also* SCAQMD (Oct. 2008), *supra* fn. 56; SCAQMD (9/28/10), *supra* fn. 57.
[78] SCAQMD (June 2014) Warehouse Truck Trip Study Data Results and Usage Presentation: Inland Empire Logistics Council, p. 3, http://www.aqmd.gov/docs/default-source/ceqa/handbook/high-cube-warehouse-trip-rate-study-for-air-quality-analysis/final-ielc_6-19-2014.pdf?sfvrsn=2; *see also Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 390 ("The foremost principle under CEQA is that the Legislature intended the act to be interpreted in such manner as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language.") (internal citations omitted).

Exhibit A: Updated CalEEMod Output Files (10/3/19)

100 E. Ocean Blvd

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	151.00	Space	0.85	40,593.00	0
Hotel	429.00	Room	14.30	472,970.00	0
Quality Restaurant	23.51	1000sqft	0.54	23,512.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	11			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	549	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Matches Project Applicant's Model.

Land Use - Matches Project Applicant's Model, except Racquet Club modeled as Hotel.

Construction Phase - Matches Project Applicant's Model.

Off-road Equipment - Default Values.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Default Values, as the Applicant failed to provide a construction equipment list.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Trips and VMT - Default values, except addition of Mat Foundation Vendor Trip number, as per DEIR (p. I-55).
Vehicle Class Vendor matches Applicant's model.

Demolition - Applicant failed to provide square footage of existing parking lot. Thus, we inputted a value consistent with the square footage of the Project site stated in the DEIR (p. II-1).

Grading - Matches Project Applicant's Model.

Vehicle Trips - Matches Project Applicant's Model.

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Fleet Mix -

Stationary Sources - Emergency Generators and Fire Pumps - Matches Project Applicant's Model.

100 E. Ocean Blvd - South Coast Air Basin, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	66.00
tblConstructionPhase	NumDays	300.00	3.00
tblConstructionPhase	NumDays	300.00	44.00
tblConstructionPhase	NumDays	300.00	451.00
tblConstructionPhase	NumDays	300.00	211.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	30.00	20.00
tblConstructionPhase	NumDays	20.00	109.00
tblGrading	AcresOfGrading	50.00	0.85
tblGrading	MaterialExported	0.00	23,500.00
tblLandUse	LandUseSquareFeet	60,400.00	40,593.00
tblLandUse	LandUseSquareFeet	622,908.00	472,970.00
tblLandUse	LandUseSquareFeet	23,510.00	23,512.00
tblLandUse	LotAcreage	1.36	0.85
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Demolition
tblOffRoadEquipment	PhaseName		Demolition
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Paving
tblProjectCharacteristics	CO2IntensityFactor	702.44	549
tblTripsAndVMT	VendorTripNumber	88.00	830.00
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	HHDT
tblVehicleTrips	ST_TR	8.19	8.38

tblVehicleTrips	ST_TR	94.36	117.70
tblVehicleTrips	SU_TR	5.95	6.09
tblVehicleTrips	SU_TR	72.16	90.01
tblVehicleTrips	WD_TR	8.17	8.36
tblVehicleTrips	WD_TR	89.95	112.20

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					
2020	0.5061	5.0796	4.0940	0.0113	0.4367	0.1879	0.6246	0.1311	0.1767	0.3078	0.0000	1,027.0083	1,027.0083	0.1397	0.0000	1,030.5018
2021	0.5264	4.6074	4.7549	0.0125	0.4961	0.1702	0.6662	0.1338	0.1601	0.2940	0.0000	1,136.1766	1,136.1766	0.1382	0.0000	1,139.6316
2022	2.6792	3.1715	3.7300	8.8900e-003	0.3444	0.1247	0.4691	0.0920	0.1172	0.2092	0.0000	799.9360	799.9360	0.1155	0.0000	802.8244
Maximum	**2.6792**	**5.0796**	**4.7549**	**0.0125**	**0.4961**	**0.1879**	**0.6662**	**0.1338**	**0.1767**	**0.3078**	**0.0000**	**1,136.1766**	**1,136.1766**	**0.1397**	**0.0000**	**1,139.6316**

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					
2020	0.5061	5.0796	4.0940	0.0113	0.4367	0.1879	0.6246	0.1311	0.1767	0.3078	0.0000	1,027.0078	1,027.0078	0.1397	0.0000	1,030.5013
2021	0.5264	4.6074	4.7549	0.0125	0.4961	0.1702	0.6662	0.1338	0.1601	0.2940	0.0000	1,136.1761	1,136.1761	0.1382	0.0000	1,139.6311
2022	2.6792	3.1715	3.7300	8.8900e-003	0.3444	0.1247	0.4691	0.0920	0.1172	0.2092	0.0000	799.9355	799.9355	0.1155	0.0000	802.8239
Maximum	**2.6792**	**5.0796**	**4.7549**	**0.0125**	**0.4961**	**0.1879**	**0.6662**	**0.1338**	**0.1767**	**0.3078**	**0.0000**	**1,136.1761**	**1,136.1761**	**0.1397**	**0.0000**	**1,139.6311**

100 E. Ocean Blvd - South Coast Air Basin, Annual

	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**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-22-2020**	**4-21-2020**	2.4037	2.4037
2	**4-22-2020**	**7-21-2020**	1.1765	1.1765
3	**7-22-2020**	**10-21-2020**	1.1162	1.1162
4	**10-22-2020**	**1-21-2021**	1.0974	1.0974
5	**1-22-2021**	**4-21-2021**	0.9952	0.9952
6	**4-22-2021**	**7-21-2021**	1.0025	1.0025
7	**7-22-2021**	**10-21-2021**	1.2598	1.2598
8	**10-22-2021**	**1-21-2022**	2.0514	2.0514
9	**1-22-2022**	**4-21-2022**	1.5784	1.5784
10	**4-22-2022**	**7-21-2022**	3.7804	3.7804
11	**7-22-2022**	**9-30-2022**	0.0415	0.0415
		Highest	3.7804	3.7804

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	2.0281	7.0000e-005	7.7100e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0150	0.0150	4.0000e-005	0.0000	0.0160
Energy	0.0904	0.8219	0.6904	4.9300e-003		0.0625	0.0625		0.0625	0.0625	0.0000	2,105.2239	2,105.2239	0.0811	0.0296	2,116.0819
Mobile	1.4312	7.2782	15.7882	0.0553	4.5213	0.0452	4.5665	1.2114	0.0422	1.2536	0.0000	5,112.5768	5,112.5768	0.2641	0.0000	5,119.1796
Stationary	2.9500e-003	8.2600e-003	7.5300e-003	1.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004	0.0000	1.3709	1.3709	1.9000e-004	0.0000	1.3757
Waste						0.0000	0.0000		0.0000	0.0000	52.0327	0.0000	52.0327	3.0750	0.0000	128.9088
Water						0.0000	0.0000		0.0000	0.0000	5.7164	63.0305	68.7469	0.5905	0.0146	87.8450
Total	**3.5526**	**8.1085**	**16.4939**	**0.0602**	**4.5213**	**0.1082**	**4.6294**	**1.2114**	**0.1051**	**1.3165**	**57.7491**	**7,282.2172**	**7,339.9662**	**4.0109**	**0.0442**	**7,453.4069**

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	2.0281	7.0000e-005	7.7100e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0150	0.0150	4.0000e-005	0.0000	0.0160
Energy	0.0904	0.8219	0.6904	4.9300e-003		0.0625	0.0625		0.0625	0.0625	0.0000	2,105.2239	2,105.2239	0.0811	0.0296	2,116.0819
Mobile	1.3045	6.3604	12.5848	0.0414	3.2688	0.0345	3.3033	0.8758	0.0321	0.9080	0.0000	3,825.4911	3,825.4911	0.2112	0.0000	3,830.7708
Stationary	2.9500e-003	8.2600e-003	7.5300e-003	1.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004	0.0000	1.3709	1.3709	1.9000e-004	0.0000	1.3757
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	5.7164	63.0305	68.7469	0.5905	0.0146	87.8450
Total	**3.4259**	**7.1906**	**13.2905**	**0.0463**	**3.2688**	**0.0974**	**3.3662**	**0.8758**	**0.0951**	**0.9709**	**5.7164**	**5,995.1314**	**6,000.8478**	**0.8830**	**0.0442**	**6,036.0894**

	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	**3.56**	**11.32**	**19.42**	**23.16**	**27.70**	**9.93**	**27.29**	**27.70**	**9.53**	**26.25**	**90.10**	**17.67**	**18.24**	**77.99**	**0.00**	**19.02**

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	1/22/2020	2/25/2020	5	25	
2	Grading	Grading	2/26/2020	3/24/2020	5	20	
3	Mat Foundation	Building Construction	3/26/2020	3/30/2020	5	3	
4	Parking and Podium	Building Construction	3/31/2020	5/29/2020	5	44	
5	Building Construction (Shell)	Building Construction	6/1/2020	2/21/2022	5	451	
6	Building Construction (Finishing)	Building Construction	10/1/2021	7/22/2022	5	211	
7	Paving	Paving	2/22/2022	7/22/2022	5	109	
8	Architectural Coating	Architectural Coating	4/22/2022	7/22/2022	5	66	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0.85

Acres of Paving: 0.85

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 744,723; Non-Residential Outdoor: 248,241; Striped Parking Area: 2,436 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Crushing/Proc. Equipment	1	8.00	85	0.78
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Bore/Drill Rigs	1	8.00	221	0.50
Grading	Cranes	1	8.00	231	0.29
Grading	Excavators	2	8.00	158	0.38

Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Loaders	2	8.00	203	0.36
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Welders	1	8.00	46	0.45
Mat Foundation	Cement and Mortar Mixers	4	8.00	9	0.56
Mat Foundation	Cranes	1	7.00	231	0.29
Mat Foundation	Forklifts	3	8.00	89	0.20
Mat Foundation	Generator Sets	1	8.00	84	0.74
Mat Foundation	Pumps	4	8.00	84	0.74
Mat Foundation	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Mat Foundation	Welders	1	8.00	46	0.45
Parking and Podium	Aerial Lifts	1	8.00	63	0.31
Parking and Podium	Cranes	1	7.00	231	0.29
Parking and Podium	Forklifts	3	8.00	89	0.20
Parking and Podium	Generator Sets	1	8.00	84	0.74
Parking and Podium	Pumps	2	8.00	84	0.74
Parking and Podium	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Parking and Podium	Welders	1	8.00	46	0.45
Building Construction (Shell)	Aerial Lifts	2	8.00	63	0.31
Building Construction (Shell)	Cranes	1	7.00	231	0.29
Building Construction (Shell)	Forklifts	3	8.00	89	0.20
Building Construction (Shell)	Generator Sets	1	8.00	84	0.74
Building Construction (Shell)	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction (Shell)	Welders	1	8.00	46	0.45
Building Construction (Finishing)	Aerial Lifts	1	8.00	63	0.31

Building Construction (Finishing)	Air Compressors	1	8.00	78	0.48
Building Construction (Finishing)	Cranes	1	7.00	231	0.29
Building Construction (Finishing)	Forklifts	3	8.00	89	0.20
Building Construction (Finishing)	Generator Sets	1	8.00	84	0.74
Building Construction (Finishing)	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction (Finishing)	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	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	8	20.00	0.00	271.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	13	33.00	0.00	2,938.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Mat Foundation	17	226.00	830.00	0.00	14.70	6.90	20.00	LD_Mix	HHDT	HHDT
Parking and Podium	12	226.00	88.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction (Shell)	11	226.00	88.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction (Finishing)	11	226.00	88.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	45.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	45.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2020

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					0.0293	0.0000	0.0293	4.4300e-003	0.0000	4.4300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0509	0.4888	0.3548	6.1000e-004		0.0254	0.0254		0.0238	0.0238	0.0000	53.4446	53.4446	0.0137	0.0000	53.7860
Total	**0.0509**	**0.4888**	**0.3548**	**6.1000e-004**	**0.0293**	**0.0254**	**0.0547**	**4.4300e-003**	**0.0238**	**0.0283**	**0.0000**	**53.4446**	**53.4446**	**0.0137**	**0.0000**	**53.7860**

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	1.0900e-003	0.0390	8.0800e-003	1.0000e-004	2.3300e-003	1.2000e-004	2.4500e-003	6.4000e-004	1.2000e-004	7.6000e-004	0.0000	10.2808	10.2808	7.4000e-004	0.0000	10.2994
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	1.1100e-003	8.6000e-004	9.4800e-003	3.0000e-005	2.7400e-003	2.0000e-005	2.7600e-003	7.3000e-004	2.0000e-005	7.5000e-004	0.0000	2.4716	2.4716	7.0000e-005	0.0000	2.4734
Total	**2.2000e-003**	**0.0398**	**0.0176**	**1.3000e-004**	**5.0700e-003**	**1.4000e-004**	**5.2100e-003**	**1.3700e-003**	**1.4000e-004**	**1.5100e-003**	**0.0000**	**12.7524**	**12.7524**	**8.1000e-004**	**0.0000**	**12.7728**

3.2 Demolition - 2020

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					0.0293	0.0000	0.0293	4.4300e-003	0.0000	4.4300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0509	0.4888	0.3548	6.1000e-004		0.0254	0.0254		0.0238	0.0238	0.0000	53.4445	53.4445	0.0137	0.0000	53.7859
Total	**0.0509**	**0.4888**	**0.3548**	**6.1000e-004**	**0.0293**	**0.0254**	**0.0547**	**4.4300e-003**	**0.0238**	**0.0283**	**0.0000**	**53.4445**	**53.4445**	**0.0137**	**0.0000**	**53.7859**

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	1.0900e-003	0.0390	8.0800e-003	1.0000e-004	2.3300e-003	1.2000e-004	2.4500e-003	6.4000e-004	1.2000e-004	7.6000e-004	0.0000	10.2808	10.2808	7.4000e-004	0.0000	10.2994
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	1.1100e-003	8.6000e-004	9.4800e-003	3.0000e-005	2.7400e-003	2.0000e-005	2.7600e-003	7.3000e-004	2.0000e-005	7.5000e-004	0.0000	2.4716	2.4716	7.0000e-005	0.0000	2.4734
Total	**2.2000e-003**	**0.0398**	**0.0176**	**1.3000e-004**	**5.0700e-003**	**1.4000e-004**	**5.2100e-003**	**1.3700e-003**	**1.4000e-004**	**1.5100e-003**	**0.0000**	**12.7524**	**12.7524**	**8.1000e-004**	**0.0000**	**12.7728**

3.3 Grading - 2020

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					0.0620	0.0000	0.0620	0.0334	0.0000	0.0334	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0627	0.6950	0.4119	9.2000e-004		0.0288	0.0288		0.0265	0.0265	0.0000	80.6692	80.6692	0.0258	0.0000	81.3132
Total	**0.0627**	**0.6950**	**0.4119**	**9.2000e-004**	**0.0620**	**0.0288**	**0.0908**	**0.0334**	**0.0265**	**0.0599**	**0.0000**	**80.6692**	**80.6692**	**0.0258**	**0.0000**	**81.3132**

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	0.0118	0.4225	0.0877	1.1300e-003	0.0253	1.3300e-003	0.0266	6.9300e-003	1.2800e-003	8.2000e-003	0.0000	111.4575	111.4575	8.0700e-003	0.0000	111.6594
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	1.4700e-003	1.1300e-003	0.0125	4.0000e-005	3.6200e-003	3.0000e-005	3.6500e-003	9.6000e-004	3.0000e-005	9.9000e-004	0.0000	3.2625	3.2625	9.0000e-005	0.0000	3.2648
Total	**0.0133**	**0.4237**	**0.1002**	**1.1700e-003**	**0.0289**	**1.3600e-003**	**0.0302**	**7.8900e-003**	**1.3100e-003**	**9.1900e-003**	**0.0000**	**114.7200**	**114.7200**	**8.1600e-003**	**0.0000**	**114.9242**

3.3 Grading - 2020

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					0.0620	0.0000	0.0620	0.0334	0.0000	0.0334	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0627	0.6950	0.4119	9.2000e-004		0.0288	0.0288		0.0265	0.0265	0.0000	80.6691	80.6691	0.0258	0.0000	81.3131
Total	**0.0627**	**0.6950**	**0.4119**	**9.2000e-004**	**0.0620**	**0.0288**	**0.0908**	**0.0334**	**0.0265**	**0.0599**	**0.0000**	**80.6691**	**80.6691**	**0.0258**	**0.0000**	**81.3131**

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	0.0118	0.4225	0.0877	1.1300e-003	0.0253	1.3300e-003	0.0266	6.9300e-003	1.2800e-003	8.2000e-003	0.0000	111.4575	111.4575	8.0700e-003	0.0000	111.6594
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	1.4700e-003	1.1300e-003	0.0125	4.0000e-005	3.6200e-003	3.0000e-005	3.6500e-003	9.6000e-004	3.0000e-005	9.9000e-004	0.0000	3.2625	3.2625	9.0000e-005	0.0000	3.2648
Total	**0.0133**	**0.4237**	**0.1002**	**1.1700e-003**	**0.0289**	**1.3600e-003**	**0.0302**	**7.8900e-003**	**1.3100e-003**	**9.1900e-003**	**0.0000**	**114.7200**	**114.7200**	**8.1600e-003**	**0.0000**	**114.9242**

3.4 Mat Foundation - 2020

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	6.0700e-003	0.0522	0.0497	8.0000e-005		3.0000e-003	3.0000e-003		2.9000e-003	2.9000e-003	0.0000	7.1404	7.1404	1.0800e-003	0.0000	7.1673
Total	**6.0700e-003**	**0.0522**	**0.0497**	**8.0000e-005**		**3.0000e-003**	**3.0000e-003**		**2.9000e-003**	**2.9000e-003**	**0.0000**	**7.1404**	**7.1404**	**1.0800e-003**	**0.0000**	**7.1673**

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	4.8700e-003	0.2002	0.0364	4.1000e-004	7.4000e-003	4.3000e-004	7.8300e-003	2.0300e-003	4.1000e-004	2.4400e-003	0.0000	40.4700	40.4700	3.7500e-003	0.0000	40.5636
Worker	1.5100e-003	1.1600e-003	0.0129	4.0000e-005	3.7200e-003	3.0000e-005	3.7500e-003	9.9000e-004	3.0000e-005	1.0100e-003	0.0000	3.3515	3.3515	1.0000e-004	0.0000	3.3539
Total	**6.3800e-003**	**0.2013**	**0.0493**	**4.5000e-004**	**0.0111**	**4.6000e-004**	**0.0116**	**3.0200e-003**	**4.4000e-004**	**3.4500e-003**	**0.0000**	**43.8214**	**43.8214**	**3.8500e-003**	**0.0000**	**43.9175**

3.4 Mat Foundation - 2020

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	6.0700e-003	0.0522	0.0497	8.0000e-005		3.0000e-003	3.0000e-003		2.9000e-003	2.9000e-003	0.0000	7.1404	7.1404	1.0800e-003	0.0000	7.1673
Total	**6.0700e-003**	**0.0522**	**0.0497**	**8.0000e-005**		**3.0000e-003**	**3.0000e-003**		**2.9000e-003**	**2.9000e-003**	**0.0000**	**7.1404**	**7.1404**	**1.0800e-003**	**0.0000**	**7.1673**

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	4.8700e-003	0.2002	0.0364	4.1000e-004	7.4000e-003	4.3000e-004	7.8300e-003	2.0300e-003	4.1000e-004	2.4400e-003	0.0000	40.4700	40.4700	3.7500e-003	0.0000	40.5636
Worker	1.5100e-003	1.1600e-003	0.0129	4.0000e-005	3.7200e-003	3.0000e-005	3.7500e-003	9.9000e-004	3.0000e-005	1.0100e-003	0.0000	3.3515	3.3515	1.0000e-004	0.0000	3.3539
Total	**6.3800e-003**	**0.2013**	**0.0493**	**4.5000e-004**	**0.0111**	**4.6000e-004**	**0.0116**	**3.0200e-003**	**4.4000e-004**	**3.4500e-003**	**0.0000**	**43.8214**	**43.8214**	**3.8500e-003**	**0.0000**	**43.9175**

3.5 Parking and Podium - 2020

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	0.0661	0.5915	0.5603	9.2000e-004		0.0340	0.0340		0.0325	0.0325	0.0000	79.0689	79.0689	0.0150	0.0000	79.4431
Total	**0.0661**	**0.5915**	**0.5603**	**9.2000e-004**		**0.0340**	**0.0340**		**0.0325**	**0.0325**	**0.0000**	**79.0689**	**79.0689**	**0.0150**	**0.0000**	**79.4431**

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	6.5500e-003	0.2076	0.0524	4.9000e-004	0.0122	1.0200e-003	0.0132	3.5200e-003	9.7000e-004	4.4900e-003	0.0000	47.3637	47.3637	3.1600e-003	0.0000	47.4427
Worker	0.0221	0.0170	0.1886	5.4000e-004	0.0546	4.2000e-004	0.0550	0.0145	3.9000e-004	0.0149	0.0000	49.1547	49.1547	1.4200e-003	0.0000	49.1900
Total	**0.0287**	**0.2246**	**0.2410**	**1.0300e-003**	**0.0668**	**1.4400e-003**	**0.0682**	**0.0180**	**1.3600e-003**	**0.0194**	**0.0000**	**96.5184**	**96.5184**	**4.5800e-003**	**0.0000**	**96.6328**

3.5 Parking and Podium - 2020

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	0.0661	0.5915	0.5603	9.2000e-004		0.0340	0.0340		0.0325	0.0325	0.0000	79.0688	79.0688	0.0150	0.0000	79.4430
Total	**0.0661**	**0.5915**	**0.5603**	**9.2000e-004**		**0.0340**	**0.0340**		**0.0325**	**0.0325**	**0.0000**	**79.0688**	**79.0688**	**0.0150**	**0.0000**	**79.4430**

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	6.5500e-003	0.2076	0.0524	4.9000e-004	0.0122	1.0200e-003	0.0132	3.5200e-003	9.7000e-004	4.4900e-003	0.0000	47.3637	47.3637	3.1600e-003	0.0000	47.4427
Worker	0.0221	0.0170	0.1886	5.4000e-004	0.0546	4.2000e-004	0.0550	0.0145	3.9000e-004	0.0149	0.0000	49.1547	49.1547	1.4200e-003	0.0000	49.1900
Total	**0.0287**	**0.2246**	**0.2410**	**1.0300e-003**	**0.0668**	**1.4400e-003**	**0.0682**	**0.0180**	**1.3600e-003**	**0.0194**	**0.0000**	**96.5184**	**96.5184**	**4.5800e-003**	**0.0000**	**96.6328**

3.6 Building Construction (Shell) - 2020

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	0.1693	1.5764	1.4659	2.3300e-003		0.0882	0.0882		0.0829	0.0829	0.0000	201.0587	201.0587	0.0509	0.0000	202.3301
Total	**0.1693**	**1.5764**	**1.4659**	**2.3300e-003**		**0.0882**	**0.0882**		**0.0829**	**0.0829**	**0.0000**	**201.0587**	**201.0587**	**0.0509**	**0.0000**	**202.3301**

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	0.0229	0.7266	0.1832	1.7100e-003	0.0427	3.5600e-003	0.0463	0.0123	3.4000e-003	0.0157	0.0000	165.7730	165.7730	0.0111	0.0000	166.0496
Worker	0.0775	0.0596	0.6602	1.9000e-003	0.1909	1.4800e-003	0.1924	0.0507	1.3700e-003	0.0521	0.0000	172.0413	172.0413	4.9500e-003	0.0000	172.1652
Total	**0.1004**	**0.7862**	**0.8434**	**3.6100e-003**	**0.2336**	**5.0400e-003**	**0.2387**	**0.0630**	**4.7700e-003**	**0.0678**	**0.0000**	**337.8143**	**337.8143**	**0.0160**	**0.0000**	**338.2148**

3.6 Building Construction (Shell) - 2020

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	0.1693	1.5764	1.4659	2.3300e-003		0.0882	0.0882		0.0829	0.0829	0.0000	201.0585	201.0585	0.0509	0.0000	202.3299
Total	**0.1693**	**1.5764**	**1.4659**	**2.3300e-003**		**0.0882**	**0.0882**		**0.0829**	**0.0829**	**0.0000**	**201.0585**	**201.0585**	**0.0509**	**0.0000**	**202.3299**

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	0.0229	0.7266	0.1832	1.7100e-003	0.0427	3.5600e-003	0.0463	0.0123	3.4000e-003	0.0157	0.0000	165.7730	165.7730	0.0111	0.0000	166.0496
Worker	0.0775	0.0596	0.6602	1.9000e-003	0.1909	1.4800e-003	0.1924	0.0507	1.3700e-003	0.0521	0.0000	172.0413	172.0413	4.9500e-003	0.0000	172.1652
Total	**0.1004**	**0.7862**	**0.8434**	**3.6100e-003**	**0.2336**	**5.0400e-003**	**0.2387**	**0.0630**	**4.7700e-003**	**0.0678**	**0.0000**	**337.8143**	**337.8143**	**0.0160**	**0.0000**	**338.2148**

3.6 Building Construction (Shell) - 2021

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	0.2579	2.4317	2.4486	3.9500e-003		0.1281	0.1281		0.1204	0.1204	0.0000	340.7910	340.7910	0.0854	0.0000	342.9255
Total	**0.2579**	**2.4317**	**2.4486**	**3.9500e-003**		**0.1281**	**0.1281**		**0.1204**	**0.1204**	**0.0000**	**340.7910**	**340.7910**	**0.0854**	**0.0000**	**342.9255**

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	0.0330	1.1171	0.2823	2.8700e-003	0.0724	2.2800e-003	0.0747	0.0209	2.1800e-003	0.0231	0.0000	278.8391	278.8391	0.0180	0.0000	279.2885
Worker	0.1226	0.0910	1.0293	3.1200e-003	0.3236	2.4400e-003	0.3260	0.0859	2.2500e-003	0.0882	0.0000	282.1454	282.1454	7.5900e-003	0.0000	282.3352
Total	**0.1556**	**1.2080**	**1.3116**	**5.9900e-003**	**0.3960**	**4.7200e-003**	**0.4007**	**0.1068**	**4.4300e-003**	**0.1112**	**0.0000**	**560.9845**	**560.9845**	**0.0256**	**0.0000**	**561.6237**

3.6 Building Construction (Shell) - 2021

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	0.2579	2.4317	2.4486	3.9500e-003		0.1281	0.1281		0.1204	0.1204	0.0000	340.7906	340.7906	0.0854	0.0000	342.9251
Total	**0.2579**	**2.4317**	**2.4486**	**3.9500e-003**		**0.1281**	**0.1281**		**0.1204**	**0.1204**	**0.0000**	**340.7906**	**340.7906**	**0.0854**	**0.0000**	**342.9251**

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	0.0330	1.1171	0.2823	2.8700e-003	0.0724	2.2800e-003	0.0747	0.0209	2.1800e-003	0.0231	0.0000	278.8391	278.8391	0.0180	0.0000	279.2885
Worker	0.1226	0.0910	1.0293	3.1200e-003	0.3236	2.4400e-003	0.3260	0.0859	2.2500e-003	0.0882	0.0000	282.1454	282.1454	7.5900e-003	0.0000	282.3352
Total	**0.1556**	**1.2080**	**1.3116**	**5.9900e-003**	**0.3960**	**4.7200e-003**	**0.4007**	**0.1068**	**4.4300e-003**	**0.1112**	**0.0000**	**560.9845**	**560.9845**	**0.0256**	**0.0000**	**561.6237**

3.6 Building Construction (Shell) - 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	0.0320	0.3013	0.3339	5.5000e-004		0.0149	0.0149		0.0141	0.0141	0.0000	47.0215	47.0215	0.0117	0.0000	47.3143
Total	**0.0320**	**0.3013**	**0.3339**	**5.5000e-004**		**0.0149**	**0.0149**		**0.0141**	**0.0141**	**0.0000**	**47.0215**	**47.0215**	**0.0117**	**0.0000**	**47.3143**

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	4.2700e-003	0.1462	0.0369	3.9000e-004	9.9800e-003	2.7000e-004	0.0103	2.8800e-003	2.6000e-004	3.1400e-003	0.0000	38.1208	38.1208	2.3900e-003	0.0000	38.1806
Worker	0.0159	0.0113	0.1311	4.1000e-004	0.0446	3.3000e-004	0.0450	0.0119	3.0000e-004	0.0122	0.0000	37.5227	37.5227	9.5000e-004	0.0000	37.5463
Total	**0.0202**	**0.1575**	**0.1680**	**8.0000e-004**	**0.0546**	**6.0000e-004**	**0.0552**	**0.0147**	**5.6000e-004**	**0.0153**	**0.0000**	**75.6435**	**75.6435**	**3.3400e-003**	**0.0000**	**75.7270**

3.6 Building Construction (Shell) - 2022

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	0.0320	0.3013	0.3339	5.5000e-004		0.0149	0.0149		0.0141	0.0141	0.0000	47.0214	47.0214	0.0117	0.0000	47.3142
Total	**0.0320**	**0.3013**	**0.3339**	**5.5000e-004**		**0.0149**	**0.0149**		**0.0141**	**0.0141**	**0.0000**	**47.0214**	**47.0214**	**0.0117**	**0.0000**	**47.3142**

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	4.2700e-003	0.1462	0.0369	3.9000e-004	9.9800e-003	2.7000e-004	0.0103	2.8800e-003	2.6000e-004	3.1400e-003	0.0000	38.1208	38.1208	2.3900e-003	0.0000	38.1806
Worker	0.0159	0.0113	0.1311	4.1000e-004	0.0446	3.3000e-004	0.0450	0.0119	3.0000e-004	0.0122	0.0000	37.5227	37.5227	9.5000e-004	0.0000	37.5463
Total	**0.0202**	**0.1575**	**0.1680**	**8.0000e-004**	**0.0546**	**6.0000e-004**	**0.0552**	**0.0147**	**5.6000e-004**	**0.0153**	**0.0000**	**75.6435**	**75.6435**	**3.3400e-003**	**0.0000**	**75.7270**

3.7 Building Construction (Finishing) - 2021

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	0.0736	0.6623	0.6631	1.0700e-003		0.0362	0.0362		0.0342	0.0342	0.0000	92.5430	92.5430	0.0208	0.0000	93.0627
Total	**0.0736**	**0.6623**	**0.6631**	**1.0700e-003**		**0.0362**	**0.0362**		**0.0342**	**0.0342**	**0.0000**	**92.5430**	**92.5430**	**0.0208**	**0.0000**	**93.0627**

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	8.3500e-003	0.2825	0.0714	7.3000e-004	0.0183	5.8000e-004	0.0189	5.2800e-003	5.5000e-004	5.8300e-003	0.0000	70.5110	70.5110	4.5500e-003	0.0000	70.6247
Worker	0.0310	0.0230	0.2603	7.9000e-004	0.0818	6.2000e-004	0.0824	0.0217	5.7000e-004	0.0223	0.0000	71.3471	71.3471	1.9200e-003	0.0000	71.3951
Total	**0.0394**	**0.3055**	**0.3317**	**1.5200e-003**	**0.1001**	**1.2000e-003**	**0.1013**	**0.0270**	**1.1200e-003**	**0.0281**	**0.0000**	**141.8581**	**141.8581**	**6.4700e-003**	**0.0000**	**142.0198**

3.7 Building Construction (Finishing) - 2021

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	0.0736	0.6623	0.6631	1.0700e-003		0.0362	0.0362		0.0342	0.0342	0.0000	92.5429	92.5429	0.0208	0.0000	93.0626
Total	**0.0736**	**0.6623**	**0.6631**	**1.0700e-003**		**0.0362**	**0.0362**		**0.0342**	**0.0342**	**0.0000**	**92.5429**	**92.5429**	**0.0208**	**0.0000**	**93.0626**

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	8.3500e-003	0.2825	0.0714	7.3000e-004	0.0183	5.8000e-004	0.0189	5.2800e-003	5.5000e-004	5.8300e-003	0.0000	70.5110	70.5110	4.5500e-003	0.0000	70.6247
Worker	0.0310	0.0230	0.2603	7.9000e-004	0.0818	6.2000e-004	0.0824	0.0217	5.7000e-004	0.0223	0.0000	71.3471	71.3471	1.9200e-003	0.0000	71.3951
Total	**0.0394**	**0.3055**	**0.3317**	**1.5200e-003**	**0.1001**	**1.2000e-003**	**0.1013**	**0.0270**	**1.1200e-003**	**0.0281**	**0.0000**	**141.8581**	**141.8581**	**6.4700e-003**	**0.0000**	**142.0198**

3.7 Building Construction (Finishing) - 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	0.1461	1.3089	1.4410	2.3600e-003		0.0673	0.0673		0.0638	0.0638	0.0000	203.3779	203.3779	0.0453	0.0000	204.5108
Total	**0.1461**	**1.3089**	**1.4410**	**2.3600e-003**		**0.0673**	**0.0673**		**0.0638**	**0.0638**	**0.0000**	**203.3779**	**203.3779**	**0.0453**	**0.0000**	**204.5108**

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	0.0172	0.5888	0.1485	1.5800e-003	0.0402	1.1000e-003	0.0413	0.0116	1.0500e-003	0.0127	0.0000	153.5422	153.5422	9.6400e-003	0.0000	153.7831
Worker	0.0640	0.0457	0.5280	1.6700e-003	0.1798	1.3200e-003	0.1811	0.0477	1.2100e-003	0.0490	0.0000	151.1331	151.1331	3.8100e-003	0.0000	151.2283
Total	**0.0812**	**0.6345**	**0.6765**	**3.2500e-003**	**0.2200**	**2.4200e-003**	**0.2224**	**0.0593**	**2.2600e-003**	**0.0616**	**0.0000**	**304.6752**	**304.6752**	**0.0135**	**0.0000**	**305.0115**

3.7 Building Construction (Finishing) - 2022

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	0.1461	1.3089	1.4410	2.3600e-003		0.0673	0.0673		0.0638	0.0638	0.0000	203.3777	203.3777	0.0453	0.0000	204.5105
Total	**0.1461**	**1.3089**	**1.4410**	**2.3600e-003**		**0.0673**	**0.0673**		**0.0638**	**0.0638**	**0.0000**	**203.3777**	**203.3777**	**0.0453**	**0.0000**	**204.5105**

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	0.0172	0.5888	0.1485	1.5800e-003	0.0402	1.1000e-003	0.0413	0.0116	1.0500e-003	0.0127	0.0000	153.5422	153.5422	9.6400e-003	0.0000	153.7831
Worker	0.0640	0.0457	0.5280	1.6700e-003	0.1798	1.3200e-003	0.1811	0.0477	1.2100e-003	0.0490	0.0000	151.1331	151.1331	3.8100e-003	0.0000	151.2283
Total	**0.0812**	**0.6345**	**0.6765**	**3.2500e-003**	**0.2200**	**2.4200e-003**	**0.2224**	**0.0593**	**2.2600e-003**	**0.0616**	**0.0000**	**304.6752**	**304.6752**	**0.0135**	**0.0000**	**305.0115**

3.8 Paving - 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	0.0715	0.7123	0.9287	1.4400e-003		0.0364	0.0364		0.0336	0.0336	0.0000	125.8567	125.8567	0.0403	0.0000	126.8641
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0715**	**0.7123**	**0.9287**	**1.4400e-003**		**0.0364**	**0.0364**		**0.0336**	**0.0336**	**0.0000**	**125.8567**	**125.8567**	**0.0403**	**0.0000**	**126.8641**

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	3.1900e-003	2.2800e-003	0.0264	8.0000e-005	8.9700e-003	7.0000e-005	9.0300e-003	2.3800e-003	6.0000e-005	2.4400e-003	0.0000	7.5405	7.5405	1.9000e-004	0.0000	7.5453
Total	**3.1900e-003**	**2.2800e-003**	**0.0264**	**8.0000e-005**	**8.9700e-003**	**7.0000e-005**	**9.0300e-003**	**2.3800e-003**	**6.0000e-005**	**2.4400e-003**	**0.0000**	**7.5405**	**7.5405**	**1.9000e-004**	**0.0000**	**7.5453**

3.8 Paving - 2022

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	0.0715	0.7123	0.9287	1.4400e-003		0.0364	0.0364		0.0336	0.0336	0.0000	125.8566	125.8566	0.0403	0.0000	126.8639
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0715**	**0.7123**	**0.9287**	**1.4400e-003**		**0.0364**	**0.0364**		**0.0336**	**0.0336**	**0.0000**	**125.8566**	**125.8566**	**0.0403**	**0.0000**	**126.8639**

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	3.1900e-003	2.2800e-003	0.0264	8.0000e-005	8.9700e-003	7.0000e-005	9.0300e-003	2.3800e-003	6.0000e-005	2.4400e-003	0.0000	7.5405	7.5405	1.9000e-004	0.0000	7.5453
Total	**3.1900e-003**	**2.2800e-003**	**0.0264**	**8.0000e-005**	**8.9700e-003**	**7.0000e-005**	**9.0300e-003**	**2.3800e-003**	**6.0000e-005**	**2.4400e-003**	**0.0000**	**7.5405**	**7.5405**	**1.9000e-004**	**0.0000**	**7.5453**

3.9 Architectural Coating - 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					
Archit. Coating	2.3068					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7500e-003	0.0465	0.0599	1.0000e-004		2.7000e-003	2.7000e-003		2.7000e-003	2.7000e-003	0.0000	8.4257	8.4257	5.5000e-004	0.0000	8.4395
Total	**2.3136**	**0.0465**	**0.0599**	**1.0000e-004**		**2.7000e-003**	**2.7000e-003**		**2.7000e-003**	**2.7000e-003**	**0.0000**	**8.4257**	**8.4257**	**5.5000e-004**	**0.0000**	**8.4395**

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	0.0116	8.2800e-003	0.0957	3.0000e-004	0.0608	2.4000e-004	0.0611	0.0156	2.2000e-004	0.0158	0.0000	27.3949	27.3949	6.9000e-004	0.0000	27.4122
Total	**0.0116**	**8.2800e-003**	**0.0957**	**3.0000e-004**	**0.0608**	**2.4000e-004**	**0.0611**	**0.0156**	**2.2000e-004**	**0.0158**	**0.0000**	**27.3949**	**27.3949**	**6.9000e-004**	**0.0000**	**27.4122**

3.9 Architectural Coating - 2022

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	2.3068					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.7500e-003	0.0465	0.0599	1.0000e-004		2.7000e-003	2.7000e-003		2.7000e-003	2.7000e-003	0.0000	8.4257	8.4257	5.5000e-004	0.0000	8.4394
Total	**2.3136**	**0.0465**	**0.0599**	**1.0000e-004**		**2.7000e-003**	**2.7000e-003**		**2.7000e-003**	**2.7000e-003**	**0.0000**	**8.4257**	**8.4257**	**5.5000e-004**	**0.0000**	**8.4394**

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	0.0116	8.2800e-003	0.0957	3.0000e-004	0.0608	2.4000e-004	0.0611	0.0156	2.2000e-004	0.0158	0.0000	27.3949	27.3949	6.9000e-004	0.0000	27.4122
Total	**0.0116**	**8.2800e-003**	**0.0957**	**3.0000e-004**	**0.0608**	**2.4000e-004**	**0.0611**	**0.0156**	**2.2000e-004**	**0.0158**	**0.0000**	**27.3949**	**27.3949**	**6.9000e-004**	**0.0000**	**27.4122**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Improve Walkability Design

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

Provide Traffic Calming Measures

	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	1.3045	6.3604	12.5848	0.0414	3.2688	0.0345	3.3033	0.8758	0.0321	0.9080	0.0000	3,825.4911	3,825.4911	0.2112	0.0000	3,830.7708
Unmitigated	1.4312	7.2782	15.7882	0.0553	4.5213	0.0452	4.5665	1.2114	0.0422	1.2536	0.0000	5,112.5768	5,112.5768	0.2641	0.0000	5,119.1796

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Hotel	3,586.44	3,595.02	2612.61	8,228,823	5,949,278
Quality Restaurant	2,637.82	2,767.13	2116.14	3,675,485	2,657,303
Total	6,224.26	6,362.15	4,728.75	11,904,308	8,606,581

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
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.552111	0.043066	0.201891	0.118512	0.015605	0.005863	0.021387	0.031253	0.002087	0.001818	0.004803	0.000708	0.000896
Hotel	0.552111	0.043066	0.201891	0.118512	0.015605	0.005863	0.021387	0.031253	0.002087	0.001818	0.004803	0.000708	0.000896
Quality Restaurant	0.552111	0.043066	0.201891	0.118512	0.015605	0.005863	0.021387	0.031253	0.002087	0.001818	0.004803	0.000708	0.000896

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

	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	1,210.4490	1,210.4490	0.0639	0.0132	1,215.9897
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,210.4490	1,210.4490	0.0639	0.0132	1,215.9897
NaturalGas Mitigated	0.0904	0.8219	0.6904	4.9300e-003		0.0625	0.0625		0.0625	0.0625	0.0000	894.7750	894.7750	0.0172	0.0164	900.0922
NaturalGas Unmitigated	0.0904	0.8219	0.6904	4.9300e-003		0.0625	0.0625		0.0625	0.0625	0.0000	894.7750	894.7750	0.0172	0.0164	900.0922

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					
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
Hotel	1.13418e+007	0.0612	0.5560	0.4670	3.3400e-003		0.0423	0.0423		0.0423	0.0423	0.0000	605.2427	605.2427	0.0116	0.0111	608.8394
Quality Restaurant	5.42563e+006	0.0293	0.2660	0.2234	1.6000e-003		0.0202	0.0202		0.0202	0.0202	0.0000	289.5322	289.5322	5.5500e-003	5.3100e-003	291.2528
Total		**0.0904**	**0.8219**	**0.6904**	**4.9400e-003**		**0.0625**	**0.0625**		**0.0625**	**0.0625**	**0.0000**	**894.7750**	**894.7750**	**0.0172**	**0.0164**	**900.0922**

5.2 Energy by Land Use - NaturalGas

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					
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
Hotel	1.13418e+007	0.0612	0.5560	0.4670	3.3400e-003		0.0423	0.0423		0.0423	0.0423	0.0000	605.2427	605.2427	0.0116	0.0111	608.8394
Quality Restaurant	5.42563e+006	0.0293	0.2660	0.2234	1.6000e-003		0.0202	0.0202		0.0202	0.0202	0.0000	289.5322	289.5322	5.5500e-003	5.3100e-003	291.2528
Total		**0.0904**	**0.8219**	**0.6904**	**4.9400e-003**		**0.0625**	**0.0625**		**0.0625**	**0.0625**	**0.0000**	**894.7750**	**894.7750**	**0.0172**	**0.0164**	**900.0922**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	237875	59.2362	3.1300e-003	6.5000e-004	59.5073
Hotel	3.58511e+006	892.7727	0.0472	9.7600e-003	896.8593
Quality Restaurant	1.03782e+006	258.4402	0.0137	2.8200e-003	259.6231
Total		**1,210.4490**	**0.0639**	**0.0132**	**1,215.9897**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	237875	59.2362	3.1300e-003	6.5000e-004	59.5073
Hotel	3.58511e+006	892.7727	0.0472	9.7600e-003	896.8593
Quality Restaurant	1.03782e+006	258.4402	0.0137	2.8200e-003	259.6231
Total		**1,210.4490**	**0.0639**	**0.0132**	**1,215.9897**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	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	2.0281	7.0000e-005	7.7100e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0150	0.0150	4.0000e-005	0.0000	0.0160
Unmitigated	2.0281	7.0000e-005	7.7100e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0150	0.0150	4.0000e-005	0.0000	0.0160

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	0.2307					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.7967					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.2000e-004	7.0000e-005	7.7100e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0150	0.0150	4.0000e-005	0.0000	0.0160
Total	**2.0281**	**7.0000e-005**	**7.7100e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0150**	**0.0150**	**4.0000e-005**	**0.0000**	**0.0160**

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	0.2307					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.7967					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.2000e-004	7.0000e-005	7.7100e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0150	0.0150	4.0000e-005	0.0000	0.0160
Total	**2.0281**	**7.0000e-005**	**7.7100e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0150**	**0.0150**	**4.0000e-005**	**0.0000**	**0.0160**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	68.7469	0.5905	0.0146	87.8450
Unmitigated	68.7469	0.5905	0.0146	87.8450

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	10.8823 / 1.20915	42.0839	0.3566	8.8000e-003	53.6209
Quality Restaurant	7.13608 / 0.455494	26.6630	0.2338	5.7600e-003	34.2241
Total		**68.7469**	**0.5905**	**0.0146**	**87.8450**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	10.8823 / 1.20915	42.0839	0.3566	8.8000e-003	53.6209
Quality Restaurant	7.13608 / 0.455494	26.6630	0.2338	5.7600e-003	34.2241
Total		**68.7469**	**0.5905**	**0.0146**	**87.8450**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	52.0327	3.0750	0.0000	128.9088

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Hotel	234.88	47.6785	2.8177	0.0000	118.1215
Quality Restaurant	21.45	4.3542	0.2573	0.0000	10.7872
Total		**52.0327**	**3.0750**	**0.0000**	**128.9088**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator		0.0000	0.0000	0.0000	0.0000
Hotel		0.0000	0.0000	0.0000	0.0000
Quality Restaurant		0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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
Emergency Generator	1	1	12	300	0.73	Diesel

Boilers

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

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/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
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (300 - 600 HP)	2.9500e-003	8.2600e-003	7.5300e-003	1.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004	0.0000	1.3709	1.3709	1.9000e-004	0.0000	1.3757
Total	**2.9500e-003**	**8.2600e-003**	**7.5300e-003**	**1.0000e-005**		**4.3000e-004**	**4.3000e-004**		**4.3000e-004**	**4.3000e-004**	**0.0000**	**1.3709**	**1.3709**	**1.9000e-004**	**0.0000**	**1.3757**

11.0 Vegetation

100 E. Ocean Blvd

South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	151.00	Space	0.85	40,593.00	0
Hotel	429.00	Room	14.30	472,970.00	0
Quality Restaurant	23.51	1000sqft	0.54	23,512.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	11			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	549	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Matches Project Applicant's Model.

Land Use - Matches Project Applicant's Model, except Racquet Club modeled as Hotel.

Construction Phase - Matches Project Applicant's Model.

Off-road Equipment - Default Values.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Default Values, as the Applicant failed to provide a construction equipment list.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Trips and VMT - Default values, except addition of Mat Foundation Vendor Trip number, as per DEIR (p. I-55).
Vehicle Class Vendor matches Applicant's model.

Demolition - Applicant failed to provide square footage of existing parking lot. Thus, we inputted a value consistent with the square footage of the Project site stated in the DEIR (p. II-1).

Grading - Matches Project Applicant's Model.

Vehicle Trips - Matches Project Applicant's Model.

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Fleet Mix -

Stationary Sources - Emergency Generators and Fire Pumps - Matches Project Applicant's Model.

100 E. Ocean Blvd - South Coast Air Basin, Winter

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	66.00
tblConstructionPhase	NumDays	300.00	3.00
tblConstructionPhase	NumDays	300.00	44.00
tblConstructionPhase	NumDays	300.00	451.00
tblConstructionPhase	NumDays	300.00	211.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	30.00	20.00
tblConstructionPhase	NumDays	20.00	109.00
tblGrading	AcresOfGrading	50.00	0.85
tblGrading	MaterialExported	0.00	23,500.00
tblLandUse	LandUseSquareFeet	60,400.00	40,593.00
tblLandUse	LandUseSquareFeet	622,908.00	472,970.00
tblLandUse	LandUseSquareFeet	23,510.00	23,512.00
tblLandUse	LotAcreage	1.36	0.85
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Demolition
tblOffRoadEquipment	PhaseName		Demolition
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Paving
tblProjectCharacteristics	CO2IntensityFactor	702.44	549
tblTripsAndVMT	VendorTripNumber	88.00	830.00
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	HHDT
tblVehicleTrips	ST_TR	8.19	8.38

tblVehicleTrips	ST_TR	94.36	117.70
tblVehicleTrips	SU_TR	5.95	6.09
tblVehicleTrips	SU_TR	72.16	90.01
tblVehicleTrips	WD_TR	8.17	8.36
tblVehicleTrips	WD_TR	89.95	112.20

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					
2020	8.5062	166.2374	67.6335	0.3483	9.1347	3.0146	12.1493	4.1361	2.7853	6.9214	0.0000	36,719.6337	36,719.6337	3.7587	0.0000	36,812.6905
2021	6.8109	56.8722	58.7673	0.1532	6.1785	2.1500	8.3284	1.6641	2.0280	3.6921	0.0000	15,297.6732	15,297.6732	1.8567	0.0000	15,344.0902
2022	75.1146	51.9743	56.9167	0.1512	6.1785	1.8254	8.0039	1.6641	1.7230	3.3871	0.0000	15,090.2043	15,090.2043	1.8240	0.0000	15,135.8031
Maximum	**75.1146**	**166.2374**	**67.6335**	**0.3483**	**9.1347**	**3.0146**	**12.1493**	**4.1361**	**2.7853**	**6.9214**	**0.0000**	**36,719.6337**	**36,719.6337**	**3.7587**	**0.0000**	**36,812.6905**

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					
2020	8.5062	166.2374	67.6335	0.3483	9.1347	3.0146	12.1493	4.1361	2.7853	6.9214	0.0000	36,719.6337	36,719.6337	3.7587	0.0000	36,812.6905
2021	6.8109	56.8722	58.7673	0.1532	6.1785	2.1500	8.3284	1.6641	2.0280	3.6921	0.0000	15,297.6732	15,297.6732	1.8567	0.0000	15,344.0902
2022	75.1146	51.9743	56.9167	0.1512	6.1785	1.8254	8.0039	1.6641	1.7230	3.3871	0.0000	15,090.2043	15,090.2043	1.8240	0.0000	15,135.8031
Maximum	**75.1146**	**166.2374**	**67.6335**	**0.3483**	**9.1347**	**3.0146**	**12.1493**	**4.1361**	**2.7853**	**6.9214**	**0.0000**	**36,719.6337**	**36,719.6337**	**3.7587**	**0.0000**	**36,812.6905**

	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**

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	11.1145	5.6000e-004	0.0617	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004		0.1321	0.1321	3.5000e-004		0.1408
Energy	0.4954	4.5038	3.7832	0.0270		0.3423	0.3423		0.3423	0.3423		5,404.4963	5,404.4963	0.1036	0.0991	5,436.6125
Mobile	8.5588	41.3872	90.5034	0.3149	26.6050	0.2630	26.8679	7.1176	0.2452	7.3629		32,089.0584	32,089.0584	1.7032		32,131.6395
Stationary	0.4923	1.3760	1.2553	2.3700e-003		0.0724	0.0724		0.0724	0.0724		251.8542	251.8542	0.0353		252.7370
Total	**20.6611**	**47.2675**	**95.6036**	**0.3443**	**26.6050**	**0.6779**	**27.2828**	**7.1176**	**0.6602**	**7.7778**		**37,745.5410**	**37,745.5410**	**1.8425**	**0.0991**	**37,821.1298**

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	lb/day										lb/day					
Area	11.1145	5.6000e-004	0.0617	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004		0.1321	0.1321	3.5000e-004		0.1408
Energy	0.4954	4.5038	3.7832	0.0270		0.3423	0.3423		0.3423	0.3423		5,404.4963	5,404.4963	0.1036	0.0991	5,436.6125
Mobile	7.8333	36.1909	72.4865	0.2352	19.2349	0.2008	19.4357	5.1459	0.1872	5.3331		23,979.5520	23,979.5520	1.3682		24,013.7558
Stationary	0.4923	1.3760	1.2553	2.3700e-003		0.0724	0.0724		0.0724	0.0724		251.8542	251.8542	0.0353		252.7370
Total	**19.9355**	**42.0712**	**77.5867**	**0.2646**	**19.2349**	**0.6157**	**19.8506**	**5.1459**	**0.6022**	**5.7481**		**29,636.0346**	**29,636.0346**	**1.5074**	**0.0991**	**29,703.2461**

	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	**3.51**	**10.99**	**18.85**	**23.16**	**27.70**	**9.17**	**27.24**	**27.70**	**8.79**	**26.10**	**0.00**	**21.48**	**21.48**	**18.19**	**0.00**	**21.46**

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	1/22/2020	2/25/2020	5	25	
2	Grading	Grading	2/26/2020	3/24/2020	5	20	
3	Mat Foundation	Building Construction	3/26/2020	3/30/2020	5	3	
4	Parking and Podium	Building Construction	3/31/2020	5/29/2020	5	44	
5	Building Construction (Shell)	Building Construction	6/1/2020	2/21/2022	5	451	
6	Building Construction (Finishing)	Building Construction	10/1/2021	7/22/2022	5	211	
7	Paving	Paving	2/22/2022	7/22/2022	5	109	
8	Architectural Coating	Architectural Coating	4/22/2022	7/22/2022	5	66	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0.85

Acres of Paving: 0.85

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 744,723; Non-Residential Outdoor: 248,241; Striped Parking Area: 2,436 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Crushing/Proc. Equipment	1	8.00	85	0.78
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Bore/Drill Rigs	1	8.00	221	0.50
Grading	Cranes	1	8.00	231	0.29
Grading	Excavators	2	8.00	158	0.38

Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Loaders	2	8.00	203	0.36
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Welders	1	8.00	46	0.45
Mat Foundation	Cement and Mortar Mixers	4	8.00	9	0.56
Mat Foundation	Cranes	1	7.00	231	0.29
Mat Foundation	Forklifts	3	8.00	89	0.20
Mat Foundation	Generator Sets	1	8.00	84	0.74
Mat Foundation	Pumps	4	8.00	84	0.74
Mat Foundation	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Mat Foundation	Welders	1	8.00	46	0.45
Parking and Podium	Aerial Lifts	1	8.00	63	0.31
Parking and Podium	Cranes	1	7.00	231	0.29
Parking and Podium	Forklifts	3	8.00	89	0.20
Parking and Podium	Generator Sets	1	8.00	84	0.74
Parking and Podium	Pumps	2	8.00	84	0.74
Parking and Podium	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Parking and Podium	Welders	1	8.00	46	0.45
Building Construction (Shell)	Aerial Lifts	2	8.00	63	0.31
Building Construction (Shell)	Cranes	1	7.00	231	0.29
Building Construction (Shell)	Forklifts	3	8.00	89	0.20
Building Construction (Shell)	Generator Sets	1	8.00	84	0.74
Building Construction (Shell)	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction (Shell)	Welders	1	8.00	46	0.45
Building Construction (Finishing)	Aerial Lifts	1	8.00	63	0.31

Building Construction (Finishing)	Air Compressors	1	8.00	78	0.48
Building Construction (Finishing)	Cranes	1	7.00	231	0.29
Building Construction (Finishing)	Forklifts	3	8.00	89	0.20
Building Construction (Finishing)	Generator Sets	1	8.00	84	0.74
Building Construction (Finishing)	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction (Finishing)	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	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	8	20.00	0.00	271.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	13	33.00	0.00	2,938.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Mat Foundation	17	226.00	830.00	0.00	14.70	6.90	20.00	LD_Mix	HHDT	HHDT
Parking and Podium	12	226.00	88.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction (Shell)	11	226.00	88.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction (Finishing)	11	226.00	88.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	45.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	45.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2020

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					2.3428	0.0000	2.3428	0.3547	0.0000	0.3547			0.0000			0.0000
Off-Road	4.0747	39.1053	28.3852	0.0489		2.0327	2.0327		1.9052	1.9052		4,713.0035	4,713.0035	1.2043		4,743.1119
Total	**4.0747**	**39.1053**	**28.3852**	**0.0489**	**2.3428**	**2.0327**	**4.3755**	**0.3547**	**1.9052**	**2.2599**		**4,713.0035**	**4,713.0035**	**1.2043**		**4,743.1119**

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	0.0885	3.0597	0.6708	8.2700e-003	0.1893	9.9200e-003	0.1993	0.0519	9.4900e-003	0.0614		897.5657	897.5657	0.0671		899.2427
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	0.0987	0.0666	0.7392	2.1500e-003	0.2236	1.7100e-003	0.2253	0.0593	1.5700e-003	0.0609		214.5703	214.5703	6.1800e-003		214.7247
Total	**0.1872**	**3.1263**	**1.4099**	**0.0104**	**0.4129**	**0.0116**	**0.4245**	**0.1112**	**0.0111**	**0.1222**		**1,112.1360**	**1,112.1360**	**0.0733**		**1,113.9673**

3.2 Demolition - 2020

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					2.3428	0.0000	2.3428	0.3547	0.0000	0.3547			0.0000			0.0000
Off-Road	4.0747	39.1053	28.3852	0.0489		2.0327	2.0327		1.9052	1.9052	0.0000	4,713.0035	4,713.0035	1.2043		4,743.1119
Total	**4.0747**	**39.1053**	**28.3852**	**0.0489**	**2.3428**	**2.0327**	**4.3755**	**0.3547**	**1.9052**	**2.2599**	**0.0000**	**4,713.0035**	**4,713.0035**	**1.2043**		**4,743.1119**

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	0.0885	3.0597	0.6708	8.2700e-003	0.1893	9.9200e-003	0.1993	0.0519	9.4900e-003	0.0614		897.5657	897.5657	0.0671		899.2427
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	0.0987	0.0666	0.7392	2.1500e-003	0.2236	1.7100e-003	0.2253	0.0593	1.5700e-003	0.0609		214.5703	214.5703	6.1800e-003		214.7247
Total	**0.1872**	**3.1263**	**1.4099**	**0.0104**	**0.4129**	**0.0116**	**0.4245**	**0.1112**	**0.0111**	**0.1222**		**1,112.1360**	**1,112.1360**	**0.0733**		**1,113.9673**

3.3 Grading - 2020

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					6.2000	0.0000	6.2000	3.3352	0.0000	3.3352			0.0000			0.0000
Off-Road	6.2713	69.5018	41.1923	0.0922		2.8773	2.8773		2.6541	2.6541		8,892.2594	8,892.2594	2.8395		8,963.2469
Total	**6.2713**	**69.5018**	**41.1923**	**0.0922**	**6.2000**	**2.8773**	**9.0774**	**3.3352**	**2.6541**	**5.9893**		**8,892.2594**	**8,892.2594**	**2.8395**		**8,963.2469**

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	1.1997	41.4642	9.0900	0.1121	2.5658	0.1345	2.7002	0.7031	0.1286	0.8317		12,163.5055	12,163.5055	0.9090		12,186.2315
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	0.1628	0.1099	1.2196	3.5500e-003	0.3689	2.8100e-003	0.3717	0.0978	2.5900e-003	0.1004		354.0409	354.0409	0.0102		354.2957
Total	**1.3625**	**41.5742**	**10.3096**	**0.1157**	**2.9346**	**0.1373**	**3.0719**	**0.8009**	**0.1312**	**0.9321**		**12,517.5464**	**12,517.5464**	**0.9192**		**12,540.5272**

3.3 Grading - 2020

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					6.2000	0.0000	6.2000	3.3352	0.0000	3.3352			0.0000			0.0000
Off-Road	6.2713	69.5018	41.1923	0.0922		2.8773	2.8773		2.6541	2.6541	0.0000	8,892.2594	8,892.2594	2.8395		8,963.2469
Total	**6.2713**	**69.5018**	**41.1923**	**0.0922**	**6.2000**	**2.8773**	**9.0774**	**3.3352**	**2.6541**	**5.9893**	**0.0000**	**8,892.2594**	**8,892.2594**	**2.8395**		**8,963.2469**

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	1.1997	41.4642	9.0900	0.1121	2.5658	0.1345	2.7002	0.7031	0.1286	0.8317		12,163.5055	12,163.5055	0.9090		12,186.2315
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	0.1628	0.1099	1.2196	3.5500e-003	0.3689	2.8100e-003	0.3717	0.0978	2.5900e-003	0.1004		354.0409	354.0409	0.0102		354.2957
Total	**1.3625**	**41.5742**	**10.3096**	**0.1157**	**2.9346**	**0.1373**	**3.0719**	**0.8009**	**0.1312**	**0.9321**		**12,517.5464**	**12,517.5464**	**0.9192**		**12,540.5272**

3.4 Mat Foundation - 2020

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	4.0476	34.7749	33.1325	0.0561		2.0031	2.0031		1.9364	1.9364		5,247.2666	5,247.2666	0.7929		5,267.0899
Total	**4.0476**	**34.7749**	**33.1325**	**0.0561**		**2.0031**	**2.0031**		**1.9364**	**1.9364**		**5,247.2666**	**5,247.2666**	**0.7929**		**5,267.0899**

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	3.3434	130.7097	26.1485	0.2679	5.0129	0.2917	5.3046	1.3746	0.2791	1.6537		29,047.7232	29,047.7232	2.8596		29,119.2119
Worker	1.1152	0.7528	8.3526	0.0243	2.5262	0.0193	2.5454	0.6700	0.0178	0.6877		2,424.6439	2,424.6439	0.0698		2,426.3887
Total	**4.4586**	**131.4625**	**34.5010**	**0.2922**	**7.5391**	**0.3110**	**7.8500**	**2.0446**	**0.2968**	**2.3414**		**31,472.3671**	**31,472.3671**	**2.9293**		**31,545.6006**

3.4 Mat Foundation - 2020

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	4.0476	34.7749	33.1325	0.0561		2.0031	2.0031		1.9364	1.9364	0.0000	5,247.2666	5,247.2666	0.7929		5,267.0899
Total	**4.0476**	**34.7749**	**33.1325**	**0.0561**		**2.0031**	**2.0031**		**1.9364**	**1.9364**	**0.0000**	**5,247.2666**	**5,247.2666**	**0.7929**		**5,267.0899**

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	3.3434	130.7097	26.1485	0.2679	5.0129	0.2917	5.3046	1.3746	0.2791	1.6537		29,047.7232	29,047.7232	2.8596		29,119.2119
Worker	1.1152	0.7528	8.3526	0.0243	2.5262	0.0193	2.5454	0.6700	0.0178	0.6877		2,424.6439	2,424.6439	0.0698		2,426.3887
Total	**4.4586**	**131.4625**	**34.5010**	**0.2922**	**7.5391**	**0.3110**	**7.8500**	**2.0446**	**0.2968**	**2.3414**		**31,472.3671**	**31,472.3671**	**2.9293**		**31,545.6006**

3.5 Parking and Podium - 2020

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	3.0058	26.8878	25.4679	0.0418		1.5458	1.5458		1.4779	1.4779		3,961.7520	3,961.7520	0.7500		3,980.5021
Total	**3.0058**	**26.8878**	**25.4679**	**0.0418**		**1.5458**	**1.5458**		**1.4779**	**1.4779**		**3,961.7520**	**3,961.7520**	**0.7500**		**3,980.5021**

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	0.3055	9.2649	2.4981	0.0219	0.5631	0.0466	0.6097	0.1621	0.0446	0.2067		2,335.3211	2,335.3211	0.1642		2,339.4265
Worker	1.1152	0.7528	8.3526	0.0243	2.5262	0.0193	2.5454	0.6700	0.0178	0.6877		2,424.6439	2,424.6439	0.0698		2,426.3887
Total	**1.4207**	**10.0176**	**10.8507**	**0.0462**	**3.0892**	**0.0658**	**3.1551**	**0.8321**	**0.0623**	**0.8944**		**4,759.9650**	**4,759.9650**	**0.2340**		**4,765.8151**

3.5 Parking and Podium - 2020

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	3.0058	26.8878	25.4679	0.0418		1.5458	1.5458		1.4779	1.4779	0.0000	3,961.7520	3,961.7520	0.7500		3,980.5021
Total	**3.0058**	**26.8878**	**25.4679**	**0.0418**		**1.5458**	**1.5458**		**1.4779**	**1.4779**	**0.0000**	**3,961.7520**	**3,961.7520**	**0.7500**		**3,980.5021**

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	0.3055	9.2649	2.4981	0.0219	0.5631	0.0466	0.6097	0.1621	0.0446	0.2067		2,335.3211	2,335.3211	0.1642		2,339.4265
Worker	1.1152	0.7528	8.3526	0.0243	2.5262	0.0193	2.5454	0.6700	0.0178	0.6877		2,424.6439	2,424.6439	0.0698		2,426.3887
Total	**1.4207**	**10.0176**	**10.8507**	**0.0462**	**3.0892**	**0.0658**	**3.1551**	**0.8321**	**0.0623**	**0.8944**		**4,759.9650**	**4,759.9650**	**0.2340**		**4,765.8151**

3.6 Building Construction (Shell) - 2020

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	2.1990	20.4733	19.0370	0.0303		1.1457	1.1457		1.0767	1.0767		2,878.3028	2,878.3028	0.7281		2,896.5039
Total	**2.1990**	**20.4733**	**19.0370**	**0.0303**		**1.1457**	**1.1457**		**1.0767**	**1.0767**		**2,878.3028**	**2,878.3028**	**0.7281**		**2,896.5039**

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	0.3055	9.2649	2.4981	0.0219	0.5631	0.0466	0.6097	0.1621	0.0446	0.2067		2,335.3211	2,335.3211	0.1642		2,339.4265
Worker	1.1152	0.7528	8.3526	0.0243	2.5262	0.0193	2.5454	0.6700	0.0178	0.6877		2,424.6439	2,424.6439	0.0698		2,426.3887
Total	**1.4207**	**10.0176**	**10.8507**	**0.0462**	**3.0892**	**0.0658**	**3.1551**	**0.8321**	**0.0623**	**0.8944**		**4,759.9650**	**4,759.9650**	**0.2340**		**4,765.8151**

3.6 Building Construction (Shell) - 2020

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	2.1990	20.4733	19.0370	0.0303		1.1457	1.1457		1.0767	1.0767	0.0000	2,878.3027	2,878.3027	0.7281		2,896.5039
Total	**2.1990**	**20.4733**	**19.0370**	**0.0303**		**1.1457**	**1.1457**		**1.0767**	**1.0767**	**0.0000**	**2,878.3027**	**2,878.3027**	**0.7281**		**2,896.5039**

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	0.3055	9.2649	2.4981	0.0219	0.5631	0.0466	0.6097	0.1621	0.0446	0.2067		2,335.3211	2,335.3211	0.1642		2,339.4265
Worker	1.1152	0.7528	8.3526	0.0243	2.5262	0.0193	2.5454	0.6700	0.0178	0.6877		2,424.6439	2,424.6439	0.0698		2,426.3887
Total	**1.4207**	**10.0176**	**10.8507**	**0.0462**	**3.0892**	**0.0658**	**3.1551**	**0.8321**	**0.0623**	**0.8944**		**4,759.9650**	**4,759.9650**	**0.2340**		**4,765.8151**

3.6 Building Construction (Shell) - 2021

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	1.9759	18.6333	18.7633	0.0303		0.9815	0.9815		0.9224	0.9224		2,878.6036	2,878.6036	0.7212		2,896.6337
Total	**1.9759**	**18.6333**	**18.7633**	**0.0303**		**0.9815**	**0.9815**		**0.9224**	**0.9224**		**2,878.6036**	**2,878.6036**	**0.7212**		**2,896.6337**

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	0.2601	8.4077	2.2747	0.0217	0.5631	0.0178	0.5808	0.1621	0.0170	0.1791		2,317.6893	2,317.6893	0.1575		2,321.6256
Worker	1.0422	0.6775	7.6810	0.0235	2.5262	0.0187	2.5448	0.6700	0.0172	0.6872		2,346.2216	2,346.2216	0.0631		2,347.7992
Total	**1.3024**	**9.0852**	**9.9557**	**0.0452**	**3.0892**	**0.0365**	**3.1257**	**0.8321**	**0.0342**	**0.8662**		**4,663.9109**	**4,663.9109**	**0.2206**		**4,669.4248**

3.6 Building Construction (Shell) - 2021

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	1.9759	18.6333	18.7633	0.0303		0.9815	0.9815		0.9224	0.9224	0.0000	2,878.6036	2,878.6036	0.7212		2,896.6337
Total	**1.9759**	**18.6333**	**18.7633**	**0.0303**		**0.9815**	**0.9815**		**0.9224**	**0.9224**	**0.0000**	**2,878.6036**	**2,878.6036**	**0.7212**		**2,896.6337**

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	0.2601	8.4077	2.2747	0.0217	0.5631	0.0178	0.5808	0.1621	0.0170	0.1791		2,317.6893	2,317.6893	0.1575		2,321.6256
Worker	1.0422	0.6775	7.6810	0.0235	2.5262	0.0187	2.5448	0.6700	0.0172	0.6872		2,346.2216	2,346.2216	0.0631		2,347.7992
Total	**1.3024**	**9.0852**	**9.9557**	**0.0452**	**3.0892**	**0.0365**	**3.1257**	**0.8321**	**0.0342**	**0.8662**		**4,663.9109**	**4,663.9109**	**0.2206**		**4,669.4248**

3.6 Building Construction (Shell) - 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	1.7784	16.7362	18.5514	0.0303		0.8298	0.8298		0.7803	0.7803		2,879.5733	2,879.5733	0.7171		2,897.5016
Total	**1.7784**	**16.7362**	**18.5514**	**0.0303**		**0.8298**	**0.8298**		**0.7803**	**0.7803**		**2,879.5733**	**2,879.5733**	**0.7171**		**2,897.5016**

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	0.2442	7.9802	2.1544	0.0215	0.5631	0.0155	0.5786	0.1621	0.0148	0.1769		2,296.9946	2,296.9946	0.1519		2,300.7928
Worker	0.9803	0.6119	7.0905	0.0227	2.5262	0.0182	2.5443	0.6700	0.0167	0.6867		2,262.2122	2,262.2122	0.0570		2,263.6371
Total	**1.2244**	**8.5921**	**9.2449**	**0.0441**	**3.0892**	**0.0336**	**3.1229**	**0.8321**	**0.0315**	**0.8636**		**4,559.2067**	**4,559.2067**	**0.2089**		**4,564.4298**

3.6 Building Construction (Shell) - 2022

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	1.7784	16.7362	18.5514	0.0303		0.8298	0.8298		0.7803	0.7803	0.0000	2,879.5733	2,879.5733	0.7171		2,897.5016
Total	**1.7784**	**16.7362**	**18.5514**	**0.0303**		**0.8298**	**0.8298**		**0.7803**	**0.7803**	**0.0000**	**2,879.5733**	**2,879.5733**	**0.7171**		**2,897.5016**

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	0.2442	7.9802	2.1544	0.0215	0.5631	0.0155	0.5786	0.1621	0.0148	0.1769		2,296.9946	2,296.9946	0.1519		2,300.7928
Worker	0.9803	0.6119	7.0905	0.0227	2.5262	0.0182	2.5443	0.6700	0.0167	0.6867		2,262.2122	2,262.2122	0.0570		2,263.6371
Total	**1.2244**	**8.5921**	**9.2449**	**0.0441**	**3.0892**	**0.0336**	**3.1229**	**0.8321**	**0.0315**	**0.8636**		**4,559.2067**	**4,559.2067**	**0.2089**		**4,564.4298**

3.7 Building Construction (Finishing) - 2021

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	2.2303	20.0685	20.0927	0.0326		1.0955	1.0955		1.0373	1.0373		3,091.2478	3,091.2478	0.6944		3,108.6069
Total	**2.2303**	**20.0685**	**20.0927**	**0.0326**		**1.0955**	**1.0955**		**1.0373**	**1.0373**		**3,091.2478**	**3,091.2478**	**0.6944**		**3,108.6069**

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	0.2601	8.4077	2.2747	0.0217	0.5631	0.0178	0.5808	0.1621	0.0170	0.1791		2,317.6893	2,317.6893	0.1575		2,321.6256
Worker	1.0422	0.6775	7.6810	0.0235	2.5262	0.0187	2.5448	0.6700	0.0172	0.6872		2,346.2216	2,346.2216	0.0631		2,347.7992
Total	**1.3024**	**9.0852**	**9.9557**	**0.0452**	**3.0892**	**0.0365**	**3.1257**	**0.8321**	**0.0342**	**0.8662**		**4,663.9109**	**4,663.9109**	**0.2206**		**4,669.4248**

3.7 Building Construction (Finishing) - 2021

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	2.2303	20.0685	20.0927	0.0326		1.0955	1.0955		1.0373	1.0373	0.0000	3,091.2478	3,091.2478	0.6944		3,108.6069
Total	**2.2303**	**20.0685**	**20.0927**	**0.0326**		**1.0955**	**1.0955**		**1.0373**	**1.0373**	**0.0000**	**3,091.2478**	**3,091.2478**	**0.6944**		**3,108.6069**

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	0.2601	8.4077	2.2747	0.0217	0.5631	0.0178	0.5808	0.1621	0.0170	0.1791		2,317.6893	2,317.6893	0.1575		2,321.6256
Worker	1.0422	0.6775	7.6810	0.0235	2.5262	0.0187	2.5448	0.6700	0.0172	0.6872		2,346.2216	2,346.2216	0.0631		2,347.7992
Total	**1.3024**	**9.0852**	**9.9557**	**0.0452**	**3.0892**	**0.0365**	**3.1257**	**0.8321**	**0.0342**	**0.8662**		**4,663.9109**	**4,663.9109**	**0.2206**		**4,669.4248**

3.7 Building Construction (Finishing) - 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	2.0150	18.0539	19.8755	0.0326		0.9284	0.9284		0.8797	0.8797		3,092.2175	3,092.2175	0.6890		3,109.4418
Total	**2.0150**	**18.0539**	**19.8755**	**0.0326**		**0.9284**	**0.9284**		**0.8797**	**0.8797**		**3,092.2175**	**3,092.2175**	**0.6890**		**3,109.4418**

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	0.2442	7.9802	2.1544	0.0215	0.5631	0.0155	0.5786	0.1621	0.0148	0.1769		2,296.9946	2,296.9946	0.1519		2,300.7928
Worker	0.9803	0.6119	7.0905	0.0227	2.5262	0.0182	2.5443	0.6700	0.0167	0.6867		2,262.2122	2,262.2122	0.0570		2,263.6371
Total	**1.2244**	**8.5921**	**9.2449**	**0.0441**	**3.0892**	**0.0336**	**3.1229**	**0.8321**	**0.0315**	**0.8636**		**4,559.2067**	**4,559.2067**	**0.2089**		**4,564.4298**

3.7 Building Construction (Finishing) - 2022

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	2.0150	18.0539	19.8755	0.0326		0.9284	0.9284		0.8797	0.8797	0.0000	3,092.2175	3,092.2175	0.6890		3,109.4418
Total	**2.0150**	**18.0539**	**19.8755**	**0.0326**		**0.9284**	**0.9284**		**0.8797**	**0.8797**	**0.0000**	**3,092.2175**	**3,092.2175**	**0.6890**		**3,109.4418**

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	0.2442	7.9802	2.1544	0.0215	0.5631	0.0155	0.5786	0.1621	0.0148	0.1769		2,296.9946	2,296.9946	0.1519		2,300.7928
Worker	0.9803	0.6119	7.0905	0.0227	2.5262	0.0182	2.5443	0.6700	0.0167	0.6867		2,262.2122	2,262.2122	0.0570		2,263.6371
Total	**1.2244**	**8.5921**	**9.2449**	**0.0441**	**3.0892**	**0.0336**	**3.1229**	**0.8321**	**0.0315**	**0.8636**		**4,559.2067**	**4,559.2067**	**0.2089**		**4,564.4298**

3.8 Paving - 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	1.3109	13.0699	17.0407	0.0264		0.6684	0.6684		0.6158	0.6158		2,545.5652	2,545.5652	0.8150		2,565.9394
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3109**	**13.0699**	**17.0407**	**0.0264**		**0.6684**	**0.6684**		**0.6158**	**0.6158**		**2,545.5652**	**2,545.5652**	**0.8150**		**2,565.9394**

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	0.0651	0.0406	0.4706	1.5100e-003	0.1677	1.2100e-003	0.1689	0.0445	1.1100e-003	0.0456		150.1468	150.1468	3.7800e-003		150.2414
Total	**0.0651**	**0.0406**	**0.4706**	**1.5100e-003**	**0.1677**	**1.2100e-003**	**0.1689**	**0.0445**	**1.1100e-003**	**0.0456**		**150.1468**	**150.1468**	**3.7800e-003**		**150.2414**

3.8 Paving - 2022

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	1.3109	13.0699	17.0407	0.0264		0.6684	0.6684		0.6158	0.6158	0.0000	2,545.5652	2,545.5652	0.8150		2,565.9394
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3109**	**13.0699**	**17.0407**	**0.0264**		**0.6684**	**0.6684**		**0.6158**	**0.6158**	**0.0000**	**2,545.5652**	**2,545.5652**	**0.8150**		**2,565.9394**

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	0.0651	0.0406	0.4706	1.5100e-003	0.1677	1.2100e-003	0.1689	0.0445	1.1100e-003	0.0456		150.1468	150.1468	3.7800e-003		150.2414
Total	**0.0651**	**0.0406**	**0.4706**	**1.5100e-003**	**0.1677**	**1.2100e-003**	**0.1689**	**0.0445**	**1.1100e-003**	**0.0456**		**150.1468**	**150.1468**	**3.7800e-003**		**150.2414**

3.9 Architectural Coating - 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					
Archit. Coating	69.9042					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**70.1088**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

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	0.3904	0.2437	2.8237	9.0400e-003	1.8806	7.2300e-003	1.8878	0.4815	6.6600e-003	0.4881		900.8810	900.8810	0.0227		901.4484
Total	**0.3904**	**0.2437**	**2.8237**	**9.0400e-003**	**1.8806**	**7.2300e-003**	**1.8878**	**0.4815**	**6.6600e-003**	**0.4881**		**900.8810**	**900.8810**	**0.0227**		**901.4484**

3.9 Architectural Coating - 2022

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	69.9042					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**70.1088**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

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	0.3904	0.2437	2.8237	9.0400e-003	1.8806	7.2300e-003	1.8878	0.4815	6.6600e-003	0.4881		900.8810	900.8810	0.0227		901.4484
Total	**0.3904**	**0.2437**	**2.8237**	**9.0400e-003**	**1.8806**	**7.2300e-003**	**1.8878**	**0.4815**	**6.6600e-003**	**0.4881**		**900.8810**	**900.8810**	**0.0227**		**901.4484**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Improve Walkability Design

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

Provide Traffic Calming Measures

	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	7.8333	36.1909	72.4865	0.2352	19.2349	0.2008	19.4357	5.1459	0.1872	5.3331		23,979.5520	23,979.5520	1.3682		24,013.7558
Unmitigated	8.5588	41.3872	90.5034	0.3149	26.6050	0.2630	26.8679	7.1176	0.2452	7.3629		32,089.0584	32,089.0584	1.7032		32,131.6395

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Hotel	3,586.44	3,595.02	2612.61	8,228,823	5,949,278
Quality Restaurant	2,637.82	2,767.13	2116.14	3,675,485	2,657,303
Total	6,224.26	6,362.15	4,728.75	11,904,308	8,606,581

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
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.552111	0.043066	0.201891	0.118512	0.015605	0.005863	0.021387	0.031253	0.002087	0.001818	0.004803	0.000708	0.000896
Hotel	0.552111	0.043066	0.201891	0.118512	0.015605	0.005863	0.021387	0.031253	0.002087	0.001818	0.004803	0.000708	0.000896
Quality Restaurant	0.552111	0.043066	0.201891	0.118512	0.015605	0.005863	0.021387	0.031253	0.002087	0.001818	0.004803	0.000708	0.000896

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

	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	0.4954	4.5038	3.7832	0.0270		0.3423	0.3423		0.3423	0.3423		5,404.4963	5,404.4963	0.1036	0.0991	5,436.6125
NaturalGas Unmitigated	0.4954	4.5038	3.7832	0.0270		0.3423	0.3423		0.3423	0.3423		5,404.4963	5,404.4963	0.1036	0.0991	5,436.6125

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					
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
Hotel	31073.5	0.3351	3.0464	2.5590	0.0183		0.2315	0.2315		0.2315	0.2315		3,655.7037	3,655.7037	0.0701	0.0670	3,677.4277
Quality Restaurant	14864.7	0.1603	1.4573	1.2242	8.7400e-003		0.1108	0.1108		0.1108	0.1108		1,748.7926	1,748.7926	0.0335	0.0321	1,759.1848
Total		**0.4954**	**4.5038**	**3.7831**	**0.0270**		**0.3423**	**0.3423**		**0.3423**	**0.3423**		**5,404.4963**	**5,404.4963**	**0.1036**	**0.0991**	**5,436.6125**

5.2 Energy by Land Use - NaturalGas

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					
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
Hotel	31.0735	0.3351	3.0464	2.5590	0.0183		0.2315	0.2315		0.2315	0.2315		3,655.7037	3,655.7037	0.0701	0.0670	3,677.4277
Quality Restaurant	14.8647	0.1603	1.4573	1.2242	8.7400e-003		0.1108	0.1108		0.1108	0.1108		1,748.7926	1,748.7926	0.0335	0.0321	1,759.1848
Total		**0.4954**	**4.5038**	**3.7831**	**0.0270**		**0.3423**	**0.3423**		**0.3423**	**0.3423**		**5,404.4963**	**5,404.4963**	**0.1036**	**0.0991**	**5,436.6125**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	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	11.1145	5.6000e-004	0.0617	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004		0.1321	0.1321	3.5000e-004		0.1408
Unmitigated	11.1145	5.6000e-004	0.0617	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004		0.1321	0.1321	3.5000e-004		0.1408

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	1.2640					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	9.8447					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.7400e-003	5.6000e-004	0.0617	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004		0.1321	0.1321	3.5000e-004		0.1408
Total	**11.1145**	**5.6000e-004**	**0.0617**	**0.0000**		**2.2000e-004**	**2.2000e-004**		**2.2000e-004**	**2.2000e-004**		**0.1321**	**0.1321**	**3.5000e-004**		**0.1408**

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	1.2640					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	9.8447					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.7400e-003	5.6000e-004	0.0617	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004		0.1321	0.1321	3.5000e-004		0.1408
Total	**11.1145**	**5.6000e-004**	**0.0617**	**0.0000**		**2.2000e-004**	**2.2000e-004**		**2.2000e-004**	**2.2000e-004**		**0.1321**	**0.1321**	**3.5000e-004**		**0.1408**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

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
Emergency Generator	1	1	12	300	0.73	Diesel

Boilers

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

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/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
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (300 - 600 HP)	0.4923	1.3760	1.2553	2.3700e-003		0.0724	0.0724		0.0724	0.0724		251.8542	251.8542	0.0353		252.7370
Total	**0.4923**	**1.3760**	**1.2553**	**2.3700e-003**		**0.0724**	**0.0724**		**0.0724**	**0.0724**		**251.8542**	**251.8542**	**0.0353**		**252.7370**

11.0 Vegetation

100 E. Ocean Blvd

South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	151.00	Space	0.85	40,593.00	0
Hotel	429.00	Room	14.30	472,970.00	0
Quality Restaurant	23.51	1000sqft	0.54	23,512.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	11			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	549	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Matches Project Applicant's Model.

Land Use - Matches Project Applicant's Model, except Racquet Club modeled as Hotel.

Construction Phase - Matches Project Applicant's Model.

Off-road Equipment - Default Values.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Default Values, as the Applicant failed to provide a construction equipment list.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Trips and VMT - Default values, except addition of Mat Foundation Vendor Trip number, as per DEIR (p. I-55).
Vehicle Class Vendor matches Applicant's model.

Demolition - Applicant failed to provide square footage of existing parking lot. Thus, we inputted a value consistent with the square footage of the Project site stated in the DEIR (p. II-1).

Grading - Matches Project Applicant's Model.

Vehicle Trips - Matches Project Applicant's Model.

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Fleet Mix -

Stationary Sources - Emergency Generators and Fire Pumps - Matches Project Applicant's Model.

100 E. Ocean Blvd - South Coast Air Basin, Summer

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	66.00
tblConstructionPhase	NumDays	300.00	3.00
tblConstructionPhase	NumDays	300.00	44.00
tblConstructionPhase	NumDays	300.00	451.00
tblConstructionPhase	NumDays	300.00	211.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	30.00	20.00
tblConstructionPhase	NumDays	20.00	109.00
tblGrading	AcresOfGrading	50.00	0.85
tblGrading	MaterialExported	0.00	23,500.00
tblLandUse	LandUseSquareFeet	60,400.00	40,593.00
tblLandUse	LandUseSquareFeet	622,908.00	472,970.00
tblLandUse	LandUseSquareFeet	23,510.00	23,512.00
tblLandUse	LotAcreage	1.36	0.85
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Demolition
tblOffRoadEquipment	PhaseName		Demolition
tblOffRoadEquipment	PhaseName		Paving
tblOffRoadEquipment	PhaseName		Paving
tblProjectCharacteristics	CO2IntensityFactor	702.44	549
tblTripsAndVMT	VendorTripNumber	88.00	830.00
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	HHDT
tblVehicleTrips	ST_TR	8.19	8.38

tblVehicleTrips	ST_TR	94.36	117.70
tblVehicleTrips	SU_TR	5.95	6.09
tblVehicleTrips	SU_TR	72.16	90.01
tblVehicleTrips	WD_TR	8.17	8.36
tblVehicleTrips	WD_TR	89.95	112.20

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					
2020	8.2316	167.1311	65.0601	0.3609	9.1347	3.0126	12.1473	4.1361	2.7834	6.9195	0.0000	38,074.2014	38,074.2014	3.7257	0.0000	38,162.5918
2021	6.5930	56.7907	59.9198	0.1576	6.1785	2.1489	8.3274	1.6641	2.0270	3.6911	0.0000	15,738.1216	15,738.1216	1.8451	0.0000	15,784.2485
2022	74.9666	51.9143	57.9961	0.1554	6.1785	1.8245	8.0029	1.6641	1.7221	3.3862	0.0000	15,519.1362	15,519.1362	1.8125	0.0000	15,564.4500
Maximum	**74.9666**	**167.1311**	**65.0601**	**0.3609**	**9.1347**	**3.0126**	**12.1473**	**4.1361**	**2.7834**	**6.9195**	**0.0000**	**38,074.2014**	**38,074.2014**	**3.7257**	**0.0000**	**38,162.5918**

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					
2020	8.2316	167.1311	65.0601	0.3609	9.1347	3.0126	12.1473	4.1361	2.7834	6.9195	0.0000	38,074.2014	38,074.2014	3.7257	0.0000	38,162.5918
2021	6.5930	56.7907	59.9198	0.1576	6.1785	2.1489	8.3274	1.6641	2.0270	3.6911	0.0000	15,738.1216	15,738.1216	1.8451	0.0000	15,784.2485
2022	74.9666	51.9143	57.9961	0.1554	6.1785	1.8245	8.0029	1.6641	1.7221	3.3862	0.0000	15,519.1362	15,519.1362	1.8125	0.0000	15,564.4500
Maximum	**74.9666**	**167.1311**	**65.0601**	**0.3609**	**9.1347**	**3.0126**	**12.1473**	**4.1361**	**2.7834**	**6.9195**	**0.0000**	**38,074.2014**	**38,074.2014**	**3.7257**	**0.0000**	**38,162.5918**

	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**

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	11.1145	5.6000e-004	0.0617	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004		0.1321	0.1321	3.5000e-004		0.1408
Energy	0.4954	4.5038	3.7832	0.0270		0.3423	0.3423		0.3423	0.3423		5,404.4963	5,404.4963	0.1036	0.0991	5,436.6125
Mobile	8.9405	40.9387	93.9125	0.3324	26.6050	0.2608	26.8657	7.1176	0.2431	7.3608		33,864.0419	33,864.0419	1.6821		33,906.0954
Stationary	0.4923	1.3760	1.2553	2.3700e-003		0.0724	0.0724		0.0724	0.0724		251.8542	251.8542	0.0353		252.7370
Total	**21.0427**	**46.8190**	**99.0126**	**0.3618**	**26.6050**	**0.6757**	**27.2806**	**7.1176**	**0.6580**	**7.7757**		**39,520.5245**	**39,520.5245**	**1.8214**	**0.0991**	**39,595.5857**

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	lb/day										lb/day					
Area	11.1145	5.6000e-004	0.0617	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004		0.1321	0.1321	3.5000e-004		0.1408
Energy	0.4954	4.5038	3.7832	0.0270		0.3423	0.3423		0.3423	0.3423		5,404.4963	5,404.4963	0.1036	0.0991	5,436.6125
Mobile	8.1937	36.0184	73.7748	0.2486	19.2349	0.1986	19.4335	5.1459	0.1851	5.3310		25,343.4504	25,343.4504	1.3370		25,376.8759
Stationary	0.4923	1.3760	1.2553	2.3700e-003		0.0724	0.0724		0.0724	0.0724		251.8542	251.8542	0.0353		252.7370
Total	**20.2959**	**41.8987**	**78.8750**	**0.2780**	**19.2349**	**0.6135**	**19.8484**	**5.1459**	**0.6000**	**5.7459**		**30,999.9330**	**30,999.9330**	**1.4763**	**0.0991**	**31,066.3662**

	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	**3.55**	**10.51**	**20.34**	**23.18**	**27.70**	**9.20**	**27.24**	**27.70**	**8.81**	**26.10**	**0.00**	**21.56**	**21.56**	**18.95**	**0.00**	**21.54**

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	1/22/2020	2/25/2020	5	25	
2	Grading	Grading	2/26/2020	3/24/2020	5	20	
3	Mat Foundation	Building Construction	3/26/2020	3/30/2020	5	3	
4	Parking and Podium	Building Construction	3/31/2020	5/29/2020	5	44	
5	Building Construction (Shell)	Building Construction	6/1/2020	2/21/2022	5	451	
6	Building Construction (Finishing)	Building Construction	10/1/2021	7/22/2022	5	211	
7	Paving	Paving	2/22/2022	7/22/2022	5	109	
8	Architectural Coating	Architectural Coating	4/22/2022	7/22/2022	5	66	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0.85

Acres of Paving: 0.85

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 744,723; Non-Residential Outdoor: 248,241; Striped Parking Area: 2,436 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Crushing/Proc. Equipment	1	8.00	85	0.78
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Bore/Drill Rigs	1	8.00	221	0.50
Grading	Cranes	1	8.00	231	0.29
Grading	Excavators	2	8.00	158	0.38

Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Loaders	2	8.00	203	0.36
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Welders	1	8.00	46	0.45
Mat Foundation	Cement and Mortar Mixers	4	8.00	9	0.56
Mat Foundation	Cranes	1	7.00	231	0.29
Mat Foundation	Forklifts	3	8.00	89	0.20
Mat Foundation	Generator Sets	1	8.00	84	0.74
Mat Foundation	Pumps	4	8.00	84	0.74
Mat Foundation	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Mat Foundation	Welders	1	8.00	46	0.45
Parking and Podium	Aerial Lifts	1	8.00	63	0.31
Parking and Podium	Cranes	1	7.00	231	0.29
Parking and Podium	Forklifts	3	8.00	89	0.20
Parking and Podium	Generator Sets	1	8.00	84	0.74
Parking and Podium	Pumps	2	8.00	84	0.74
Parking and Podium	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Parking and Podium	Welders	1	8.00	46	0.45
Building Construction (Shell)	Aerial Lifts	2	8.00	63	0.31
Building Construction (Shell)	Cranes	1	7.00	231	0.29
Building Construction (Shell)	Forklifts	3	8.00	89	0.20
Building Construction (Shell)	Generator Sets	1	8.00	84	0.74
Building Construction (Shell)	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction (Shell)	Welders	1	8.00	46	0.45
Building Construction (Finishing)	Aerial Lifts	1	8.00	63	0.31

Building Construction (Finishing)	Air Compressors	1	8.00	78	0.48
Building Construction (Finishing)	Cranes	1	7.00	231	0.29
Building Construction (Finishing)	Forklifts	3	8.00	89	0.20
Building Construction (Finishing)	Generator Sets	1	8.00	84	0.74
Building Construction (Finishing)	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction (Finishing)	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	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	8	20.00	0.00	271.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	13	33.00	0.00	2,938.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Mat Foundation	17	226.00	830.00	0.00	14.70	6.90	20.00	LD_Mix	HHDT	HHDT
Parking and Podium	12	226.00	88.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction (Shell)	11	226.00	88.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction (Finishing)	11	226.00	88.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	45.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	45.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2020

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					2.3428	0.0000	2.3428	0.3547	0.0000	0.3547			0.0000			0.0000
Off-Road	4.0747	39.1053	28.3852	0.0489		2.0327	2.0327		1.9052	1.9052		4,713.0035	4,713.0035	1.2043		4,743.1119
Total	**4.0747**	**39.1053**	**28.3852**	**0.0489**	**2.3428**	**2.0327**	**4.3755**	**0.3547**	**1.9052**	**2.2599**		**4,713.0035**	**4,713.0035**	**1.2043**		**4,743.1119**

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	0.0863	3.0201	0.6280	8.4200e-003	0.1893	9.7700e-003	0.1991	0.0519	9.3500e-003	0.0612		913.1615	913.1615	0.0646		914.7763
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	0.0897	0.0607	0.8152	2.3000e-003	0.2236	1.7100e-003	0.2253	0.0593	1.5700e-003	0.0609		228.7673	228.7673	6.5900e-003		228.9321
Total	**0.1760**	**3.0808**	**1.4432**	**0.0107**	**0.4129**	**0.0115**	**0.4244**	**0.1112**	**0.0109**	**0.1221**		**1,141.9287**	**1,141.9287**	**0.0712**		**1,143.7084**

3.2 Demolition - 2020

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					2.3428	0.0000	2.3428	0.3547	0.0000	0.3547			0.0000			0.0000
Off-Road	4.0747	39.1053	28.3852	0.0489		2.0327	2.0327		1.9052	1.9052	0.0000	4,713.0035	4,713.0035	1.2043		4,743.1119
Total	**4.0747**	**39.1053**	**28.3852**	**0.0489**	**2.3428**	**2.0327**	**4.3755**	**0.3547**	**1.9052**	**2.2599**	**0.0000**	**4,713.0035**	**4,713.0035**	**1.2043**		**4,743.1119**

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	0.0863	3.0201	0.6280	8.4200e-003	0.1893	9.7700e-003	0.1991	0.0519	9.3500e-003	0.0612		913.1615	913.1615	0.0646		914.7763
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	0.0897	0.0607	0.8152	2.3000e-003	0.2236	1.7100e-003	0.2253	0.0593	1.5700e-003	0.0609		228.7673	228.7673	6.5900e-003		228.9321
Total	**0.1760**	**3.0808**	**1.4432**	**0.0107**	**0.4129**	**0.0115**	**0.4244**	**0.1112**	**0.0109**	**0.1221**		**1,141.9287**	**1,141.9287**	**0.0712**		**1,143.7084**

3.3 Grading - 2020

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					6.2000	0.0000	6.2000	3.3352	0.0000	3.3352			0.0000			0.0000
Off-Road	6.2713	69.5018	41.1923	0.0922		2.8773	2.8773		2.6541	2.6541		8,892.2594	8,892.2594	2.8395		8,963.2469
Total	**6.2713**	**69.5018**	**41.1923**	**0.0922**	**6.2000**	**2.8773**	**9.0774**	**3.3352**	**2.6541**	**5.9893**		**8,892.2594**	**8,892.2594**	**2.8395**		**8,963.2469**

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	1.1693	40.9276	8.5108	0.1141	2.5658	0.1324	2.6982	0.7031	0.1267	0.8298		12,374.8542	12,374.8542	0.8753		12,396.7377
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	0.1480	0.1001	1.3450	3.7900e-003	0.3689	2.8100e-003	0.3717	0.0978	2.5900e-003	0.1004		377.4660	377.4660	0.0109		377.7379
Total	**1.3173**	**41.0276**	**9.8558**	**0.1179**	**2.9346**	**0.1353**	**3.0699**	**0.8009**	**0.1293**	**0.9302**		**12,752.3202**	**12,752.3202**	**0.8862**		**12,774.4757**

3.3 Grading - 2020

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					6.2000	0.0000	6.2000	3.3352	0.0000	3.3352			0.0000			0.0000
Off-Road	6.2713	69.5018	41.1923	0.0922		2.8773	2.8773		2.6541	2.6541	0.0000	8,892.2594	8,892.2594	2.8395		8,963.2469
Total	**6.2713**	**69.5018**	**41.1923**	**0.0922**	**6.2000**	**2.8773**	**9.0774**	**3.3352**	**2.6541**	**5.9893**	**0.0000**	**8,892.2594**	**8,892.2594**	**2.8395**		**8,963.2469**

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	1.1693	40.9276	8.5108	0.1141	2.5658	0.1324	2.6982	0.7031	0.1267	0.8298		12,374.8542	12,374.8542	0.8753		12,396.7377
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	0.1480	0.1001	1.3450	3.7900e-003	0.3689	2.8100e-003	0.3717	0.0978	2.5900e-003	0.1004		377.4660	377.4660	0.0109		377.7379
Total	**1.3173**	**41.0276**	**9.8558**	**0.1179**	**2.9346**	**0.1353**	**3.0699**	**0.8009**	**0.1293**	**0.9302**		**12,752.3202**	**12,752.3202**	**0.8862**		**12,774.4757**

3.4 Mat Foundation - 2020

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	4.0476	34.7749	33.1325	0.0561		2.0031	2.0031		1.9364	1.9364		5,247.2666	5,247.2666	0.7929		5,267.0899
Total	**4.0476**	**34.7749**	**33.1325**	**0.0561**		**2.0031**	**2.0031**		**1.9364**	**1.9364**		**5,247.2666**	**5,247.2666**	**0.7929**		**5,267.0899**

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	3.1703	131.6709	22.7163	0.2789	5.0129	0.2804	5.2933	1.3746	0.2682	1.6429		30,241.8648	30,241.8648	2.6682		30,308.5694
Worker	1.0137	0.6853	9.2113	0.0260	2.5262	0.0193	2.5454	0.6700	0.0178	0.6877		2,585.0701	2,585.0701	0.0745		2,586.9326
Total	**4.1841**	**132.3562**	**31.9276**	**0.3049**	**7.5391**	**0.2996**	**7.8387**	**2.0446**	**0.2860**	**2.3306**		**32,826.9349**	**32,826.9349**	**2.7427**		**32,895.5019**

3.4 Mat Foundation - 2020

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	4.0476	34.7749	33.1325	0.0561		2.0031	2.0031		1.9364	1.9364	0.0000	5,247.2666	5,247.2666	0.7929		5,267.0899
Total	**4.0476**	**34.7749**	**33.1325**	**0.0561**		**2.0031**	**2.0031**		**1.9364**	**1.9364**	**0.0000**	**5,247.2666**	**5,247.2666**	**0.7929**		**5,267.0899**

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	3.1703	131.6709	22.7163	0.2789	5.0129	0.2804	5.2933	1.3746	0.2682	1.6429		30,241.8648	30,241.8648	2.6682		30,308.5694
Worker	1.0137	0.6853	9.2113	0.0260	2.5262	0.0193	2.5454	0.6700	0.0178	0.6877		2,585.0701	2,585.0701	0.0745		2,586.9326
Total	**4.1841**	**132.3562**	**31.9276**	**0.3049**	**7.5391**	**0.2996**	**7.8387**	**2.0446**	**0.2860**	**2.3306**		**32,826.9349**	**32,826.9349**	**2.7427**		**32,895.5019**

3.5 Parking and Podium - 2020

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	3.0058	26.8878	25.4679	0.0418		1.5458	1.5458		1.4779	1.4779		3,961.7520	3,961.7520	0.7500		3,980.5021
Total	**3.0058**	**26.8878**	**25.4679**	**0.0418**		**1.5458**	**1.5458**		**1.4779**	**1.4779**		**3,961.7520**	**3,961.7520**	**0.7500**		**3,980.5021**

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	0.2922	9.2683	2.2545	0.0225	0.5631	0.0459	0.6090	0.1621	0.0439	0.2060		2,400.5635	2,400.5635	0.1537		2,404.4048
Worker	1.0137	0.6853	9.2113	0.0260	2.5262	0.0193	2.5454	0.6700	0.0178	0.6877		2,585.0701	2,585.0701	0.0745		2,586.9326
Total	**1.3059**	**9.9536**	**11.4658**	**0.0484**	**3.0892**	**0.0652**	**3.1544**	**0.8321**	**0.0616**	**0.8937**		**4,985.6336**	**4,985.6336**	**0.2282**		**4,991.3374**

3.5 Parking and Podium - 2020

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	3.0058	26.8878	25.4679	0.0418		1.5458	1.5458		1.4779	1.4779	0.0000	3,961.7520	3,961.7520	0.7500		3,980.5021
Total	**3.0058**	**26.8878**	**25.4679**	**0.0418**		**1.5458**	**1.5458**		**1.4779**	**1.4779**	**0.0000**	**3,961.7520**	**3,961.7520**	**0.7500**		**3,980.5021**

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	0.2922	9.2683	2.2545	0.0225	0.5631	0.0459	0.6090	0.1621	0.0439	0.2060		2,400.5635	2,400.5635	0.1537		2,404.4048
Worker	1.0137	0.6853	9.2113	0.0260	2.5262	0.0193	2.5454	0.6700	0.0178	0.6877		2,585.0701	2,585.0701	0.0745		2,586.9326
Total	**1.3059**	**9.9536**	**11.4658**	**0.0484**	**3.0892**	**0.0652**	**3.1544**	**0.8321**	**0.0616**	**0.8937**		**4,985.6336**	**4,985.6336**	**0.2282**		**4,991.3374**

3.6 Building Construction (Shell) - 2020

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	2.1990	20.4733	19.0370	0.0303		1.1457	1.1457		1.0767	1.0767		2,878.3028	2,878.3028	0.7281		2,896.5039
Total	**2.1990**	**20.4733**	**19.0370**	**0.0303**		**1.1457**	**1.1457**		**1.0767**	**1.0767**		**2,878.3028**	**2,878.3028**	**0.7281**		**2,896.5039**

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	0.2922	9.2683	2.2545	0.0225	0.5631	0.0459	0.6090	0.1621	0.0439	0.2060		2,400.5635	2,400.5635	0.1537		2,404.4048
Worker	1.0137	0.6853	9.2113	0.0260	2.5262	0.0193	2.5454	0.6700	0.0178	0.6877		2,585.0701	2,585.0701	0.0745		2,586.9326
Total	**1.3059**	**9.9536**	**11.4658**	**0.0484**	**3.0892**	**0.0652**	**3.1544**	**0.8321**	**0.0616**	**0.8937**		**4,985.6336**	**4,985.6336**	**0.2282**		**4,991.3374**

3.6 Building Construction (Shell) - 2020

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	2.1990	20.4733	19.0370	0.0303		1.1457	1.1457		1.0767	1.0767	0.0000	2,878.3027	2,878.3027	0.7281		2,896.5039
Total	**2.1990**	**20.4733**	**19.0370**	**0.0303**		**1.1457**	**1.1457**		**1.0767**	**1.0767**	**0.0000**	**2,878.3027**	**2,878.3027**	**0.7281**		**2,896.5039**

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	0.2922	9.2683	2.2545	0.0225	0.5631	0.0459	0.6090	0.1621	0.0439	0.2060		2,400.5635	2,400.5635	0.1537		2,404.4048
Worker	1.0137	0.6853	9.2113	0.0260	2.5262	0.0193	2.5454	0.6700	0.0178	0.6877		2,585.0701	2,585.0701	0.0745		2,586.9326
Total	**1.3059**	**9.9536**	**11.4658**	**0.0484**	**3.0892**	**0.0652**	**3.1544**	**0.8321**	**0.0616**	**0.8937**		**4,985.6336**	**4,985.6336**	**0.2282**		**4,991.3374**

3.6 Building Construction (Shell) - 2021

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	1.9759	18.6333	18.7633	0.0303		0.9815	0.9815		0.9224	0.9224		2,878.6036	2,878.6036	0.7212		2,896.6337
Total	**1.9759**	**18.6333**	**18.7633**	**0.0303**		**0.9815**	**0.9815**		**0.9224**	**0.9224**		**2,878.6036**	**2,878.6036**	**0.7212**		**2,896.6337**

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	0.2476	8.4275	2.0463	0.0223	0.5631	0.0172	0.5803	0.1621	0.0165	0.1786		2,382.5450	2,382.5450	0.1473		2,386.2283
Worker	0.9458	0.6169	8.4856	0.0251	2.5262	0.0187	2.5448	0.6700	0.0172	0.6872		2,501.5901	2,501.5901	0.0674		2,503.2757
Total	**1.1934**	**9.0444**	**10.5319**	**0.0474**	**3.0892**	**0.0359**	**3.1251**	**0.8321**	**0.0337**	**0.8657**		**4,884.1351**	**4,884.1351**	**0.2148**		**4,889.5040**

3.6 Building Construction (Shell) - 2021

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	1.9759	18.6333	18.7633	0.0303		0.9815	0.9815		0.9224	0.9224	0.0000	2,878.6036	2,878.6036	0.7212		2,896.6337
Total	**1.9759**	**18.6333**	**18.7633**	**0.0303**		**0.9815**	**0.9815**		**0.9224**	**0.9224**	**0.0000**	**2,878.6036**	**2,878.6036**	**0.7212**		**2,896.6337**

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	0.2476	8.4275	2.0463	0.0223	0.5631	0.0172	0.5803	0.1621	0.0165	0.1786		2,382.5450	2,382.5450	0.1473		2,386.2283
Worker	0.9458	0.6169	8.4856	0.0251	2.5262	0.0187	2.5448	0.6700	0.0172	0.6872		2,501.5901	2,501.5901	0.0674		2,503.2757
Total	**1.1934**	**9.0444**	**10.5319**	**0.0474**	**3.0892**	**0.0359**	**3.1251**	**0.8321**	**0.0337**	**0.8657**		**4,884.1351**	**4,884.1351**	**0.2148**		**4,889.5040**

3.6 Building Construction (Shell) - 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	1.7784	16.7362	18.5514	0.0303		0.8298	0.8298		0.7803	0.7803		2,879.5733	2,879.5733	0.7171		2,897.5016
Total	**1.7784**	**16.7362**	**18.5514**	**0.0303**		**0.8298**	**0.8298**		**0.7803**	**0.7803**		**2,879.5733**	**2,879.5733**	**0.7171**		**2,897.5016**

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	0.2323	8.0048	1.9375	0.0221	0.5631	0.0150	0.5781	0.1621	0.0143	0.1764		2,361.6580	2,361.6580	0.1423		2,365.2147
Worker	0.8873	0.5573	7.8471	0.0242	2.5262	0.0182	2.5443	0.6700	0.0167	0.6867		2,412.0147	2,412.0147	0.0610		2,413.5385
Total	**1.1196**	**8.5621**	**9.7846**	**0.0463**	**3.0892**	**0.0331**	**3.1224**	**0.8321**	**0.0310**	**0.8631**		**4,773.6727**	**4,773.6727**	**0.2032**		**4,778.7533**

3.6 Building Construction (Shell) - 2022

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	1.7784	16.7362	18.5514	0.0303		0.8298	0.8298		0.7803	0.7803	0.0000	2,879.5733	2,879.5733	0.7171		2,897.5016
Total	**1.7784**	**16.7362**	**18.5514**	**0.0303**		**0.8298**	**0.8298**		**0.7803**	**0.7803**	**0.0000**	**2,879.5733**	**2,879.5733**	**0.7171**		**2,897.5016**

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	0.2323	8.0048	1.9375	0.0221	0.5631	0.0150	0.5781	0.1621	0.0143	0.1764		2,361.6580	2,361.6580	0.1423		2,365.2147
Worker	0.8873	0.5573	7.8471	0.0242	2.5262	0.0182	2.5443	0.6700	0.0167	0.6867		2,412.0147	2,412.0147	0.0610		2,413.5385
Total	**1.1196**	**8.5621**	**9.7846**	**0.0463**	**3.0892**	**0.0331**	**3.1224**	**0.8321**	**0.0310**	**0.8631**		**4,773.6727**	**4,773.6727**	**0.2032**		**4,778.7533**

3.7 Building Construction (Finishing) - 2021

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	2.2303	20.0685	20.0927	0.0326		1.0955	1.0955		1.0373	1.0373		3,091.2478	3,091.2478	0.6944		3,108.6069
Total	**2.2303**	**20.0685**	**20.0927**	**0.0326**		**1.0955**	**1.0955**		**1.0373**	**1.0373**		**3,091.2478**	**3,091.2478**	**0.6944**		**3,108.6069**

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	0.2476	8.4275	2.0463	0.0223	0.5631	0.0172	0.5803	0.1621	0.0165	0.1786		2,382.5450	2,382.5450	0.1473		2,386.2283
Worker	0.9458	0.6169	8.4856	0.0251	2.5262	0.0187	2.5448	0.6700	0.0172	0.6872		2,501.5901	2,501.5901	0.0674		2,503.2757
Total	**1.1934**	**9.0444**	**10.5319**	**0.0474**	**3.0892**	**0.0359**	**3.1251**	**0.8321**	**0.0337**	**0.8657**		**4,884.1351**	**4,884.1351**	**0.2148**		**4,889.5040**

3.7 Building Construction (Finishing) - 2021

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	2.2303	20.0685	20.0927	0.0326		1.0955	1.0955		1.0373	1.0373	0.0000	3,091.2478	3,091.2478	0.6944		3,108.6069
Total	**2.2303**	**20.0685**	**20.0927**	**0.0326**		**1.0955**	**1.0955**		**1.0373**	**1.0373**	**0.0000**	**3,091.2478**	**3,091.2478**	**0.6944**		**3,108.6069**

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	0.2476	8.4275	2.0463	0.0223	0.5631	0.0172	0.5803	0.1621	0.0165	0.1786		2,382.5450	2,382.5450	0.1473		2,386.2283
Worker	0.9458	0.6169	8.4856	0.0251	2.5262	0.0187	2.5448	0.6700	0.0172	0.6872		2,501.5901	2,501.5901	0.0674		2,503.2757
Total	**1.1934**	**9.0444**	**10.5319**	**0.0474**	**3.0892**	**0.0359**	**3.1251**	**0.8321**	**0.0337**	**0.8657**		**4,884.1351**	**4,884.1351**	**0.2148**		**4,889.5040**

3.7 Building Construction (Finishing) - 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	2.0150	18.0539	19.8755	0.0326		0.9284	0.9284		0.8797	0.8797		3,092.2175	3,092.2175	0.6890		3,109.4418
Total	**2.0150**	**18.0539**	**19.8755**	**0.0326**		**0.9284**	**0.9284**		**0.8797**	**0.8797**		**3,092.2175**	**3,092.2175**	**0.6890**		**3,109.4418**

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	0.2323	8.0048	1.9375	0.0221	0.5631	0.0150	0.5781	0.1621	0.0143	0.1764		2,361.6580	2,361.6580	0.1423		2,365.2147
Worker	0.8873	0.5573	7.8471	0.0242	2.5262	0.0182	2.5443	0.6700	0.0167	0.6867		2,412.0147	2,412.0147	0.0610		2,413.5385
Total	**1.1196**	**8.5621**	**9.7846**	**0.0463**	**3.0892**	**0.0331**	**3.1224**	**0.8321**	**0.0310**	**0.8631**		**4,773.6727**	**4,773.6727**	**0.2032**		**4,778.7533**

3.7 Building Construction (Finishing) - 2022

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	2.0150	18.0539	19.8755	0.0326		0.9284	0.9284		0.8797	0.8797	0.0000	3,092.2175	3,092.2175	0.6890		3,109.4418
Total	**2.0150**	**18.0539**	**19.8755**	**0.0326**		**0.9284**	**0.9284**		**0.8797**	**0.8797**	**0.0000**	**3,092.2175**	**3,092.2175**	**0.6890**		**3,109.4418**

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	0.2323	8.0048	1.9375	0.0221	0.5631	0.0150	0.5781	0.1621	0.0143	0.1764		2,361.6580	2,361.6580	0.1423		2,365.2147
Worker	0.8873	0.5573	7.8471	0.0242	2.5262	0.0182	2.5443	0.6700	0.0167	0.6867		2,412.0147	2,412.0147	0.0610		2,413.5385
Total	**1.1196**	**8.5621**	**9.7846**	**0.0463**	**3.0892**	**0.0331**	**3.1224**	**0.8321**	**0.0310**	**0.8631**		**4,773.6727**	**4,773.6727**	**0.2032**		**4,778.7533**

3.8 Paving - 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	1.3109	13.0699	17.0407	0.0264		0.6684	0.6684		0.6158	0.6158		2,545.5652	2,545.5652	0.8150		2,565.9394
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3109**	**13.0699**	**17.0407**	**0.0264**		**0.6684**	**0.6684**		**0.6158**	**0.6158**		**2,545.5652**	**2,545.5652**	**0.8150**		**2,565.9394**

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	0.0589	0.0370	0.5208	1.6100e-003	0.1677	1.2100e-003	0.1689	0.0445	1.1100e-003	0.0456		160.0895	160.0895	4.0500e-003		160.1906
Total	**0.0589**	**0.0370**	**0.5208**	**1.6100e-003**	**0.1677**	**1.2100e-003**	**0.1689**	**0.0445**	**1.1100e-003**	**0.0456**		**160.0895**	**160.0895**	**4.0500e-003**		**160.1906**

3.8 Paving - 2022

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	1.3109	13.0699	17.0407	0.0264		0.6684	0.6684		0.6158	0.6158	0.0000	2,545.5652	2,545.5652	0.8150		2,565.9394
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3109**	**13.0699**	**17.0407**	**0.0264**		**0.6684**	**0.6684**		**0.6158**	**0.6158**	**0.0000**	**2,545.5652**	**2,545.5652**	**0.8150**		**2,565.9394**

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	0.0589	0.0370	0.5208	1.6100e-003	0.1677	1.2100e-003	0.1689	0.0445	1.1100e-003	0.0456		160.0895	160.0895	4.0500e-003		160.1906
Total	**0.0589**	**0.0370**	**0.5208**	**1.6100e-003**	**0.1677**	**1.2100e-003**	**0.1689**	**0.0445**	**1.1100e-003**	**0.0456**		**160.0895**	**160.0895**	**4.0500e-003**		**160.1906**

3.9 Architectural Coating - 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					
Archit. Coating	69.9042					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**70.1088**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

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	0.3534	0.2219	3.1250	9.6400e-003	1.8806	7.2300e-003	1.8878	0.4815	6.6600e-003	0.4881		960.5368	960.5368	0.0243		961.1437
Total	**0.3534**	**0.2219**	**3.1250**	**9.6400e-003**	**1.8806**	**7.2300e-003**	**1.8878**	**0.4815**	**6.6600e-003**	**0.4881**		**960.5368**	**960.5368**	**0.0243**		**961.1437**

3.9 Architectural Coating - 2022

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	69.9042					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**70.1088**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

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	0.3534	0.2219	3.1250	9.6400e-003	1.8806	7.2300e-003	1.8878	0.4815	6.6600e-003	0.4881		960.5368	960.5368	0.0243		961.1437
Total	**0.3534**	**0.2219**	**3.1250**	**9.6400e-003**	**1.8806**	**7.2300e-003**	**1.8878**	**0.4815**	**6.6600e-003**	**0.4881**		**960.5368**	**960.5368**	**0.0243**		**961.1437**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Improve Walkability Design

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

Provide Traffic Calming Measures

	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	8.1937	36.0184	73.7748	0.2486	19.2349	0.1986	19.4335	5.1459	0.1851	5.3310		25,343.4504	25,343.4504	1.3370		25,376.8759
Unmitigated	8.9405	40.9387	93.9125	0.3324	26.6050	0.2608	26.8657	7.1176	0.2431	7.3608		33,864.0419	33,864.0419	1.6821		33,906.0954

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Hotel	3,586.44	3,595.02	2612.61	8,228,823	5,949,278
Quality Restaurant	2,637.82	2,767.13	2116.14	3,675,485	2,657,303
Total	6,224.26	6,362.15	4,728.75	11,904,308	8,606,581

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
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.552111	0.043066	0.201891	0.118512	0.015605	0.005863	0.021387	0.031253	0.002087	0.001818	0.004803	0.000708	0.000896
Hotel	0.552111	0.043066	0.201891	0.118512	0.015605	0.005863	0.021387	0.031253	0.002087	0.001818	0.004803	0.000708	0.000896
Quality Restaurant	0.552111	0.043066	0.201891	0.118512	0.015605	0.005863	0.021387	0.031253	0.002087	0.001818	0.004803	0.000708	0.000896

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

	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	0.4954	4.5038	3.7832	0.0270		0.3423	0.3423		0.3423	0.3423		5,404.4963	5,404.4963	0.1036	0.0991	5,436.6125
NaturalGas Unmitigated	0.4954	4.5038	3.7832	0.0270		0.3423	0.3423		0.3423	0.3423		5,404.4963	5,404.4963	0.1036	0.0991	5,436.6125

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					
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
Hotel	31073.5	0.3351	3.0464	2.5590	0.0183		0.2315	0.2315		0.2315	0.2315		3,655.7037	3,655.7037	0.0701	0.0670	3,677.4277
Quality Restaurant	14864.7	0.1603	1.4573	1.2242	8.7400e-003		0.1108	0.1108		0.1108	0.1108		1,748.7926	1,748.7926	0.0335	0.0321	1,759.1848
Total		**0.4954**	**4.5038**	**3.7831**	**0.0270**		**0.3423**	**0.3423**		**0.3423**	**0.3423**		**5,404.4963**	**5,404.4963**	**0.1036**	**0.0991**	**5,436.6125**

5.2 Energy by Land Use - NaturalGas

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					
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
Hotel	31.0735	0.3351	3.0464	2.5590	0.0183		0.2315	0.2315		0.2315	0.2315		3,655.7037	3,655.7037	0.0701	0.0670	3,677.4277
Quality Restaurant	14.8647	0.1603	1.4573	1.2242	8.7400e-003		0.1108	0.1108		0.1108	0.1108		1,748.7926	1,748.7926	0.0335	0.0321	1,759.1848
Total		**0.4954**	**4.5038**	**3.7831**	**0.0270**		**0.3423**	**0.3423**		**0.3423**	**0.3423**		**5,404.4963**	**5,404.4963**	**0.1036**	**0.0991**	**5,436.6125**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	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	11.1145	5.6000e-004	0.0617	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004		0.1321	0.1321	3.5000e-004		0.1408
Unmitigated	11.1145	5.6000e-004	0.0617	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004		0.1321	0.1321	3.5000e-004		0.1408

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	1.2640					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	9.8447					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.7400e-003	5.6000e-004	0.0617	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004		0.1321	0.1321	3.5000e-004		0.1408
Total	**11.1145**	**5.6000e-004**	**0.0617**	**0.0000**		**2.2000e-004**	**2.2000e-004**		**2.2000e-004**	**2.2000e-004**		**0.1321**	**0.1321**	**3.5000e-004**		**0.1408**

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	1.2640					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	9.8447					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.7400e-003	5.6000e-004	0.0617	0.0000		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004		0.1321	0.1321	3.5000e-004		0.1408
Total	**11.1145**	**5.6000e-004**	**0.0617**	**0.0000**		**2.2000e-004**	**2.2000e-004**		**2.2000e-004**	**2.2000e-004**		**0.1321**	**0.1321**	**3.5000e-004**		**0.1408**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

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
Emergency Generator	1	1	12	300	0.73	Diesel

Boilers

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

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/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
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (300 - 600 HP)	0.4923	1.3760	1.2553	2.3700e-003		0.0724	0.0724		0.0724	0.0724		251.8542	251.8542	0.0353		252.7370
Total	**0.4923**	**1.3760**	**1.2553**	**2.3700e-003**		**0.0724**	**0.0724**		**0.0724**	**0.0724**		**251.8542**	**251.8542**	**0.0353**		**252.7370**

11.0 Vegetation

Exhibit B: AERSCREEN Output Files (10/4/19)

AERSCREEN 16216 / AERMOD 19191 10/04/19
11:09:03

TITLE: 100EOceanBlvd_Construction

********** AREA PARAMETERS **********

SOURCE EMISSION RATE:	0.216E-02	g/s	0.172E-01	lb/hr
AREA EMISSION RATE:	0.392E-06	g/(s-m2)	0.311E-05	lb/(hr-m2)
AREA HEIGHT:	3.00	meters	9.84	feet
AREA SOURCE LONG SIDE:	106.00	meters	347.77	feet
AREA SOURCE SHORT SIDE:	52.00	meters	170.60	feet
INITIAL VERTICAL DIMENSION:	1.50	meters	4.92	feet
RURAL OR URBAN:	URBAN			
POPULATION:	469450			
INITIAL PROBE DISTANCE =	5000.	meters	16404.	feet

********** BUILDING DOWNWASH PARAMETERS **********

BUILDING DOWNWASH NOT USED FOR NON-POINT SOURCES

********** FLOW SECTOR ANALYSIS **********
25 meter receptor spacing: 1. meters - 5000. meters

MAXIMUM IMPACT RECEPTOR

Zo SECTOR	SURFACE ROUGHNESS	1-HR CONC (ug/m3)	RADIAL (deg)	DIST (m)	TEMPORAL PERIOD
1*	1.000	8.742	0	50.0	WIN

* = worst case diagonal

```
**********  MAKEMET METEOROLOGY PARAMETERS  **********
--------------------------------------------------------------------------------

MIN/MAX TEMPERATURE:    250.0 / 310.0 (K)

MINIMUM WIND SPEED:       0.5 m/s

ANEMOMETER HEIGHT:     10.000 meters

SURFACE CHARACTERISTICS INPUT: AERMET SEASONAL TABLES

DOMINANT SURFACE PROFILE: Urban
DOMINANT CLIMATE TYPE:    Average Moisture
DOMINANT SEASON:          Winter

ALBEDO:                   0.35
BOWEN RATIO:              1.50
ROUGHNESS LENGTH:       1.000 (meters)

SURFACE FRICTION VELOCITY (U*) NOT ADUSTED


       METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT
       ------------------------------------------------------------

 YR MO DY JDY HR
 -- -- -- --- --
 10 01 10  10 01

    H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN ALBEDO  REF WS
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50

    HT  REF TA     HT
- - - - - - - - - - -
  10.0   310.0    2.0



--------------------------------------------------------------------------------
********************** AERSCREEN AUTOMATED DISTANCES **********************
                  OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE
--------------------------------------------------------------------------------


                    MAXIMUM                             MAXIMUM
           DIST     1-HR CONC                DIST     1-HR CONC
             (m)      (ug/m3)                  (m)      (ug/m3)
         --------------------              ---------------------
            1.00     6.744                2525.00    0.3897E-01
```

25.00	7.921	2550.00	0.3844E-01
50.00	8.742	2575.00	0.3793E-01
75.00	5.406	2600.00	0.3743E-01
100.00	3.473	2625.00	0.3695E-01
125.00	2.498	2650.00	0.3647E-01
150.00	1.918	2675.00	0.3600E-01
175.00	1.540	2700.00	0.3555E-01
200.00	1.276	2725.00	0.3510E-01
225.00	1.081	2750.00	0.3467E-01
250.00	0.9337	2775.00	0.3424E-01
275.00	0.8174	2800.00	0.3382E-01
300.00	0.7244	2825.00	0.3341E-01
325.00	0.6485	2850.00	0.3301E-01
350.00	0.5851	2875.00	0.3262E-01
375.00	0.5319	2900.00	0.3224E-01
400.00	0.4866	2925.00	0.3186E-01
425.00	0.4476	2950.00	0.3149E-01
450.00	0.4137	2975.00	0.3113E-01
475.00	0.3841	3000.00	0.3077E-01
500.00	0.3578	3025.00	0.3043E-01
525.00	0.3346	3050.00	0.3009E-01
550.00	0.3138	3075.00	0.2975E-01
575.00	0.2952	3100.00	0.2942E-01
600.00	0.2785	3125.00	0.2910E-01
625.00	0.2633	3150.00	0.2879E-01
650.00	0.2495	3174.99	0.2848E-01
675.00	0.2370	3200.00	0.2817E-01
700.00	0.2255	3225.00	0.2787E-01
725.00	0.2149	3250.00	0.2758E-01
750.00	0.2052	3275.00	0.2729E-01
775.00	0.1962	3300.00	0.2701E-01
800.00	0.1879	3325.00	0.2673E-01
825.00	0.1801	3350.00	0.2646E-01
850.00	0.1728	3375.00	0.2619E-01
875.00	0.1661	3400.00	0.2593E-01
900.00	0.1597	3425.00	0.2567E-01
925.00	0.1538	3450.00	0.2542E-01
950.00	0.1483	3475.00	0.2517E-01
975.00	0.1437	3500.00	0.2492E-01
1000.00	0.1387	3525.00	0.2468E-01
1025.00	0.1341	3550.00	0.2444E-01
1050.00	0.1298	3575.00	0.2421E-01
1075.00	0.1256	3600.00	0.2398E-01
1100.00	0.1217	3625.00	0.2375E-01
1125.00	0.1180	3650.00	0.2353E-01
1150.00	0.1145	3675.00	0.2331E-01
1175.00	0.1112	3700.00	0.2310E-01
1200.00	0.1080	3725.00	0.2288E-01
1225.00	0.1050	3750.00	0.2268E-01
1250.00	0.1021	3775.00	0.2247E-01

1275.00	0.9941E-01	3800.00	0.2227E-01
1300.00	0.9679E-01	3825.00	0.2207E-01
1325.00	0.9430E-01	3849.99	0.2187E-01
1350.00	0.9191E-01	3875.00	0.2168E-01
1375.00	0.8962E-01	3900.00	0.2149E-01
1400.00	0.8744E-01	3925.00	0.2130E-01
1425.00	0.8534E-01	3950.00	0.2112E-01
1450.00	0.8333E-01	3975.00	0.2094E-01
1475.00	0.8140E-01	4000.00	0.2076E-01
1500.00	0.7954E-01	4025.00	0.2058E-01
1525.00	0.7776E-01	4050.00	0.2041E-01
1550.00	0.7604E-01	4075.00	0.2024E-01
1575.00	0.7439E-01	4100.00	0.2007E-01
1600.00	0.7280E-01	4125.00	0.1990E-01
1625.00	0.7127E-01	4150.00	0.1974E-01
1650.00	0.6980E-01	4175.00	0.1958E-01
1675.00	0.6837E-01	4200.00	0.1942E-01
1700.00	0.6700E-01	4225.00	0.1926E-01
1725.00	0.6567E-01	4250.00	0.1911E-01
1750.00	0.6439E-01	4275.00	0.1895E-01
1775.00	0.6315E-01	4300.00	0.1880E-01
1800.00	0.6195E-01	4325.00	0.1865E-01
1824.99	0.6079E-01	4350.00	0.1851E-01
1850.00	0.5967E-01	4375.00	0.1836E-01
1875.00	0.5858E-01	4400.00	0.1822E-01
1899.99	0.5753E-01	4425.00	0.1808E-01
1924.99	0.5650E-01	4449.99	0.1794E-01
1950.00	0.5551E-01	4475.00	0.1780E-01
1975.00	0.5455E-01	4500.00	0.1767E-01
2000.00	0.5362E-01	4525.00	0.1754E-01
2025.00	0.5272E-01	4550.00	0.1740E-01
2050.00	0.5184E-01	4575.00	0.1727E-01
2075.00	0.5098E-01	4600.00	0.1715E-01
2100.00	0.5015E-01	4625.00	0.1702E-01
2124.99	0.4935E-01	4650.00	0.1689E-01
2150.00	0.4856E-01	4675.00	0.1677E-01
2175.00	0.4780E-01	4700.00	0.1665E-01
2200.00	0.4706E-01	4725.00	0.1653E-01
2225.00	0.4634E-01	4750.00	0.1641E-01
2250.00	0.4563E-01	4775.00	0.1629E-01
2275.00	0.4495E-01	4800.00	0.1618E-01
2300.00	0.4428E-01	4825.00	0.1606E-01
2325.00	0.4363E-01	4850.00	0.1595E-01
2350.00	0.4299E-01	4875.00	0.1584E-01
2375.00	0.4237E-01	4900.00	0.1573E-01
2400.00	0.4177E-01	4925.00	0.1562E-01
2425.00	0.4118E-01	4950.00	0.1551E-01
2449.99	0.4061E-01	4975.00	0.1540E-01
2475.00	0.4005E-01	5000.00	0.1530E-01
2500.00	0.3950E-01		

********** AERSCREEN MAXIMUM IMPACT SUMMARY **********

3-hour, 8-hour, and 24-hour scaled
concentrations are equal to the 1-hour concentration as referenced in
SCREENING PROCEDURES FOR ESTIMATING THE AIR QUALITY
IMPACT OF STATIONARY SOURCES, REVISED (Section 4.5.4)
Report number EPA-454/R-92-019
http://www.epa.gov/scram001/guidance_permit.htm
under Screening Guidance

CALCULATION PROCEDURE	MAXIMUM 1-HOUR CONC (ug/m3)	SCALED 3-HOUR CONC (ug/m3)	SCALED 8-HOUR CONC (ug/m3)	SCALED 24-HOUR CONC (ug/m3)	SCALED ANNUAL CONC (ug/m3)
FLAT TERRAIN	8.849	8.849	8.849	8.849	N/A
DISTANCE FROM SOURCE	54.00 meters				
IMPACT AT THE AMBIENT BOUNDARY	6.744	6.744	6.744	6.744	N/A
DISTANCE FROM SOURCE	1.00 meters				

```
 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
   0.67444E+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
   0.79205E+01        25.00      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
   0.87416E+01        50.00      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
*  0.88488E+01        54.00      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
   0.54061E+01        75.00      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
   0.34727E+01       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
   0.24977E+01       125.00      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
   0.19183E+01       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
   0.15403E+01       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
   0.12757E+01       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
   0.10812E+01       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
   0.93373E+00       250.00      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
   0.81739E+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
   0.72440E+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
   0.64851E+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
   0.58508E+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
   0.53186E+00       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
   0.48663E+00       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
   0.44760E+00       425.00      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
   0.41374E+00       450.00      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
   0.38406E+00       475.00      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
   0.35780E+00       500.00      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
   0.33455E+00       525.00      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
   0.31381E+00       550.00      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
   0.29522E+00       575.00      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
   0.27847E+00       600.00      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
   0.26332E+00       625.00      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
   0.24953E+00       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
   0.23698E+00       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
   0.22549E+00       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
   0.21494E+00       725.00      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
   0.20522E+00       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
   0.19620E+00       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
   0.18785E+00   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
   0.18007E+00   825.00   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
   0.17282E+00   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
   0.16606E+00   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
   0.15975E+00   900.00   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
   0.15384E+00   925.00   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
   0.14830E+00   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
   0.14366E+00   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
   0.13874E+00   1000.00   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
   0.13412E+00   1025.00   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
   0.12975E+00   1050.00   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
   0.12563E+00   1075.00   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
   0.12173E+00   1100.00   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
   0.11803E+00   1125.00   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
   0.11452E+00   1150.00   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
   0.11119E+00   1175.00   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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   0.10803E+00      1200.00      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
   0.10502E+00      1225.00      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
   0.10215E+00      1250.00      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
   0.99407E-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
   0.96794E-01      1300.00      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
   0.94296E-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
   0.91909E-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
   0.89624E-01      1375.00      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
   0.87436E-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
   0.85339E-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
   0.83327E-01      1450.00      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
   0.81396E-01      1475.00      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
   0.79542E-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
   0.77759E-01      1525.00      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
   0.76044E-01      1550.00      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
   0.74394E-01      1575.00      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
   0.72805E-01      1600.00      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
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310.0    2.0
   0.71274E-01      1625.00      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
   0.69798E-01      1650.00      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
   0.68373E-01      1675.00      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
   0.66999E-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
   0.65671E-01      1725.00      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
   0.64389E-01      1750.00      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
   0.63149E-01      1775.00      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
   0.61950E-01      1800.00      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
   0.60790E-01      1824.99      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
   0.59667E-01      1850.00      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
   0.58579E-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
   0.57526E-01      1899.99      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
   0.56504E-01      1924.99      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
   0.55514E-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
   0.54554E-01      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
   0.53621E-01      2000.00      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
   0.52716E-01      2025.00      0.00   5.0        Winter       0-360   10011001
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-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
   0.51838E-01   2050.00   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
   0.50984E-01   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
   0.50154E-01   2100.00   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
   0.49348E-01   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
   0.48563E-01   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
   0.47800E-01   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
   0.47058E-01   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
   0.46335E-01   2225.00   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
   0.45631E-01   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
   0.44946E-01   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
   0.44278E-01   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
   0.43627E-01   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
   0.42993E-01   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
   0.42374E-01   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
   0.41771E-01   2400.00   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
   0.41182E-01   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

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   0.40608E-01      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
   0.40047E-01      2475.00      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
   0.39500E-01      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
   0.38965E-01      2525.00      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
   0.38443E-01      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
   0.37933E-01      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
   0.37434E-01      2600.00      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
   0.36947E-01      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
   0.36471E-01      2650.00      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
   0.36005E-01      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
   0.35549E-01      2700.00      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
   0.35103E-01      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
   0.34667E-01      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
   0.34240E-01      2775.00      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
   0.33822E-01      2800.00      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
   0.33413E-01      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
   0.33013E-01      2850.00      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
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310.0    2.0
   0.32620E-01      2875.00      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
   0.32236E-01      2900.00      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
   0.31859E-01      2925.00      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
   0.31490E-01      2950.00      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
   0.31129E-01      2975.00      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
   0.30774E-01      3000.00      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
   0.30426E-01      3025.00      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
   0.30086E-01      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
   0.29751E-01      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
   0.29423E-01      3100.00      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
   0.29102E-01      3125.00      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
   0.28786E-01      3150.00      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
   0.28476E-01      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
   0.28172E-01      3200.00      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
   0.27874E-01      3225.00      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
   0.27581E-01      3250.00      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
   0.27293E-01      3275.00      0.00  20.0        Winter       0-360   10011001
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-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
   0.27010E-01   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
   0.26733E-01   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
   0.26460E-01   3350.00   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
   0.26192E-01   3375.00   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
   0.25929E-01   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
   0.25670E-01   3425.00   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
   0.25416E-01   3450.00   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
   0.25166E-01   3475.00   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
   0.24920E-01   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
   0.24679E-01   3525.00   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
   0.24441E-01   3550.00   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
   0.24208E-01   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
   0.23978E-01   3600.00   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
   0.23752E-01   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
   0.23530E-01   3650.00   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
   0.23311E-01   3675.00   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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   0.23096E-01      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
   0.22884E-01      3725.00      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
   0.22675E-01      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
   0.22470E-01      3775.00      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
   0.22268E-01      3800.00      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
   0.22069E-01      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
   0.21873E-01      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
   0.21680E-01      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
   0.21490E-01      3900.00      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
   0.21303E-01      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
   0.21119E-01      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
   0.20938E-01      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
   0.20759E-01      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
   0.20582E-01      4025.00      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
   0.20409E-01      4050.00      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
   0.20238E-01      4075.00      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
   0.20069E-01      4100.00      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
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310.0    2.0
   0.19903E-01      4125.00      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
   0.19739E-01      4150.00      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
   0.19577E-01      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
   0.19418E-01      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
   0.19261E-01      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
   0.19106E-01      4250.00      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
   0.18954E-01      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
   0.18803E-01      4300.00      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
   0.18654E-01      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
   0.18508E-01      4350.00      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
   0.18363E-01      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
   0.18221E-01      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
   0.18080E-01      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
   0.17941E-01      4449.99      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
   0.17804E-01      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
   0.17669E-01      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
   0.17536E-01      4525.00      0.00   0.0        Winter       0-360   10011001
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-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
   0.17404E-01   4550.00   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
   0.17274E-01   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
   0.17146E-01   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
   0.17019E-01   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
   0.16894E-01   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
   0.16771E-01   4675.00   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
   0.16649E-01   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
   0.16528E-01   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
   0.16409E-01   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
   0.16292E-01   4775.00   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
   0.16176E-01   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
   0.16061E-01   4825.00   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
   0.15948E-01   4850.00   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
   0.15836E-01   4875.00   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
   0.15726E-01   4900.00   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
   0.15617E-01   4925.00   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

```
   0.15509E-01      4950.00      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
   0.15403E-01      4975.00      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
   0.15298E-01      5000.00      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
```

AERSCREEN 16216 / AERMOD 19191 10/04/19
11:11:43

TITLE: 100EOceanBlvd_Operation

********** AREA PARAMETERS **********

SOURCE EMISSION RATE:	0.280E-02	g/s	0.222E-01	lb/hr
AREA EMISSION RATE:	0.508E-06	g/(s-m2)	0.403E-05	lb/(hr-m2)
AREA HEIGHT:	3.00	meters	9.84	feet
AREA SOURCE LONG SIDE:	106.00	meters	347.77	feet
AREA SOURCE SHORT SIDE:	52.00	meters	170.60	feet
INITIAL VERTICAL DIMENSION:	1.50	meters	4.92	feet
RURAL OR URBAN:	URBAN			
POPULATION:	469450			
INITIAL PROBE DISTANCE =	5000.	meters	16404.	feet

********** BUILDING DOWNWASH PARAMETERS **********

BUILDING DOWNWASH NOT USED FOR NON-POINT SOURCES

********** FLOW SECTOR ANALYSIS **********
25 meter receptor spacing: 1. meters - 5000. meters

MAXIMUM IMPACT RECEPTOR

Zo SECTOR	SURFACE ROUGHNESS	1-HR CONC (ug/m3)	RADIAL (deg)	DIST (m)	TEMPORAL PERIOD
1*	1.000	11.32	0	50.0	WIN

* = worst case diagonal

```
**********  MAKEMET METEOROLOGY PARAMETERS  **********
--------------------------------------------------------------------------------

MIN/MAX TEMPERATURE:    250.0 / 310.0 (K)

MINIMUM WIND SPEED:       0.5 m/s

ANEMOMETER HEIGHT:     10.000 meters

SURFACE CHARACTERISTICS INPUT: AERMET SEASONAL TABLES

DOMINANT SURFACE PROFILE: Urban
DOMINANT CLIMATE TYPE:    Average Moisture
DOMINANT SEASON:          Winter

ALBEDO:                   0.35
BOWEN RATIO:              1.50
ROUGHNESS LENGTH:       1.000 (meters)

SURFACE FRICTION VELOCITY (U*) NOT ADUSTED


       METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT
       ------------------------------------------------------------

 YR MO DY JDY HR
 -- -- -- --- --
 10 01 10  10 01

    H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN ALBEDO  REF WS
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 -1.30  0.043 -9.000  0.020 -999.   21.      6.0 1.000   1.50   0.35    0.50

    HT  REF TA     HT
- - - - - - - - - - -
  10.0   310.0    2.0



--------------------------------------------------------------------------------
********************** AERSCREEN AUTOMATED DISTANCES **********************
                  OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE
--------------------------------------------------------------------------------


                    MAXIMUM                             MAXIMUM
           DIST     1-HR CONC                DIST     1-HR CONC
             (m)      (ug/m3)                  (m)      (ug/m3)
         --------------------              ---------------------
            1.00     8.736                2525.00    0.5047E-01
```

25.00	10.26	2550.00	0.4980E-01
50.00	11.32	2575.00	0.4914E-01
75.00	7.003	2600.00	0.4849E-01
100.00	4.498	2625.00	0.4786E-01
125.00	3.235	2650.00	0.4724E-01
150.00	2.485	2675.00	0.4664E-01
175.00	1.995	2700.00	0.4605E-01
200.00	1.653	2725.00	0.4547E-01
225.00	1.401	2750.00	0.4491E-01
250.00	1.210	2775.00	0.4435E-01
275.00	1.059	2800.00	0.4381E-01
300.00	0.9384	2825.00	0.4328E-01
325.00	0.8401	2850.00	0.4276E-01
350.00	0.7579	2875.00	0.4226E-01
375.00	0.6889	2900.00	0.4176E-01
400.00	0.6304	2925.00	0.4127E-01
425.00	0.5798	2950.00	0.4079E-01
450.00	0.5359	2975.00	0.4032E-01
475.00	0.4975	3000.00	0.3986E-01
500.00	0.4635	3025.00	0.3941E-01
525.00	0.4334	3050.00	0.3897E-01
550.00	0.4065	3075.00	0.3854E-01
575.00	0.3824	3100.00	0.3811E-01
600.00	0.3607	3125.00	0.3770E-01
625.00	0.3411	3150.00	0.3729E-01
650.00	0.3232	3175.00	0.3689E-01
675.00	0.3070	3199.99	0.3649E-01
700.00	0.2921	3225.00	0.3611E-01
725.00	0.2784	3250.00	0.3573E-01
750.00	0.2658	3275.00	0.3535E-01
775.00	0.2541	3300.00	0.3499E-01
800.00	0.2433	3325.00	0.3463E-01
825.00	0.2333	3350.00	0.3428E-01
850.00	0.2239	3375.00	0.3393E-01
875.00	0.2151	3400.00	0.3359E-01
900.00	0.2069	3425.00	0.3325E-01
925.00	0.1993	3450.00	0.3292E-01
950.00	0.1921	3475.00	0.3260E-01
975.00	0.1861	3500.00	0.3228E-01
1000.00	0.1797	3525.00	0.3197E-01
1025.00	0.1737	3550.00	0.3166E-01
1050.00	0.1681	3575.00	0.3136E-01
1075.00	0.1627	3600.00	0.3106E-01
1100.00	0.1577	3625.00	0.3077E-01
1125.00	0.1529	3650.00	0.3048E-01
1150.00	0.1483	3675.00	0.3020E-01
1175.00	0.1440	3700.00	0.2992E-01
1200.00	0.1399	3725.00	0.2964E-01
1225.00	0.1360	3750.00	0.2937E-01
1250.00	0.1323	3775.00	0.2911E-01

1275.00	0.1288	3800.00	0.2884E-01
1300.00	0.1254	3825.00	0.2859E-01
1325.00	0.1221	3849.99	0.2833E-01
1350.00	0.1191	3875.00	0.2808E-01
1375.00	0.1161	3900.00	0.2784E-01
1400.00	0.1133	3925.00	0.2760E-01
1425.00	0.1105	3950.00	0.2736E-01
1450.00	0.1079	3975.00	0.2712E-01
1475.00	0.1054	4000.00	0.2689E-01
1500.00	0.1030	4025.00	0.2666E-01
1525.00	0.1007	4050.00	0.2644E-01
1550.00	0.9850E-01	4075.00	0.2622E-01
1575.00	0.9637E-01	4100.00	0.2600E-01
1600.00	0.9431E-01	4125.00	0.2578E-01
1625.00	0.9233E-01	4149.99	0.2557E-01
1650.00	0.9041E-01	4175.00	0.2536E-01
1675.00	0.8857E-01	4200.00	0.2515E-01
1700.00	0.8679E-01	4225.00	0.2495E-01
1725.00	0.8507E-01	4250.00	0.2475E-01
1750.00	0.8341E-01	4275.00	0.2455E-01
1775.00	0.8180E-01	4300.00	0.2436E-01
1800.00	0.8025E-01	4325.00	0.2416E-01
1824.99	0.7875E-01	4350.00	0.2397E-01
1850.00	0.7729E-01	4375.00	0.2379E-01
1875.00	0.7588E-01	4400.00	0.2360E-01
1899.99	0.7452E-01	4425.00	0.2342E-01
1924.99	0.7319E-01	4450.00	0.2324E-01
1950.00	0.7191E-01	4475.00	0.2306E-01
1975.00	0.7067E-01	4500.00	0.2289E-01
2000.00	0.6946E-01	4525.00	0.2272E-01
2025.00	0.6829E-01	4550.00	0.2254E-01
2050.00	0.6715E-01	4575.00	0.2238E-01
2075.00	0.6604E-01	4600.00	0.2221E-01
2100.00	0.6497E-01	4625.00	0.2205E-01
2124.99	0.6392E-01	4650.00	0.2188E-01
2150.00	0.6291E-01	4675.00	0.2172E-01
2175.00	0.6192E-01	4700.00	0.2157E-01
2200.00	0.6096E-01	4725.00	0.2141E-01
2224.99	0.6002E-01	4750.00	0.2126E-01
2250.00	0.5911E-01	4775.00	0.2110E-01
2275.00	0.5822E-01	4800.00	0.2095E-01
2300.00	0.5736E-01	4825.00	0.2081E-01
2325.00	0.5651E-01	4850.00	0.2066E-01
2350.00	0.5569E-01	4875.00	0.2051E-01
2375.00	0.5489E-01	4900.00	0.2037E-01
2400.00	0.5411E-01	4925.00	0.2023E-01
2425.00	0.5335E-01	4950.00	0.2009E-01
2449.99	0.5260E-01	4975.00	0.1995E-01
2475.00	0.5188E-01	5000.00	0.1982E-01
2500.00	0.5117E-01		

********** AERSCREEN MAXIMUM IMPACT SUMMARY **********

3-hour, 8-hour, and 24-hour scaled
concentrations are equal to the 1-hour concentration as referenced in
SCREENING PROCEDURES FOR ESTIMATING THE AIR QUALITY
IMPACT OF STATIONARY SOURCES, REVISED (Section 4.5.4)
Report number EPA-454/R-92-019
http://www.epa.gov/scram001/guidance_permit.htm
under Screening Guidance

CALCULATION PROCEDURE	MAXIMUM 1-HOUR CONC (ug/m3)	SCALED 3-HOUR CONC (ug/m3)	SCALED 8-HOUR CONC (ug/m3)	SCALED 24-HOUR CONC (ug/m3)	SCALED ANNUAL CONC (ug/m3)
FLAT TERRAIN	11.46	11.46	11.46	11.46	N/A
DISTANCE FROM SOURCE	54.00 meters				
IMPACT AT THE AMBIENT BOUNDARY	8.736	8.736	8.736	8.736	N/A
DISTANCE FROM SOURCE	1.00 meters				

```
 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
   0.87365E+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
   0.10260E+02        25.00      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
   0.11323E+02        50.00      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
*  0.11462E+02        54.00      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
   0.70028E+01        75.00      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
   0.44983E+01       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
   0.32354E+01       125.00      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
   0.24849E+01       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
   0.19953E+01       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
   0.16525E+01       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
   0.14005E+01       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
   0.12095E+01       250.00      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
   0.10588E+01       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
   0.93836E+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
   0.84006E+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
   0.75790E+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
   0.68895E+00       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
   0.63036E+00       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
   0.57981E+00       425.00      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
   0.53595E+00       450.00      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
   0.49749E+00       475.00      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
   0.46348E+00       500.00      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
   0.43336E+00       525.00      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
   0.40649E+00       550.00      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
   0.38241E+00       575.00      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
   0.36071E+00       600.00      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
   0.34109E+00       625.00      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
   0.32323E+00       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
   0.30697E+00       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
   0.29209E+00       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
   0.27843E+00       725.00      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
   0.26583E+00       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
   0.25415E+00       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
   0.24334E+00   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
   0.23325E+00   825.00   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
   0.22386E+00   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
   0.21510E+00   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
   0.20693E+00   900.00   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
   0.19928E+00   925.00   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
   0.19210E+00   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
   0.18609E+00   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
   0.17973E+00   1000.00   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
   0.17373E+00   1025.00   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
   0.16808E+00   1050.00   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
   0.16273E+00   1075.00   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
   0.15768E+00   1100.00   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
   0.15289E+00   1125.00   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
   0.14835E+00   1150.00   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
   0.14404E+00   1175.00   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

```
   0.13994E+00      1200.00      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
   0.13603E+00      1225.00      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
   0.13232E+00      1250.00      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
   0.12877E+00      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
   0.12538E+00      1300.00      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
   0.12215E+00      1325.00      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
   0.11906E+00      1350.00      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
   0.11610E+00      1375.00      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
   0.11326E+00      1400.00      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
   0.11055E+00      1425.00      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
   0.10794E+00      1450.00      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
   0.10544E+00      1475.00      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
   0.10304E+00      1500.00      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
   0.10073E+00      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
   0.98505E-01      1550.00      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
   0.96367E-01      1575.00      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
   0.94309E-01      1600.00      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
```

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310.0    2.0
   0.92325E-01      1625.00      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
   0.90413E-01      1650.00      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
   0.88568E-01      1675.00      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
   0.86788E-01      1700.00      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
   0.85068E-01      1725.00      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
   0.83407E-01      1750.00      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
   0.81801E-01      1775.00      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
   0.80248E-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
   0.78745E-01      1824.99      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
   0.77290E-01      1850.00      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
   0.75882E-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
   0.74517E-01      1899.99      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
   0.73194E-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
   0.71911E-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
   0.70667E-01      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
   0.69459E-01      2000.00      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
   0.68287E-01      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
   0.67148E-01   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
   0.66043E-01   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
   0.64968E-01   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
   0.63923E-01   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
   0.62907E-01   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
   0.61919E-01   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
   0.60957E-01   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
   0.60021E-01   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
   0.59109E-01   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
   0.58221E-01   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
   0.57356E-01   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
   0.56513E-01   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
   0.55691E-01   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
   0.54890E-01   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
   0.54108E-01   2400.00   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
   0.53346E-01   2425.00   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

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   0.52602E-01      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
   0.51876E-01      2475.00      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
   0.51167E-01      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
   0.50474E-01      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
   0.49798E-01      2550.00      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
   0.49137E-01      2575.00      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
   0.48491E-01      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
   0.47860E-01      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
   0.47243E-01      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
   0.46639E-01      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
   0.46049E-01      2700.00      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
   0.45472E-01      2725.00      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
   0.44906E-01      2750.00      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
   0.44354E-01      2775.00      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
   0.43812E-01      2800.00      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
   0.43282E-01      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
   0.42763E-01      2850.00      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
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310.0    2.0
   0.42255E-01      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
   0.41757E-01      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
   0.41269E-01      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
   0.40791E-01      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
   0.40323E-01      2975.00      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
   0.39864E-01      3000.00      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
   0.39413E-01      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
   0.38972E-01      3050.00      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
   0.38539E-01      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
   0.38114E-01      3100.00      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
   0.37697E-01      3125.00      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
   0.37288E-01      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
   0.36887E-01      3175.00      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
   0.36493E-01      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
   0.36106E-01      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
   0.35727E-01      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
   0.35354E-01      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
   0.34988E-01   3300.00   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
   0.34628E-01   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
   0.34275E-01   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
   0.33928E-01   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
   0.33587E-01   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
   0.33252E-01   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
   0.32923E-01   3450.00   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
   0.32599E-01   3475.00   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
   0.32281E-01   3500.00   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
   0.31968E-01   3525.00   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
   0.31660E-01   3550.00   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
   0.31358E-01   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
   0.31060E-01   3600.00   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
   0.30767E-01   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
   0.30479E-01   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
   0.30196E-01   3675.00   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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   0.29917E-01      3700.00      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
   0.29643E-01      3725.00      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
   0.29373E-01      3750.00      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
   0.29107E-01      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
   0.28845E-01      3800.00      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
   0.28587E-01      3825.00      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
   0.28334E-01      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
   0.28084E-01      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
   0.27838E-01      3900.00      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
   0.27595E-01      3925.00      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
   0.27357E-01      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
   0.27122E-01      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
   0.26890E-01      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
   0.26662E-01      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
   0.26437E-01      4050.00      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
   0.26215E-01      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
   0.25997E-01      4100.00      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
   0.25781E-01      4125.00      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
   0.25569E-01      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
   0.25360E-01      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
   0.25153E-01      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
   0.24950E-01      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
   0.24750E-01      4250.00      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
   0.24552E-01      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
   0.24357E-01      4300.00      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
   0.24164E-01      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
   0.23974E-01      4350.00      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
   0.23787E-01      4375.00      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
   0.23603E-01      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
   0.23420E-01      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
   0.23240E-01      4450.00      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
   0.23063E-01      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
   0.22888E-01      4500.00      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
   0.22715E-01      4525.00      0.00  10.0        Winter       0-360   10011001
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-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
   0.22544E-01   4550.00   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
   0.22376E-01   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
   0.22210E-01   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
   0.22046E-01   4625.00   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
   0.21884E-01   4650.00   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
   0.21724E-01   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
   0.21566E-01   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
   0.21410E-01   4725.00   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
   0.21256E-01   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
   0.21104E-01   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
   0.20954E-01   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
   0.20805E-01   4825.00   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
   0.20659E-01   4850.00   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
   0.20514E-01   4875.00   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
   0.20371E-01   4900.00   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
   0.20230E-01   4925.00   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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   0.20090E-01      4950.00      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
   0.19952E-01      4975.00      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
   0.19816E-01      5000.00      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
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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 unconventional oil drilling operations, oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, and many other industrial and agricultural sources. 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 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, 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 dozens of sites and has testified as an expert witness on more than ten cases involving exposure to air contaminants from industrial 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

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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., 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.

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., 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 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 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 Iowa District Court For Wapello County
Jerry Dovico, et al., Plaintiffs vs. Valley View Sine LLC, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Doug Pauls, et al.,, et al., Plaintiffs vs. Richard Warren, et al., Defendants
Law No,: LALA105144 - Division A
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 Third Judicial District County of Dona Ana, New Mexico
Betty Gonzalez, et al. Plaintiffs vs. Del Oro Dairy, Del Oro Real Estate LLC, Jerry Settles and Deward DeRuyter, Defendants
Rosenfeld Deposition: July 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 United States District Court Western District of Oklahoma
Tommy McCarty, et al., Plaintiffs, v. Oklahoma City Landfill, LLC d/b/a Southeast Oklahoma City Landfill, et al. Defendants.
Case No. 5:12-cv-01152-C
Rosenfeld Deposition: July 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 of Southern District of Texas Galveston Division
Kyle Cannon, Eugene Donovan, Genaro Ramirez, Carol Sassler, and Harvey Walton, each Individually and on behalf of those similarly situated, *Plaintiffs,* vs. BP Products North America, Inc., *Defendant.*
Case 3:10-cv-00622
Rosenfeld Deposition: February 2012
Rosenfeld Trial: April 2013

In the Circuit Court of Baltimore County Maryland
Philip E. Cvach, II et al., *Plaintiffs* vs. Two Farms, Inc. d/b/a Royal Farms, Defendants
Case Number: 03-C-12-012487 OT
Rosenfeld Deposition: September 2013

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 150 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.