160 EL CAMINO REAL HOTEL PROJECT AIR QUALITY ASSESSMENT

San Bruno, California

January 8, 2020

Prepared for:

Matthew Moore
Assistant Project Manager
David J. Powers & Associates, Inc.
1736 Franklin St., Suite 300
Oakland, California 94612

Prepared by:

Jay Witt &
James A. Reyff

ILLINGWORTH & RODKIN, INC.
Acoustics • Air Quality
429 E. Cotati Avenue
Cotati, CA 94931
(707) 794-0400

I&R Project: #20-172

Introduction

The purpose of this report is to address air quality and community health risk impacts associated with the proposed boutique hotel project at 160 El Camino Real in the City of San Bruno, California. The air quality impacts from this project would be associated with the preparation of the site, construction of the new building and infrastructure, and operation of the project. Air pollutants emissions associated with construction and operation of the project were predicted using appropriate computer models. In addition, the potential community risk impact to nearby sensitive receptors from construction-related and existing sources of toxic air contaminants (TACs) was evaluated. The analysis was conducted following guidance provided by the Bay Area Air Quality Management District (BAAQMD).[1]

Project Description

The project proposes to build a new 28-room, three-story boutique hotel including an on-site basement garage. The site is located at the intersection of El Camino Real and San Luis Avenue at a vacant lot that was previously a gas station and commercial building on a 0.23-acre site. The proposed building would be three-stories tall and include one-level of subterranean parking.

Setting

The project is in San Mateo County, which is in the San Francisco Bay Area Air Basin. Ambient air quality standards have been established at both the State and federal level. The Bay Area meets all ambient air quality standards except for ground-level ozone, respirable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$).

Air Pollutants of Concern

High ozone levels are caused by the cumulative emissions of reactive organic gases (ROG) and nitrogen oxides (NO_X). These precursor pollutants react under certain meteorological conditions to form high ozone levels. Controlling the emissions of these precursor pollutants is the focus of the Bay Area's attempts to reduce ozone levels. The highest ozone levels in the Bay Area occur in the eastern and southern inland valleys that are downwind of air pollutant sources. High ozone levels aggravate respiratory and cardiovascular diseases, reduced lung function, and increase coughing and chest discomfort.

Particulate matter is another problematic air pollutant of the Bay Area. Particulate matter is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less (PM_{10}) and fine particulate matter where particles have a diameter of 2.5 micrometers or less ($PM_{2.5}$). Elevated concentrations of PM_{10} and $PM_{2.5}$ are the result of both region-wide (or cumulative) emissions and localized emissions. High particulate matter levels aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

[1] Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017.

Toxic Air Contaminants

TACs are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer) and include, but are not limited to, the criteria air pollutants. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter [DPM] near a freeway or roadways). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State, and federal level.

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs (based on the Bay Area average). According to the California Air Resources Board (CARB), diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complicated scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the State's Proposition 65 or under the Federal Hazardous Air Pollutants programs. The most recent Office of Environmental Health Hazard Assessment (OEHHA) risk assessment guidelines were published in February of 2015.[2] See *Attachment 1* for a detailed description of the community risk modeling methodology used in this assessment.

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, and parks. For cancer risk assessments, children are the most sensitive receptors, since they are more susceptible to cancer causing TACs. Residential locations are assumed to include infants and small children. The closest sensitive receptors to the site are children that may be living in the single-family and multi-family housing developments adjacent to the project site. Additionally, the Happy Halls Schools is approximately 1,545 feet southeast of the project site.

Regulatory Agencies

Federal Regulations

The United States Environmental Protection Agency (EPA) sets nationwide emission standards for mobile sources, which include on-road (highway) motor vehicles such trucks, buses, and automobiles, and non-road (off-road) vehicles and equipment used in construction, agricultural, industrial, and mining activities (such as bulldozers and loaders). The EPA also sets nationwide

[2] OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.

fuel standards. California also has the ability to set motor vehicle emission standards and standards for fuel used in California, as long as they are the same or more stringent than the Federal standards.

In the past decade, the EPA has established several emission standards for on- and non-road heavy-duty diesel engines used in trucks and other equipment. This was done in part because diesel engines are a significant source of nitrogen oxides, or NO_X, and particulate matter (PM_{10} and $PM_{2.5}$) and because the EPA has identified diesel particulate matter as a probable carcinogen. Implementation of the heavy-duty diesel on-road vehicle standards and the non-road diesel engine standards are estimated to reduce PM and NO_X emissions from diesel engines up to 95 percent in 2030 when the heavy-duty vehicle fleet is completely replaced with newer heavy-duty vehicles that comply with these emission standards.[3]

In concert with the diesel engine emission standards, the EPA has also substantially reduced the amount of sulfur allowed in diesel fuels. The sulfur contained in diesel fuel is a significant contributor to the formation of particulate matter in diesel-fueled engine exhaust. The new standards reduced the amount of sulfur allowed by 97 percent for highway diesel fuel (from 500 parts per million by weight [ppmw] to 15 ppmw), and by 99 percent for off-highway diesel fuel (from about 3,000 ppmw to 15 ppmw). The low sulfur highway fuel (15 ppmw sulfur), also called ultra-low sulfur diesel (ULSD) is currently required for use by all vehicles in the U.S.

All of the above Federal diesel engine and diesel fuel requirements have been adopted by California, in some cases with modifications making the requirements more stringent or the implementation dates sooner.

State Regulations

To address the issue of diesel emissions in the state, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles[4]. In addition to requiring more stringent emission standards for new on-road and off-road mobile sources and stationary diesel-fueled engines to reduce particulate matter emissions by 90 percent, a significant component of the plan involves application of emission control strategies to existing diesel vehicles and equipment. Many of the measures of the Diesel Risk Reduction Plan have been approved and adopted, including the Federal on-road and non-road diesel engine emission standards for new engines, as well as adoption of regulations for low sulfur fuel in California.

CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy-duty diesel trucks that represent the bulk of DPM emissions from California highways. CARB regulations require on-road diesel trucks to be retrofitted with particulate matter controls or

[3] USEPA, 2000. *Regulatory Announcement, Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements*. EPA420-F-00-057. December.

[4] California Air Resources Board, 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October.

replaced to meet 2010 or later engine standards that have much lower DPM and $PM_{2.5}$ emissions. This regulation will substantially reduce these emissions between 2013 and 2023. While new trucks and buses will meet strict federal standards, this measure is intended to accelerate the rate at which the fleet either turns over so there are more cleaner vehicles on the road or is retrofitted to meet similar standards. With this regulation, older, more polluting trucks would be removed from the roads sooner.

CARB has also adopted and implemented regulations to reduce DPM and NO_X emissions from in-use (existing) and new off-road heavy-duty diesel vehicles (e.g., loaders, tractors, bulldozers, backhoes, off-highway trucks, etc.). The regulations apply to diesel-powered off-road vehicles with engines 25 horsepower (hp) or greater. The regulations are intended to reduce particulate matter and NO_X exhaust emissions by requiring owners to turn over their fleet (replace older equipment with newer equipment) or retrofit existing equipment in order to achieve specified fleet-averaged emission rates. Implementation of this regulation, in conjunction with stringent Federal off-road equipment engine emission limits for new vehicles, will significantly reduce emissions of DPM and NO_X.

Bay Area Air Quality Management District (BAAQMD)

BAAQMD has jurisdiction over an approximately 5,600-square mile area, commonly referred to as the San Francisco Bay Area (Bay Area). The District's boundary encompasses the nine San Francisco Bay Area counties, including Alameda County, Contra Costa County, Marin County, San Francisco County, San Mateo County, Santa Clara County, Napa County, southwestern Solano County, and southern Sonoma County.

BAAQMD is the lead agency in developing plans to address attainment and maintenance of the National Ambient Air Quality Standards and California Ambient Air Quality Standards. The District also has permit authority over most types of stationary equipment utilized for the proposed project. The BAAQMD is responsible for permitting and inspection of stationary sources; enforcement of regulations, including setting fees, levying fines, and enforcement actions; and ensuring that public nuisances are minimized.

The BAAQMD *California Environmental Quality Act (CEQA) Air Quality Guidelines*[5] were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process consistent with CEQA requirements including thresholds of significance, mitigation measures, and background air quality information. They also include assessment methodologies for air toxics, odors, and greenhouse gas emissions. *Attachment 1* includes detailed community risk modeling methodology.

City of San Bruno General Plan

The San Bruno General Plan outlines a vision for the long-range physical and economic development of the community through 2025. It includes goals, policies, and actions to reduce exposure of the City's sensitive population to exposure of air pollution, toxic air contaminants,

[5] Bay Area Air Quality Management District, 2011. *CEQA Air Quality Guidelines*. May. (Updated May 2017)

and GHG emissions. The following goals, policies, and actions are applicable to the proposed project:

Guiding Policies

ECR-E: Contribute to regional attainment by improving ambient air quality levels within San Bruno.

Implementing Policies - Air Quality

ERC-25: Maintain and improve air quality by requiring project mitigation, such as Transportation Demand Management (TDM) techniques, where air quality impacts are unavoidable.

ERC-26: Require dust abatement actions for all new construction and redevelopment projects.

ERC-30: Encourage new residential developments to incorporate measures such as shuttle services to major employment centers, commercial areas and transit areas, and provision of adequate transit facilities.

ERC-31: Prepare a Greenhouse Gas Emissions Reduction Plan, focusing on feasible actions the City can take to minimize the adverse impacts of Plan implementation on climate change and air quality. The Plan will include but will not be limited to:

- An inventory of all known, or reasonably discoverable, sources of greenhouse gases (GHGs) that currently exist in the City and sources that existed in 1990. In determining what is a source of GHG emissions, the City may rely on the definition of "greenhouse gas emissions source" or "source" as defined in section 38505 of the California Global Warming Solutions Act ("AB 32") or its governing regulations. The inventory may include estimates of emissions drawing on available information from State and regional air quality boards, supplemented by information obtained by the City.

- A projected inventory of the new GHGs that can reasonably be expected to be emitted in the year 2025 due to the City's discretionary land use decisions pursuant to the 2025 General Plan Update, as well as new GHGs emitted by the City's internal government operations. The projected inventories will include estimates, supported by substantial evidence, of future emissions from planned land use and information from state and regional air quality boards and agencies.

- A target for the reduction of those sources of future emissions reasonably attributable to the City's discretionary land use decisions under the 2025 General Plan and the City's internal government

operations, and feasible GHG emission reduction measures whose purpose shall be to meet this reduction target by regulating those sources of GHG emissions reasonably attributable to the City's discretionary land use decisions and the City's internal government operations.

ERC-32: Coordinate air quality planning efforts with local, regional, and State agencies. Support the Bay Area Air Quality Management District's efforts to monitor and control air pollutants from stationary sources.

ERC-33: Require all large construction projects to mitigate diesel exhaust emissions through use of alternate fuels and control devices.

ERC-34: Require that adequate buffer distances be provided between odor sources and sensitive receptors, such as schools, hospitals, and community centers.

Significance Thresholds

In June 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under the CEQA and these significance thresholds were contained in the District's 2011 *CEQA Air Quality Guidelines*. These thresholds were designed to establish the level at which BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA. The thresholds were challenged through a series of court challenges and were mostly upheld. BAAQMD updated the *CEQA Air Quality Guidelines* in 2017 to include the latest significance thresholds, which were used in this analysis and are summarized in Table 1.

Table 1. BAAQMD CEQA Air Quality Exceedance Thresholds

Criteria Air Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
ROG	54	54	10
NO_x	54	54	10
PM_{10}	82 (Exhaust)	82	15
$PM_{2.5}$	54 (Exhaust)	54	10
CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
Health Risks and Hazards	**Single Sources Within 1,000-foot Zone of Influence**	**Combined Sources (Cumulative from all sources within 1,000-foot zone of influence)**	
Excess Cancer Risk	>10.0 per one million	>100 per one million	
Hazard Index	>1.0	>10.0	
Incremental annual $PM_{2.5}$	>0.3 $\mu g/m^3$	>0.8 $\mu g/m^3$	

AIR QUALITY IMPACTS AND MITIGATION MEASURES

Impact AIR-1: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable State or federal ambient air quality standard?

The Bay Area is considered a non-attainment area for ground-level ozone and $PM_{2.5}$ under both the Federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for PM_{10} under the California Clean Air Act, but not the federal act. The area has attained both State and federal ambient air quality standards for carbon monoxide. As part of an effort to attain and maintain ambient air quality standards for ozone and PM_{10}, the BAAQMD has established thresholds of significance for these air pollutants and their precursors. These thresholds are for ozone precursor pollutants (ROG and NO_X), PM_{10}, and $PM_{2.5}$ and apply to both construction period and operational period impacts.

Construction Period Emissions

The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to estimate emissions from on-site construction activity and evaporative emissions. The project land use types and size, and anticipated construction schedule were input to CalEEMod. The CARB EMission FACtors 2017 (EMFAC2017) model was used to predict emissions from construction traffic, which includes worker travel, vendor trucks and haul trucks.[6] The model output from CalEEMod along with construction inputs are included as *Attachment 2* and EMFAC2017 vehicle emissions modeling outputs are included in *Attachment 3*.

Land Use Inputs

The proposed project land uses were input into CalEEMod as follows:

- 28-room and 19,107 square feet (sf) entered as "Recreational – Hotel" on 0.23-acres, and
- A 23-space, 9,811 sf subgrade parking lot entered as "Parking – Enclosed Parking with Elevator."

Construction Inputs

CalEEMod computes annual emissions for construction that are based on the project type, size, and acreage. The model provides emission estimates for both on-site and off-site construction activities. On-site activities are primarily made up of construction equipment emissions, while off-site activity includes worker, hauling, and vendor traffic.

The construction build-out scenario, including equipment list and schedule, were based on the default information provided with CalEEMod. The work schedule assumes a start date in January 2022 with a computed completion date in late November/early December 2022 (approximately 11 months, or 247 workdays). Default construction phases were used, assuming the duration of the default demolition phase would apply to site preparation, as there will be no demolition required

[6] See CARB's EMFAC2017 Web Database at https://www.arb.ca.gov/emfac/2017/

for the project, but there will be significant site preparation for subgrade parking facility. The quantity of equipment to be used along with the average hours per day and total number of workdays was provided by CalEEMod default. The first earliest operational year was assumed to be 2023.

Construction Truck Traffic Emissions

Construction would produce traffic in the form of worker trips and truck traffic. The traffic-related emissions are based on worker and vendor trip estimates produced by CalEEMod and haul trips that were estimated for soil material imported and/or exported to the site, and cement and asphalt truck trips. CalEEMod provides daily estimates of worker and vendor trips for each applicable phase. The total trips for those were computed by multiplying the daily trip rate by the number of days in that phase. Default trip rates were used to estimate trips generated by exporting approximately 4,725 cubic yards of soil. The number of concrete and asphalt total round haul trips were estimated using the project plans provided to estimate the volume of each material. Concrete/asphalt deliveries were assumed to be 10 cubic yards (CY) each, with two trips per delivery.

The latest version of the CalEEMod model is based on the older version of the CARB EMFAC2014 motor vehicle emission factor model. This model has been superseded by the EMFAC2017 model. However, CalEEMod has not been updated to include EMFAC2017. Therefore, construction traffic information was combined with EMFAC2017 motor vehicle emissions factors to estimate construction site trip emissions. EMFAC2017 provides aggregate emission rates in grams per mile for each vehicle type. The construction traffic vehicle mix for this study was based on CalEEMod default assumptions, where worker trips are assumed to be comprised of light-duty autos (EMFAC category LDA) and light duty trucks (EMFAC category LDT1and LDT2). Vendor trips are comprised of delivery and large trucks (EMFAC category MHDT and HHDT) and haul trips, including cement trucks, are comprised of large trucks (EMFAC category HHDT). Travel distances are based on CalEEMod default lengths, which are 10.8 miles for worker travel, 7.3 miles for vendor trips and 20 miles for hauling (demolition material export and soil import/export). Since CalEEMod does not address cement or asphalt haul trips, these were treated as vendor travel distances (i.e., 7.3 miles). Each trip was assumed to include an idle time of 5 minutes and emissions associated with vehicle starts were also included. EMFAC2017 emission rates from calendar year 2022 for San Mateo County were used. Table 2 provides the traffic inputs that were combined with the EMFAC2017 emission factors to compute vehicle emissions.

Table 2. Construction Traffic Data Used for EMFAC2017 Model Runs

CalEEMod Run/Land Uses and Construction Phase	Trips by Trip Type			Notes
	Total Worker[1]	Total Vendor[1]	Total Haul[2]	
Vehicle mix[1]	62.6% LDA 8.8% LDT1 28.5% LDT2	77.2% MHDT 22.8% HHDT	100% HHDT	
Trip Length (miles)	10.8	7.3	20.0 (Soil) 7.3 (Cement/Asphalt)	CalEEMod default distance includes 5 Min Truck Idle Time.
Site Preparation	205	-	590	CalEEMod default worker trips. 4,725 CY Soil Export.
Grading	40	-	-	CalEEMod default worker trips.
Trenching	20	-	-	CalEEMod default worker trips.
Building Construction	2,400	1,000	110	20 Cement Truck Deliveries. CalEEMod default worker and vendor trips.
Architectural Coating (Building Interior)	20	-	-	CalEEMod default worker trips.
Paving	180	-	-	4 Asphalt Truck Deliveries. CalEEMod default worker trips.

Notes: [1] Based on 2022 EMFAC2017 vehicle fleet mix for San Mateo County.
[2] Hauling trips estimated based on materials provided by the applicant.

Summary of Computed Construction Period Emissions

Annual emissions were predicted using CalEEMod and the estimated 247 construction workdays. Average daily emissions were computed by dividing the total construction emissions by the number of construction days. Table 3 shows average daily construction emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust during construction of the project. As indicated in Table 3, predicted construction period emissions would not exceed the BAAQMD significance thresholds.

Table 3. Construction Period Emissions

Scenario	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Total construction emissions (tons)	0.3 tons	1.6 tons	0.07 tons	0.07 tons
Average daily emissions (pounds)[1]	2.4 lbs./day	12.6 lbs./day	0.6 lbs./day	0.6 lbs./day
BAAQMD Thresholds (pounds per day)	*54* lbs./day	*54* lbs./day	*82* lbs./day	*54* lbs./day
Exceed Threshold?	No	No	No	No

Notes: [1]Assumes 247 workdays.

Construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD CEQA Air Quality Guidelines

consider these impacts to be less than significant if best management practices (BMPs) are implemented to reduce these emissions. *Mitigation Measure AQ-1 would implement BAAQMD's basic and additional best management practices*.

Mitigation Measure AQ-1: Implement BAAQMD-Recommended Basic and Additional Measures to Control Particulate Matter Emissions during Construction.

Measures to reduce fugitive dust (i.e., $PM_{2.5}$) emissions from construction are recommended to and ensure that health impacts to nearby sensitive receptors are minimized. During any construction period ground disturbance, the applicant shall ensure that the project contractor implements basic BMPs to control dust and exhaust. Implementation of the dust control measures recommended by BAAQMD and listed below would reduce the air quality impacts associated with grading and new construction to a less-than-significant level. The contractor shall implement the following BMPs that are required of all projects:

1. All exposed surfaces that generate fugitive dust emissions (e.g., unpaved parking areas, material staging areas, soil piles, unstabilized graded areas, and unpaved access roads) shall be watered two times per day.

2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).

5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Effectiveness of Mitigation Measure AQ-1

The measures above are consistent with BAAQMD-recommended basic control measures for reducing fugitive particulate matter that are contained in the BAAQMD CEQA Air Quality Guidelines.

Operational Period Emissions

Operational air emissions from the project would be generated primarily from autos driven by customers and employees. Evaporative emissions from architectural coatings and maintenance products (classified as consumer products) are typical emissions from these types of uses. CalEEMod was used to estimate emissions from operation of the proposed project assuming full build-out.

Land Uses

The project land uses were input to CalEEMod as described above for the construction period modeling.

Model Year

Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates utilized by CalEEMod. This analysis assumed that the project would be fully built-out and operating in the year 2023. Emissions associated with build-out later than 2023 would be lower.

Trip Generation Rates

CalEEMod allows the user to enter specific vehicle trip generation rates. Therefore, the project-specific daily trip generation rates for Hotel (Institute of Transportation Engineers Land Use Code 310) were provided by the traffic consultant[7] and input into the model. Saturday and Sunday trip rates were assumed to be the weekday rate adjusted by multiplying the ratio of the CalEEMod default rates for Saturday and Sunday trips to the default weekday rate. The default trip lengths and trip types specified by CalEEMod were used.

EMFAC2017 Adjustment

As previously described, the vehicle emission factors and fleet mix used in CalEEMod are based on EMFAC2014, which is an older CARB emission inventory for on-road and off-road mobile sources. Since the release of CalEEMod Version 2016.3.2, new emission factors have been produced by CARB. EMFAC2017 became available for use in March 2018 and approved by the EPA in August 2019. It includes the latest data on California's car and truck fleets and travel activity. Additionally, CARB has recently released EMFAC off-model adjustment factors to

[7] Email from Matthew Moore, David J. Powers & Associates, Inc. to Casey Divine, Illingworth & Rodkin. December 3, 2020.

account for the Safer Affordable Efficient (SAFE) Vehicle Rule Part One.[8,9] The SAFE vehicle Rule Part One revoked California's authority to set its own GHG emission standards and set zero emission vehicle mandates in California. As a result of this ruling, mobile criteria pollutant emissions would increase for light-duty vehicles. Therefore, the CalEEMod vehicle emission factors and fleet mix were updated with the emission rates and fleet mix from EMFAC2017, which were adjusted with the CARB EMFAC off-model adjustment factors. On-road emission rates for San Mateo County, calendar year 2023 were used. More details about the updates in emissions calculation methodologies and data are available in the EMFAC2017 Technical Support documents.[10]

Energy

CalEEMod defaults for energy use were used, which include the 2016 Title 24 Building Standards. GHG emissions modeling includes those indirect emissions from electricity consumption. The electricity produced emission rate was modified in CalEEMod. CalEEMod has a default emission factor of 641.3 pounds of CO_2 per megawatt of electricity produced, which is based on Pacific Gas and Electric's (PG&E) 2008 emissions rate. However, PG&E published in 2019 emissions rates for 2010 through 2017, which showed the emission rate for delivered electricity had been reduced to 210 pounds CO_2 per megawatt of electricity delivered in the year 2017.[11] This intensity factor was used in the model and it was assumed that all powered was supplied by PG&E.

Project Generator

The project would include one emergency generator located outside the building on the north corner of the property. The size of the generator is assumed to be approximately 200 horsepower (hp). This generator would be tested periodically and power the buildings in the event of a power failure. For modeling purposes, it was assumed that the generator would be operated primarily for testing and maintenance purposes. CARB and BAAQMD requirements limit these engine operations to 50 hours each per year of non-emergency operation. During testing periods, the engine would typically be run for less than one hour. The engine would be required to meet CARB and EPA emission standards and consume commercially available California low-sulfur diesel fuel. The generator emissions were modeled using CalEEMod.

Other Inputs

[8] California Air Resource Board, 2019. *EMFAC Off-Model Adjustment Factors to Account for the SAFE Vehicle Rule Part One.* November. Web: https://ww3.arb.ca.gov/msei/emfac_off_model_adjustment_factors_final_draft.pdf

[9] California Air Resource Board, 2020. *EMFAC Off-Model Adjustment Factors for Carbon Dioxide (CO_20 Emissions to Accounts for the SAFE Vehicles Rule Part One and the Final SAFE Rule*. June. Web: https://ww3.arb.ca.gov/msei/emfac_off_model_co2_adjustment_factors_06262020-final.pdf?utm_medium=email&utm_source=govdelivery

[10] See CARB 2018: https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-modeling-tools-emfac

[11] PG&E, 2019. *Corporate Responsibility and Sustainability Report*. Web: http://www.pgecorp.com/corp_responsibility/reports/2019/assets/PGE_CRSR_2019.pdf

Default model assumptions for emissions associated with solid waste generation and water/wastewater use were applied to the project. Water/wastewater use was changed to 100% aerobic conditions to represent wastewater treatment plant conditions.

Existing Uses

A CalEEMod model run was not developed to estimate emissions from the existing land uses as the property is currently vacant, with no existing structures on it. Therefore, existing operational emissions for the parcel were assumed to be zero.

Summary of Computed Operational Period Emissions

Annual emissions were predicted using CalEEMod and daily emissions were estimating assuming 365 days of operation. Table 4 shows average daily construction emissions of ROG, NO_X, total PM_{10}, and total $PM_{2.5}$ during operation of the project. The operational period emissions would not exceed the BAAQMD significance thresholds.

Table 4. Operational Period Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
2023 Project Operational Emissions (*tons/year*)	0.18 tons	0.14 tons	0.16 tons	0.05 tons
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Threshold?	*No*	*No*	*No*	*No*
2023 Project Operational Emissions (*pounds/day*)[1]	1.0 lbs.	0.8 lbs.	0.2 lbs.	0.05 lbs.
BAAQMD Thresholds (pounds/day)	*54* lbs.	*54* lbs.	*82* lbs.	*54* lbs.
Exceed Threshold?	*No*	*No*	*No*	*No*

Notes: [1] Assumes 365-day operation.

Impact AIR-2: Expose sensitive receptors to substantial pollutant concentrations?

Project impacts related to increased community risk can occur either by introducing a new source of TACs during construction and operation with the potential to adversely affect existing sensitive receptors in the project vicinity or by introducing a new sensitive receptor, such as residents, in proximity to an existing source of TACs.

Temporary project construction activity would generate dust and equipment exhaust that could affect nearby sensitive receptors. An emergency generator powered by a diesel engine will be installed, which would produce TAC and air pollutant emissions. The project would generate some traffic, consisting of light-duty vehicles. However, the number of daily trips generated by the project are small (i.e., 234 daily trips)[12] and emissions from automobile traffic generated by the project would be spread out over a broad geographical area and not localized. Project traffic would not be considered a source of substantial TACs or $PM_{2.5}$.

This project will not introduce new sensitive receptors because there are no permanent residences proposed. Therefore, project impacts to existing sensitive receptors were addressed for temporary construction activities and long-term operational conditions.

The impact of the existing and new sources of TACs upon the existing sensitive receptors was assessed. There are few existing sources of TACs and localized air pollutants in the vicinity of the project: two stationary sources related to a gas dispensing facility and El Camino Real, which has an average daily traffic (ADT) volume exceeding 10,000 vehicles. All the other local roadways near the site are assumed to have an ADT of less than 10,000 vehicles.

Community risk impacts are addressed by predicting increased lifetime cancer risk, the increase in annual $PM_{2.5}$ concentrations, and computing the Hazard Index (HI) for non-cancer health risks. This involved modeling of TAC and $PM_{2.5}$ emissions, dispersion modeling, and computing cancer risk and HI. The methodology for computing community risks impacts is provided in *Attachment 1*.

Community Risk from Project Construction Activity

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. Although it was concluded in the previous sections (see Table 3) that construction exhaust air pollutant emissions would not contribute substantially to existing or projected air quality violations, construction exhaust emissions may still pose health risks for sensitive receptors such as surrounding residents. The primary community risks associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. A health risk assessment of the project construction activities was conducted to evaluate the potential health effects to nearby sensitive receptors from construction emissions of DPM and $PM_{2.5}$.[13]

[12] Based on ITE daily trip rates provided by Hexagon Transportation Consultants, Inc. via email to Matthew Moore, David J. Powers & Associates, Inc. December 3, 2020.
[13] DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.

Construction Period Emissions

The CalEEMod model provided total annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment and EMFAC2017 was used to estimate exhaust emissions from on-road vehicles. Total DPM emissions from the construction site was estimated to be 0.063 tons (125 pounds). The on-road emissions are a result of haul truck travel during grading activities, worker travel, and vendor deliveries during construction. A trip length of a half-mile was used to represent vehicle travel while at or near the construction site. It was assumed emissions from on-road vehicles traveling at or near the site would occur at the construction site. Fugitive $PM_{2.5}$ dust emissions were estimated to be 0.034 tons (68 pounds) using the same methods and assumptions used to estimate site DPM emissions.

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict DPM and $PM_{2.5}$ concentrations at sensitive receptors (i.e., residents, school children) in the vicinity of the project construction area. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling ambient impacts of these types of emission activities for CEQA projects.[14] The modeling utilized two area sources to represent the on-site construction emissions, one for exhaust emissions and one for fugitive dust emissions. To represent the construction equipment exhaust emissions, an emission release height of 19.7 feet (6 meters) was used. The elevated source height reflects the height of the equipment exhaust pipes plus an additional distance for the height of the exhaust plume above the exhaust pipes to account for plume rise of the exhaust gases. For modeling fugitive $PM_{2.5}$ emissions, a near-ground level release height of 6.6 feet (2 meters) was used. Emissions from the construction equipment and on-site vehicle travel were distributed throughout the modeled area sources. Construction emissions were modeled as occurring daily between 7:00 a.m. to 4:00 p.m.

A five-year data set (2013-2017) of hourly meteorological data from San Francisco International Airport (SFO) prepared for use with the AERMOD model by BAAQMD was used. Annual DPM and $PM_{2.5}$ concentrations from construction activities during January 2022 through November 2022 were calculated at nearby sensitive receptors using AERMOD. Receptor heights of 4.9 feet (1.5 meters) and 14.9 feet (4.5 meters) were used to represent the breathing heights at nearby single- and multi-family homes.

Construction Impacts

The maximum modeled annual DPM and $PM_{2.5}$ concentrations, and thus the maximally exposed individuals (MEIs), were identified as those living at an adjacent multi-family residence to the southeast of the project site (as shown in Figure 1). Both the cancer risk MEI and the $PM_{2.5}$ concentration MEI were located on the second floor (14.9 feet above ground). Using the maximum annual modeled DPM concentrations, maximum increased cancer risks were calculated using BAAQMD recommended methods and exposure parameters described in *Attachment 1*. Non-cancer health hazards and maximum annual $PM_{2.5}$ concentrations were also calculated and

[14] Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0.* May.

identified. *Attachment 4* to this report includes the emission calculations used for the construction area source modeling and the construction cancer risk calculations.

Figure 1. Project Construction Site, Locations of Off-Site Sensitive Receptors, and Locations of TAC Impacts

Results indicate the unmitigated maximum increased cancer risks and maximum annual $PM_{2.5}$ concentrations from construction exceed the BAAQMD single-source thresholds of greater than 10.0 per million for cancer risk and greater than 0.3 $\mu g/m^3$ for $PM_{2.5}$ concentrations. However, with the incorporation of *Mitigation Measure AQ-1* and *Mitigation Measure AQ-2,* the increased project cancer risk and $PM_{2.5}$ concentration from construction would not exceed their single-source thresholds. Both the unmitigated and mitigated non-cancer HI from construction activities would be below the single-source significance threshold of 1.0. Table 5 summarizes the maximum cancer risks, $PM_{2.5}$ concentrations, and HIs for project related construction activities affecting the off-site residential MEI.

Table 5. Construction Risk Impacts at the Off-site Residential MEI

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Construction	Unmitigated	**168.7 (infant)**	**1.35**	0.19
	Mitigated**	5.8 (infant)	0.22	0.01
BAAQMD Single-Source Threshold		***>10.0***	***>0.3***	***>1.0***
Exceed Threshold?	Unmitigated	***Yes***	***Yes***	*No*
	Mitigated**	*No*	*No*	*No*

* Mitigation Measures AQ-1 and AQ-2 include basic fugitive dust controls, construction equipment engines with Tier 4 Final emissions limits, on-site electricity, and electric cranes.

Mitigation Measure AQ-2: **Selection of equipment during construction to minimize emissions.**

The project shall develop a plan demonstrating that the off-road equipment used onsite to construct the project would achieve a fleet-wide average 97-percent reduction in DPM exhaust emissions or greater. One feasible plan to achieve this reduction would include the following:

- All diesel-powered off-road equipment, larger than 25 horsepower, operating on the site for more than two days continuously shall, at a minimum, meet U.S. EPA particulate matter emissions standards for Tier 4 Final engines. Where Tier 4 equipment is not available, exceptions could be made for equipment that includes CARB-certified Level 3 Diesel Particulate Filters or equivalent. Equipment that is electrically powered or uses non-diesel fuels would also meet this requirement.

- Provide line power to the site during the early phases of construction to minimize the use of diesel-powered stationary equipment, such as generators.

- Utilizing electric cranes as much as possible.

Effectiveness of Mitigation Measure AQ-2

CalEEMod was used to compute emissions associated with this mitigation measure assuming that all equipment met U.S. EPA Tier 4 Final engines standards, electric cranes were used, and line power was provided to the site during construction. With the implementation of *Mitigation Measure AQ-2*, the project cancer risk levels and annual $PM_{2.5}$ concentrations would be substantially reduced such that they would not exceed the BAAQMD single-source significance thresholds. The computed maximum increased cancer risk to nearby residential areas from construction, assuming infant exposure, would be 5.8 in one million or less and the maximum annual $PM_{2.5}$ concentration would be reduced to 0.22 $\mu g/m^3$.

Community Risks from Project Operation – Traffic and Generator

Operation of the project would generate emissions from mobile sources (i.e., traffic) and stationary sources (i.e., emergency generator). While these emissions would not be as intensive at or near the site as construction activity, they would contribute to long-term effects to sensitive receptors.

Traffic

The project would generate some traffic, consisting mostly of light-duty vehicles that are not a source of substantial TACs or $PM_{2.5}$. Based on the project's trip generation estimates, the project would add 234 maximum daily trips. Therefore, health impacts specific to hotel traffic are considered *de minims* when compared to the impacts of El Camino Real. The project will have access to both El Camino Real and San Luis Avenue, with the primary access being El Camino Real. Projects trips would disperse from there onto other nearby roadways.

Project Operational Emergency Generator

The project would include an emergency generator that, for the purposes of this analysis, was assumed to include a 200 hp diesel engine. The generator would be located outside on the north property boundary. Figure 2 shows the location of the modeled emergency generator.

Stationary source diesel engines larger than 50 hp are subject to CARB's Stationary Diesel Airborne Toxics Control Measure (ATCM) and require permits from the BAAQMD. As part of the BAAQMD permit requirements for toxics screening analysis, the emergency generator engine emissions will have to meet Best Available Control Technology for Toxics (TBACT) and pass the toxic risk screening level of less than ten in a million. The risk assessment would be prepared by BAAQMD. Depending on results, BAAQMD would set limits for DPM emissions (e.g., more restricted engine operation periods). Stationary sources of air pollutant emissions complying with all applicable BAAQMD regulations generally are not considered to have a significant air quality community risk impact.

Dispersion Modeling

To obtain an estimate of potential cancer risks and $PM_{2.5}$ impacts from operation of the emergency generator, the U.S. EPA AERMOD dispersion model was used to calculate the maximum annual DPM concentration at off-site sensitive receptor locations (nearby residences). The same receptors and breathing heights used in the construction dispersion modeling were used for the generator dispersion model. Additionally, the same meteorological data was used. The generator stack height was assumed to be 12 feet high. Other stack parameters (stack diameter, exhaust flow rate, and exhaust gas temperature) for modeling the generator were based on BAAQMD default parameters for emergency generators.[15] Annual average DPM and $PM_{2.5}$ concentrations were modeled assuming that generator testing could occur at any time of the day.

[15] The San Francisco Community Risk Reduction Plan: Technical Support Document, BAAQMD, San Francisco Dept. of Public Health, and San Francisco Planning Dept., December 2012

To calculate the increased cancer risk from the generator at the MEI, the cancer risks exposure duration was adjusted to account for the MEI being exposed to construction for the first year of the 30-year lifetime period. The exposure duration for the generator was adjusted for 29 years of exposure since it would not be operational until after construction is completed. Table 6 lists the risks and hazards from the project generator. The emissions and health risk calculations for the proposed generators are included in *Attachment 4*.

Summary of Project-Related Community Risks at the Off-site Project MEI

For this project, the sensitive receptors identified in Figure 1 as the construction MEI are also the project MEI. At these locations, the MEI would be exposed to one year of construction cancer risks and 29 years of operational (i.e., emergency backup generator) cancer risks. The cancer risks from construction and operation of the project were summed together. The annual $PM_{2.5}$ concentration and HI values are based on an annual maximum risk for the entirety of the project.

As shown in Table 6, the unmitigated project construction and operation community risks would exceed the BAAQMD single-source thresholds for increased cancer risk and maximum $PM_{2.5}$ concentration. However, with the incorporation of *Mitigation Measure AQ-1* and *Mitigation Measure AQ-2*, the increased cancer risk and maximum $PM_{2.5}$ concentration from construction activities would be reduced and the total project increased cancer risk and maximum $PM_{2.5}$ concentration would be below the BAAQMD single-source thresholds. The maximum annual HI value for the project does not exceed the BAAQMD annual HI single-source thresholds.

Table 6. Construction and Operation Risk Impacts at the Off-site Residential MEI

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Construction (Years 0-1)	Unmitigated Mitigated*	**168.7 (infant)** 5.8 (infant)	**1.35** 0.22	0.19 0.01
Project Generator – 200 hp (Years 1-30)		0.3	<0.01	<0.01
Total/Maximum Project Risks (Years 0-30)	Unmitigated Mitigated*	**169.0 (infant)** 6.1 (infant)	**1.35** 0.22	0.19 0.01
BAAQMD Single-Source Threshold		***>10.0***	***>0.3***	***>1.0***
Exceed Threshold?	Unmitigated Mitigated*	***Yes*** *No*	***Yes*** *No*	*No* *No*

* Mitigation Measures AQ-1 and AQ-2 include basic fugitive dust controls, construction equipment engines with Tier 4 Final emissions limits, on-site electricity, and electric cranes.

Cumulative Impact of TAC Sources on the Off-Site Construction MEI

Community health risk assessments typically look at all substantial sources of TACs that can affect sensitive receptors that are located within 1,000 feet of the project site (i.e., influence area). These sources include railroads, freeways or highways, busy surface streets, and existing stationary sources identified by BAAQMD. A review of the project area indicates that traffic on El Camino Real exceeds the ADT threshold of 10,000 vehicles. All other roadways within the area are assumed to be below the 10,000 ADT threshold. Two existing stationary sources of TACs are located within the 1,000-foot influence area according to BAAQMD's stationary source website

map. Figure 2 shows the existing TAC sources near the project site. Community risk impacts from these sources upon the construction MEI are reported in Table 7. Details of the modeling and community risk calculations are included in *Attachments 5 and 6.*

Figure 2. Project Site and Nearby TAC and $PM_{2.5}$ Sources

El Camino Real

The project site and construction MEI are both near El Camino Real (or State Route 82), with the construction MEI located approximately 95 feet east of El Camino Real. A refined analysis of the impacts of TACs and $PM_{2.5}$ from the arterial roadway on the construction MEI is necessary to evaluate potential cancer risks and $PM_{2.5}$ concentrations associated with it. A review of the AADT information provided by California Department of Transportation (Caltrans)[16] indicates this portion of El Camino Real has an estimated weekday traffic volume of approximately 35,500 vehicles per day based on counts collected in 2019. These traffic volume estimates were increased one percent per year to obtain estimates for the analysis year of 2022. Caltrans data for US 101, the closest data recorder to the project site, were used to obtain hourly traffic volume distributions. The truck percentage provided by Caltrans' traffic census program for El Camino Real (SR82) were used (average of 2.2 percent trucks), of which 1.0 percent are considered medium duty trucks and 1.2 percent are diesel heavy duty trucks.

Modeling Roadway Emissions

Analysis of El Camino Real involved developing emissions estimates of DPM, organic TACs (as

[16] Caltrans Traffic Census Program, Traffic Volumes: Annual Average Daily Traffic (AADT), 2018-AADT (XLSX), accessed December 11, 2020. https://dot.ca.gov/programs/traffic-operations/census

TOG), and $PM_{2.5}$ emissions for 2022 traffic volume estimates using the Caltrans version of the CARB's EMFAC2017 emissions model, known as CT-EMFAC2017. CT-EMFAC2017 provides emission factors for mobile source criteria pollutants and TACs, including DPM. Emission processes modeled include running exhaust for DPM, $PM_{2.5}$ and total organic compounds (e.g., TOG), running evaporative losses for TOG, and fugitive road dust for $PM_{2.5}$ that includes tire and brake wear emissions. In general, vehicle fleet emissions are projected to decrease in the future as reflected in the CT-EMFAC2017 emissions estimates. Inputs to the emissions model include region (i.e., San Mateo County), type of road (i.e., major/collector), traffic mix assigned by CT-EMFAC2017 for the county, truck traffic percentage (2.2), year of analysis (i.e., 2022), and season (i.e., annual).

Full operation of the project is assumed to occur in 2023 or later with construction occurring in 2022. To estimate TAC and $PM_{2.5}$ emissions over a 30-year exposure period to the construction MEI from traffic on El Camino Real, the CT-EMFAC2017 model was used to develop vehicle emission factors for 2022 using the mix of vehicles in San Mateo County. Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates produced by CT-EMFAC2017. Year 2022 emissions were conservatively assumed as being representative of future conditions over the period that cancer risks are evaluated (30 years), since, as discussed above, overall vehicle emissions, in particular diesel truck emissions will decrease in the future. Traffic volumes were grown from 2019 levels to 2022 assuming an increase of one percent per year. Hourly traffic distributions were obtained by averaging 2019 hourly traffic volumes from nearby US 101 using Caltrans Performance Measurement System (PeMS). PeMS data is collected in real-time from nearly 40,000 individual detectors spanning the freeway system across all major metropolitan areas of California.[17] The fraction of traffic volume each hour was calculated and applied to the traffic estimates for El Camino Real to obtain hourly traffic emission rates.

For all hours of the day, other than during peak a.m. and p.m. periods, an average speed of 35 mph was assumed for all vehicles. Traffic speeds during the peak a.m. and p.m. periods were assumed to be 10 miles per hour slower (i.e., 25 mph) to account for congestion and the amount of access in the area.

Hourly emissions rates were developed for DPM, organic TACs, and $PM_{2.5}$ along the applicable segments of El Camino Real within 1,000 feet of the project site. TAC and $PM_{2.5}$ concentrations at the construction MEIs location were developed using these emissions rates with an air quality dispersion model (AERMOD). Maximum increased lifetime cancer risks and maximum annual $PM_{2.5}$ concentrations for the construction MEIs receptor were then computed using modeled TAC and $PM_{2.5}$ concentrations and BAAQMD methods and exposure parameters described in *Attachment 1*.

Dispersion Modeling

Dispersion modeling of TAC and $PM_{2.5}$ emissions was conducted using the U.S. EPA AERMOD dispersion model, which is recommended by the BAAQMD for this type of analysis. Traffic on El

[17] https://dot.ca.gov/programs/traffic-operations/mpr/pems-source

Camino Real within approximately 1,000 feet of the project site was evaluated with the model. Emissions from vehicle traffic were modeled using a series of area sources along a line (line area sources), with line segments used to represent northbound and southbound travel lanes. The modeling used a five-year data set (2013-2017) of hourly meteorological data from San Francisco International Airport (SFO) prepared by the BAAQMD for use with the AERMOD model. Other inputs to the model included road geometry and elevations, hourly traffic emissions, and receptor locations and heights. Figure 2 shows the roadway links used for the modeling and receptor locations where concentrations were calculated.

Computed Cancer and Non-Cancer Health Impacts of El Camino Real

The maximum increased cancer risk associated with El Camino Real at the construction MEI receptor would be 3.8 in one million, the maximum $PM_{2.5}$ concentration at the construction MEI receptors would be 0.33 $\mu g/m^3$, and the HI at the construction MEI location would be less than 0.01. The risk impacts from El Camino Real on the construction MEI are shown in Table 7. Details of the emission calculations, dispersion modeling and cancer risk calculations for the receptor with the maximum cancer risk from El Camino Real traffic are provided in *Attachment 5 and 6.*

Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Permitted Stationary Sources 2018* GIS website,[18] which identifies the location of nearby stationary sources and their estimated risk and hazard impacts, including emissions and adjustments to account for new OEHHA guidance. A Stationary Source Information Form (SSIF) containing the identified sources was prepared and submitted to BAAQMD. BAAQMD provided updated emissions data and risk values.[19] The provided risk values were then adjusted for distance using the appropriate BAAQMD *Distance Multiplier Tool for Diesel Internal Combustion Engines, Gasoline Dispensing Facilities (GDFs), or Generic Sources.*

Two stationary sources were identified: Facility IDs #110666 (a gas dispensing facility) and #11380, and #20271 (a soil vapor extraction facility). Estimated risk values for these stationary sources at the MEI are listed in Table 7.

Combined Community Health Risk at Off-Site Construction MEI

Table 7 reports both the project and cumulative community risk impacts at the sensitive receptors most affected by construction (i.e., the construction MEI). Without mitigation, the project's community risk from construction and operational activities would exceed the single-source maximum cancer risk and $PM_{2.5}$ concentration significance thresholds but would not exceed the HI significance threshold. With the incorporation of *Mitigation Measure AQ-1 and AQ-2*, the project would not exceed single-source thresholds. The cumulative HI value would not exceed cumulative significance thresholds for either the unmitigated or mitigated condition. However, the unmitigated cancer risk and annual cumulative $PM_{2.5}$ concentration would exceed the cumulative

[18]BAAQMD, https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65
[19] Email correspondence with Areana Flores, BAAQMD, December 23, 2020.

significance thresholds of 100 in a million and 0.8 µg/m^3 $PM_{2.5}$, respectively. With the incorporation of *Mitigation Measure AQ-1 and AQ-2*, the project would not exceed the cumulative source threshold for cancer risk or annual cumulative $PM_{2.5}$ concentration.

Table 7. Impacts from Combined Sources at Off-Site Construction MEI

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ (µg/m^3)	Hazard Index
Project Construction Impacts				
Total/Maximum Project Risks (Years 0-30)	Unmitigated	**169.0 (infant)**	**1.35**	0.19
	Mitigated*	6.1 (infant)	0.22	0.01
BAAQMD Single-Source Threshold		***>10.0***	***>0.3***	***>1.0***
Exceed Single Source Threshold?	Unmitigated	***Yes***	***Yes***	*No*
	Mitigated*	*No*	*No*	*No*
Cumulative Impacts				
El Camino Real		3.8	0.33	<0.01
Facility #110666 (Gas Dispensing Facility)		0.82	NA	NA
Facility #20271 (Soil Vapor Extraction Operation)		0.01	<0.01	<0.01
Cumulative Total	Unmitigated	173.6	**1.68**	0.19
	Mitigated*	10.7	0.55	<0.02
BAAQMD Cumulative Source Threshold		***>100***	***>0.8***	***>10.0***
Exceed Cumulative Source Threshold?	Unmitigated	***Yes***	***Yes***	*No*
	Mitigated*	*No*	*No*	*No*

* Mitigation Measures AQ-1 and AQ-2 include basic fugitive dust controls, construction equipment engines with Tier 4 Final emissions limits, on-site electricity, and electric cranes.

Supporting Documentation

Attachment 1 is the methodology used to compute community risk impacts, including the methods to compute lifetime cancer risk from exposure to project emissions.

Attachment 2 includes the CalEEMod modeling assumptions and output for project construction and operational criteria air pollutant and GHG emissions. The operational outputs for existing and 2030 uses are also included in this attachment.

Attachment 3 includes the EMFAC2017 emissions modeling. The input files for these calculations are voluminous and are available upon request in digital format.

Attachment 4 is the project's health risk assessment. AERMOD dispersion modeling files for this assessment, which are quite voluminous, are available upon request and would be provided in digital format.

Attachment 5 includes the roadway and stationary source emissions.

Attachment 6 includes the Cumulative Community Health Risk Impacts for the Construction MEI.

Attachment 1: Health Risk Calculation Methodology

A health risk assessment (HRA) for exposure to Toxic Air Contaminates (TACs) requires the application of a risk characterization model to the results from the air dispersion model to estimate potential health risk at each sensitive receptor location. The State of California Office of Environmental Health Hazard Assessment (OEHHA) and California Air Resources Board (CARB) develop recommended methods for conducting health risk assessments. The most recent OEHHA risk assessment guidelines were published in February of 2015.[20] These guidelines incorporate substantial changes designed to provide for enhanced protection of children, as required by State law, compared to previous published risk assessment guidelines. CARB has provided additional guidance on implementing OEHHA's recommended methods.[21] This HRA used the 2015 OEHHA risk assessment guidelines and CARB guidance. The BAAQMD has adopted recommended procedures for applying the newest OEHHA guidelines as part of Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants.[22] Exposure parameters from the OEHHA guidelines and the recent BAAQMD HRA Guidelines were used in this evaluation.

Cancer Risk

Potential increased cancer risk from inhalation of TACs is calculated based on the TAC concentration over the period of exposure, inhalation dose, the TAC cancer potency factor, and an age sensitivity factor to reflect the greater sensitivity of infants and children to cancer causing TACs. The inhalation dose depends on a person's breathing rate, exposure time and frequency and duration of exposure. These parameters vary depending on the age, or age range, of the persons being exposed and whether the exposure is considered to occur at a residential location or other sensitive receptor location.

The current OEHHA guidance recommends that cancer risk be calculated by age groups to account for different breathing rates and sensitivity to TACs. Specifically, they recommend evaluating risks for the third trimester of pregnancy to age zero, ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), and ages 16 to 70 (adult exposure). Age sensitivity factors (ASFs) associated with the different types of exposure are an ASF of 10 for the third trimester and infant exposures, an ASF of 3 for a child exposure, and an ASF of 1 for an adult exposure. Also associated with each exposure type are different breathing rates, expressed as liters per kilogram of body weight per day (L/kg-day) or liters per kilogram of body weight per 8-hour period for the case of worker or school child exposures. As recommended by the BAAQMD for residential exposures, 95th percentile breathing rates are used for the third trimester and infant exposures, and 80th percentile breathing rates for child and adult exposures. For children at schools and daycare facilities, BAAQMD recommends using the 95th percentile 8-hour breathing rates. Additionally, CARB and the BAAQMD recommend the use of a residential exposure duration of 30 years for sources with long-term emissions (e.g., roadways). For workers, assumed to be adults,

[20] OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.
[21] CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.
[22] BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

a 25-year exposure period is recommended by the BAAQMD. For school children a 9-year exposure period is recommended by the BAAQMD.

Under previous OEHHA and BAAQMD HRA guidance, residential receptors are assumed to be at their home 24 hours a day, or 100 percent of the time. In the 2015 Risk Assessment Guidance, OEHHA includes adjustments to exposure duration to account for the fraction of time at home (FAH), which can be less than 100 percent of the time, based on updated population and activity statistics. The FAH factors are age-specific and are: 0.85 for third trimester of pregnancy to less than 2 years old, 0.72 for ages 2 to less than 16 years, and 0.73 for ages 16 to 70 years. Use of the FAH factors is allowed by the BAAQMD if there are no schools in the project vicinity have a cancer risk of one in a million or greater assuming 100 percent exposure (FAH = 1.0).

Functionally, cancer risk is calculated using the following parameters and formulas:

Cancer Risk (per million) = $CPF \times Inhalation\ Dose \times ASF \times ED/AT \times FAH \times 10^6$

Where:

CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = $C_{air} \times DBR^* \times A \times (EF/365) \times 10^{-6}$

Where:

C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
8HrBR = 8-hour breathing rate (L/kg body weight-8 hours)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

* An 8-hour breathing rate (8HrBR) is used for worker and school child exposures.

The health risk parameters used in this evaluation are summarized as follows:

Parameter	*Exposure Type* →	Infant		Child	Adult
	Age Range →	3rd Trimester	0<2	2 < 16	16 - 30
DPM Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$		1.10E+00	1.10E+00	1.10E+00	1.10E+00
Daily Breathing Rate (L/kg-day) 80th Percentile Rate		273	758	572	261
Daily Breathing Rate (L/kg-day) 95th Percentile Rate		361	1,090	745	335
8-hour Breathing Rate (L/kg-8 hours) 95th Percentile Rate		-	1,200	520	240
Inhalation Absorption Factor		1	1	1	1
Averaging Time (years)		70	70	70	70
Exposure Duration (years)		0.25	2	14	14*
Exposure Frequency (days/year)		350	350	350	350*
Age Sensitivity Factor		10	10	3	1
Fraction of Time at Home (FAH)		0.85-1.0	0.85-1.0	0.72-1.0	0.73*

Non-Cancer Hazards

Non-cancer health risk is usually determined by comparing the predicted level of exposure to a chemical to the level of exposure that is not expected to cause any adverse effects (reference exposure level), even to the most susceptible people. Potential non-cancer health hazards from TAC exposure are expressed in terms of a hazard index (HI), which is the ratio of the TAC concentration to a reference exposure level (REL). OEHHA has defined acceptable concentration levels for contaminants that pose non-cancer health hazards. TAC concentrations below the REL are not expected to cause adverse health impacts, even for sensitive individuals. The total HI is calculated as the sum of the HIs for each TAC evaluated and the total HI is compared to the BAAQMD significance thresholds to determine whether a significant non-cancer health impact from a project would occur.

Typically, for residential projects located near roadways with substantial TAC emissions, the primary TAC of concern with non-cancer health effects is diesel particulate matter (DPM). For DPM, the chronic inhalation REL is 5 micrograms per cubic meter ($\mu g/m^3$).

Annual $PM_{2.5}$ Concentrations

While not a TAC, fine particulate matter ($PM_{2.5}$) has been identified by the BAAQMD as a pollutant with potential non-cancer health effects that should be included when evaluating potential community health impacts under the California Environmental Quality Act (CEQA). The thresholds of significance for $PM_{2.5}$ (project level and cumulative) are in terms of an increase in the annual average concentration. When considering $PM_{2.5}$ impacts, the contribution from all sources of $PM_{2.5}$ emissions should be included. For projects with potential impacts from nearby local roadways, the $PM_{2.5}$ impacts should include those from vehicle exhaust emissions, $PM_{2.5}$ generated from vehicle tire and brake wear, and fugitive emissions from re-suspended dust on the roads.

Attachment 2: CalEEMod Modeling Output

160 ECR Hotel, San Bruno

San Mateo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	23.00	Space	0.00	9,811.00	0
Hotel	28.00	Room	0.23	19,107.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	130	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Assume PCE clean, using 2018 factors

Land Use - Acreage and SF provided by plans. 3 floors, subgrade parking

Construction Phase - Default construction schedule, No demo but there is significant excavation so I swapped the days between Demo and Site prep

Off-road Equipment - Default consst equipment & hours

Off-road Equipment - Default consst equipment & hours

Off-road Equipment - No Demo

Off-road Equipment - Default consst equipment & hours

Off-road Equipment - Default consst equipment & hours

Off-road Equipment - Default consst equipment & hours

Off-road Equipment - Trenching added, Default consst equipment & hours

Trips and VMT - Estimated Concrete volumes and deliveries from plans. No Ashpalt paving, all concrete.

Demolition - No Demo, Site is vacant.

Grading - Estimated from plans

Vehicle Trips - ITE LU 310 (Hotel); 10th Ed.

Vehicle Emission Factors - From EMFAC2017 for San Mateo Co; 2023

Vehicle Emission Factors -

Vehicle Emission Factors -

Energy Use -

Water And Wastewater - 100% WWTP

Construction Off-road Equipment Mitigation - Basic dust, T4 Final

Stationary Sources - Emergency Generators and Fire Pumps - Assume 200 HP emergency generator.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
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	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
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	5.00
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
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
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tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstructionPhase	NumDays	100.00	200.00
tblConstructionPhase	NumDays	10.00	1.00
tblConstructionPhase	NumDays	2.00	4.00
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	1.00	20.00
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tblFleetMix	HHD	6.5950e-003	6.1440e-003
tblFleetMix	LDA	0.47	0.48
tblFleetMix	LDA	0.47	0.48
tblFleetMix	LDT1	0.05	0.07
tblFleetMix	LDT1	0.05	0.07
tblFleetMix	LDT2	0.27	0.23
tblFleetMix	LDT2	0.27	0.23
tblFleetMix	LHD1	0.02	0.03
tblFleetMix	LHD1	0.02	0.03
tblFleetMix	LHD2	6.9960e-003	6.8790e-003

tblFleetMix	LHD2	6.9960e-003	6.8790e-003
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tblFleetMix	MCY	9.1590e-003	0.01
tblFleetMix	MDV	0.14	0.14
tblFleetMix	MDV	0.14	0.14
tblFleetMix	MH	7.9300e-004	8.4900e-004
tblFleetMix	MH	7.9300e-004	8.4900e-004
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tblFleetMix	MHD	0.02	0.02
tblFleetMix	OBUS	4.2150e-003	3.2570e-003
tblFleetMix	OBUS	4.2150e-003	3.2570e-003
tblFleetMix	SBUS	4.8800e-004	5.3900e-004
tblFleetMix	SBUS	4.8800e-004	5.3900e-004
tblFleetMix	UBUS	3.1040e-003	1.4930e-003
tblFleetMix	UBUS	3.1040e-003	1.4930e-003
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tblGrading	AcresOfGrading	10.00	0.50
tblGrading	MaterialExported	0.00	4,724.00
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tblLandUse	LandUseSquareFeet	40,656.00	19,107.00
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tblLandUse	LotAcreage	0.93	0.23
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	8.00	0.00

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tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	1.00	6.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	4.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	7.00	8.00
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tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	200.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
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tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripNumber	591.00	0.00
tblTripsAndVMT	VendorTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	12.00	0.00
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tblTripsAndVMT	WorkerTripNumber	13.00	0.00
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tblVehicleEF	LDT1	0.04	0.04
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tblVehicleEF	LDT1	0.11	0.27
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tblVehicleEF	LDT2	0.07	0.08
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tblVehicleEF	LDT2	0.06	0.31
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tblVehicleEF	LHD1	0.23	0.07
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tblVehicleEF	LHD2	0.02	0.03

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tblVehicleEF	MCY	0.45	1.88
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tblVehicleEF	MCY	0.35	0.74
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tblVehicleEF	MCY	0.45	1.88

tblVehicleEF	MCY	2.38	2.12
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tblVehicleEF	MDV	0.16	0.26
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tblVehicleEF	MDV	0.11	0.09
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	0.02	0.01
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tblVehicleEF	MDV	0.04	0.04
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tblVehicleEF	MH	57.04	17.54
tblVehicleEF	MH	0.89	0.98
tblVehicleEF	MH	0.64	0.24
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	9.6600e-004	2.5800e-004
tblVehicleEF	MH	3.2240e-003	3.2750e-003
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	8.8900e-004	2.3700e-004
tblVehicleEF	MH	0.35	0.32
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	0.15	0.14
tblVehicleEF	MH	0.05	0.04
tblVehicleEF	MH	0.01	0.77
tblVehicleEF	MH	0.25	0.09
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.4600e-004	1.7400e-004
tblVehicleEF	MH	0.35	0.32
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	0.15	0.14
tblVehicleEF	MH	0.07	0.06
tblVehicleEF	MH	0.01	0.77
tblVehicleEF	MH	0.27	0.09
tblVehicleEF	MHD	0.02	3.9700e-003
tblVehicleEF	MHD	3.9320e-003	1.8740e-003
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.37	0.39
tblVehicleEF	MHD	0.32	0.25

tblVehicleEF	MHD	5.43	1.20
tblVehicleEF	MHD	134.00	65.21
tblVehicleEF	MHD	1,183.49	1,084.56
tblVehicleEF	MHD	60.23	10.30
tblVehicleEF	MHD	0.36	0.37
tblVehicleEF	MHD	1.03	1.29
tblVehicleEF	MHD	10.26	1.64
tblVehicleEF	MHD	9.7000e-005	3.2800e-004
tblVehicleEF	MHD	2.9220e-003	6.0860e-003
tblVehicleEF	MHD	8.8000e-004	1.2600e-004
tblVehicleEF	MHD	9.3000e-005	3.1400e-004
tblVehicleEF	MHD	2.7900e-003	5.8150e-003
tblVehicleEF	MHD	8.0900e-004	1.1500e-004
tblVehicleEF	MHD	5.9400e-004	3.1700e-004
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	3.8000e-004	2.0100e-004
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.02	0.11
tblVehicleEF	MHD	0.32	0.05
tblVehicleEF	MHD	1.2910e-003	6.1900e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	6.9700e-004	1.0200e-004
tblVehicleEF	MHD	5.9400e-004	3.1700e-004
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	3.8000e-004	2.0100e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.02	0.11
tblVehicleEF	MHD	0.35	0.06

tblVehicleEF	OBUS	0.01	6.6440e-003
tblVehicleEF	OBUS	5.3730e-003	3.0880e-003
tblVehicleEF	OBUS	0.02	0.01
tblVehicleEF	OBUS	0.25	0.61
tblVehicleEF	OBUS	0.38	0.38
tblVehicleEF	OBUS	4.63	1.56
tblVehicleEF	OBUS	120.06	102.06
tblVehicleEF	OBUS	1,294.27	1,321.95
tblVehicleEF	OBUS	64.70	13.37
tblVehicleEF	OBUS	0.27	0.42
tblVehicleEF	OBUS	0.91	1.45
tblVehicleEF	OBUS	3.11	1.21
tblVehicleEF	OBUS	2.4000e-005	1.3700e-004
tblVehicleEF	OBUS	2.7730e-003	7.1910e-003
tblVehicleEF	OBUS	8.6200e-004	1.4200e-004
tblVehicleEF	OBUS	2.3000e-005	1.3100e-004
tblVehicleEF	OBUS	2.6340e-003	6.8680e-003
tblVehicleEF	OBUS	7.9200e-004	1.3100e-004
tblVehicleEF	OBUS	7.9000e-004	7.9900e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	4.1600e-004	4.0800e-004
tblVehicleEF	OBUS	0.04	0.02
tblVehicleEF	OBUS	0.02	0.14
tblVehicleEF	OBUS	0.28	0.07
tblVehicleEF	OBUS	1.1570e-003	9.6900e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.2800e-004	1.3200e-004
tblVehicleEF	OBUS	7.9000e-004	7.9900e-004
tblVehicleEF	OBUS	0.01	0.01

tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	4.1600e-004	4.0800e-004
tblVehicleEF	OBUS	0.05	0.03
tblVehicleEF	OBUS	0.02	0.14
tblVehicleEF	OBUS	0.31	0.08
tblVehicleEF	SBUS	0.85	0.09
tblVehicleEF	SBUS	0.02	0.01
tblVehicleEF	SBUS	0.06	8.8030e-003
tblVehicleEF	SBUS	12.70	3.32
tblVehicleEF	SBUS	0.92	0.91
tblVehicleEF	SBUS	12.57	1.37
tblVehicleEF	SBUS	863.34	363.12
tblVehicleEF	SBUS	867.56	1,010.61
tblVehicleEF	SBUS	86.67	6.88
tblVehicleEF	SBUS	4.52	3.40
tblVehicleEF	SBUS	2.16	4.86
tblVehicleEF	SBUS	6.82	0.66
tblVehicleEF	SBUS	4.2180e-003	4.2000e-003
tblVehicleEF	SBUS	9.3910e-003	0.01
tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	1.6480e-003	1.0600e-004
tblVehicleEF	SBUS	4.0350e-003	4.0180e-003
tblVehicleEF	SBUS	2.3480e-003	2.5730e-003
tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	1.5150e-003	9.7000e-005
tblVehicleEF	SBUS	2.7140e-003	5.5800e-004
tblVehicleEF	SBUS	0.03	7.1600e-003
tblVehicleEF	SBUS	1.53	0.40
tblVehicleEF	SBUS	1.4040e-003	2.6400e-004
tblVehicleEF	SBUS	0.08	0.10

tblVehicleEF	SBUS	0.02	0.05
tblVehicleEF	SBUS	0.61	0.05
tblVehicleEF	SBUS	8.6860e-003	3.4700e-003
tblVehicleEF	SBUS	8.4760e-003	9.7050e-003
tblVehicleEF	SBUS	1.0830e-003	6.8000e-005
tblVehicleEF	SBUS	2.7140e-003	5.5800e-004
tblVehicleEF	SBUS	0.03	7.1600e-003
tblVehicleEF	SBUS	2.22	0.57
tblVehicleEF	SBUS	1.4040e-003	2.6400e-004
tblVehicleEF	SBUS	0.10	0.13
tblVehicleEF	SBUS	0.02	0.05
tblVehicleEF	SBUS	0.67	0.06
tblVehicleEF	UBUS	0.27	0.84
tblVehicleEF	UBUS	0.04	0.01
tblVehicleEF	UBUS	3.92	5.27
tblVehicleEF	UBUS	6.89	0.82
tblVehicleEF	UBUS	2,057.40	1,802.91
tblVehicleEF	UBUS	95.96	9.26
tblVehicleEF	UBUS	6.98	3.45
tblVehicleEF	UBUS	15.02	0.10
tblVehicleEF	UBUS	0.61	0.08
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.13	7.7540e-003
tblVehicleEF	UBUS	1.0290e-003	5.0000e-005
tblVehicleEF	UBUS	0.26	0.03
tblVehicleEF	UBUS	3.0000e-003	7.8010e-003
tblVehicleEF	UBUS	0.13	7.4170e-003
tblVehicleEF	UBUS	9.4600e-004	4.6000e-005
tblVehicleEF	UBUS	1.4610e-003	4.7000e-004
tblVehicleEF	UBUS	0.03	8.2320e-003

tblVehicleEF	UBUS	8.9700e-004	3.6000e-004
tblVehicleEF	UBUS	0.38	0.01
tblVehicleEF	UBUS	7.7290e-003	0.05
tblVehicleEF	UBUS	0.52	0.06
tblVehicleEF	UBUS	0.02	0.02
tblVehicleEF	UBUS	1.0830e-003	9.2000e-005
tblVehicleEF	UBUS	1.4610e-003	4.7000e-004
tblVehicleEF	UBUS	0.03	8.2320e-003
tblVehicleEF	UBUS	8.9700e-004	3.6000e-004
tblVehicleEF	UBUS	0.69	0.86
tblVehicleEF	UBUS	7.7290e-003	0.05
tblVehicleEF	UBUS	0.57	0.06
tblVehicleTrips	ST_TR	8.19	8.38
tblVehicleTrips	SU_TR	5.95	6.09
tblVehicleTrips	WD_TR	8.17	8.36
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Year	tons/yr										MT/yr					
2022	0.2878	1.4740	1.4269	2.5200e-003	0.0623	0.0690	0.1312	0.0340	0.0662	0.1002	0.0000	208.8590	208.8590	0.0398	0.0000	209.8538
Maximum	**0.2878**	**1.4740**	**1.4269**	**2.5200e-003**	**0.0623**	**0.0690**	**0.1312**	**0.0340**	**0.0662**	**0.1002**	**0.0000**	**208.8590**	**208.8590**	**0.0398**	**0.0000**	**209.8538**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0855	0.0000	4.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.1000e-004	9.1000e-004	0.0000	0.0000	9.7000e-004
Energy	3.7600e-003	0.0342	0.0287	2.1000e-004		2.6000e-003	2.6000e-003		2.6000e-003	2.6000e-003	0.0000	49.8216	49.8216	3.5200e-003	1.2600e-003	50.2863
Mobile	0.0831	0.0874	0.6071	1.7900e-003	0.1578	1.0700e-003	0.1588	0.0423	1.0000e-003	0.0433	0.0000	143.5479	143.5479	8.0700e-003	0.0000	143.7496
Stationary	8.2000e-003	0.0229	0.0209	4.0000e-005		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	0.0000	3.8080	3.8080	5.3000e-004	0.0000	3.8213
Waste						0.0000	0.0000		0.0000	0.0000	3.1119	0.0000	3.1119	0.1839	0.0000	7.7095
Water						0.0000	0.0000		0.0000	0.0000	0.2513	0.2429	0.4942	9.2000e-004	5.6000e-004	0.6834
Total	**0.1805**	**0.1445**	**0.6572**	**2.0400e-003**	**0.1578**	**4.8800e-003**	**0.1626**	**0.0423**	**4.8100e-003**	**0.0471**	**3.3631**	**197.4213**	**200.7844**	**0.1970**	**1.8200e-003**	**206.2510**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Area	0.0855	0.0000	4.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.1000e-004	9.1000e-004	0.0000	0.0000	9.7000e-004
Energy	3.7600e-003	0.0342	0.0287	2.1000e-004		2.6000e-003	2.6000e-003		2.6000e-003	2.6000e-003	0.0000	49.8216	49.8216	3.5200e-003	1.2600e-003	50.2863
Mobile	0.0831	0.0874	0.6071	1.7900e-003	0.1578	1.0700e-003	0.1588	0.0423	1.0000e-003	0.0433	0.0000	143.5479	143.5479	8.0700e-003	0.0000	143.7496
Stationary	8.2000e-003	0.0229	0.0209	4.0000e-005		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	0.0000	3.8080	3.8080	5.3000e-004	0.0000	3.8213
Waste						0.0000	0.0000		0.0000	0.0000	3.1119	0.0000	3.1119	0.1839	0.0000	7.7095
Water						0.0000	0.0000		0.0000	0.0000	0.2513	0.2429	0.4942	9.2000e-004	5.6000e-004	0.6834
Total	**0.1805**	**0.1445**	**0.6572**	**2.0400e-003**	**0.1578**	**4.8800e-003**	**0.1626**	**0.0423**	**4.8100e-003**	**0.0471**	**3.3631**	**197.4213**	**200.7844**	**0.1970**	**1.8200e-003**	**206.2510**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/3/2022	1/3/2022	5	1	
2	Site Preparation	Site Preparation	1/3/2022	1/28/2022	5	20	
3	Grading	Grading	1/31/2022	2/3/2022	5	4	
4	Trenching	Trenching	2/2/2022	2/7/2022	5	4	
5	Building Construction	Building Construction	2/8/2022	11/14/2022	5	200	
6	Architectural Coating	Architectural Coating	11/15/2022	11/28/2022	5	10	
7	Paving	Paving	11/29/2022	12/12/2022	5	10	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 28,661; Non-Residential Outdoor: 9,554; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	0.00	81	0.73
Demolition	Rubber Tired Dozers	0	0.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Trenching	Excavators	1	8.00	158	0.38
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
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	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	0.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	0.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	HHDT

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0532	0.0000	0.0532	0.0290	0.0000	0.0290	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0131	0.1463	0.0709	1.7000e-004		6.2300e-003	6.2300e-003		5.7300e-003	5.7300e-003	0.0000	15.1153	15.1153	4.8900e-003	0.0000	15.2375
Total	**0.0131**	**0.1463**	**0.0709**	**1.7000e-004**	**0.0532**	**6.2300e-003**	**0.0595**	**0.0290**	**5.7300e-003**	**0.0348**	**0.0000**	**15.1153**	**15.1153**	**4.8900e-003**	**0.0000**	**15.2375**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.0300e-003	0.0000	9.0300e-003	4.9700e-003	0.0000	4.9700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8800e-003	0.0296	0.0192	4.0000e-005		1.3300e-003	1.3300e-003		1.2500e-003	1.2500e-003	0.0000	3.5516	3.5516	8.6000e-004	0.0000	3.5731
Total	**2.8800e-003**	**0.0296**	**0.0192**	**4.0000e-005**	**9.0300e-003**	**1.3300e-003**	**0.0104**	**4.9700e-003**	**1.2500e-003**	**6.2200e-003**	**0.0000**	**3.5516**	**3.5516**	**8.6000e-004**	**0.0000**	**3.5731**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Trenching - 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	7.3000e-004	6.9100e-003	0.0110	2.0000e-005		3.5000e-004	3.5000e-004		3.2000e-004	3.2000e-004	0.0000	1.4538	1.4538	4.7000e-004	0.0000	1.4655
Total	**7.3000e-004**	**6.9100e-003**	**0.0110**	**2.0000e-005**		**3.5000e-004**	**3.5000e-004**		**3.2000e-004**	**3.2000e-004**	**0.0000**	**1.4538**	**1.4538**	**4.7000e-004**	**0.0000**	**1.4655**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1649	1.2503	1.2726	2.2100e-003		0.0589	0.0589		0.0569	0.0569	0.0000	181.5769	181.5769	0.0316	0.0000	182.3675
Total	**0.1649**	**1.2503**	**1.2726**	**2.2100e-003**		**0.0589**	**0.0589**		**0.0569**	**0.0569**	**0.0000**	**181.5769**	**181.5769**	**0.0316**	**0.0000**	**182.3675**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 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	0.1017					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0200e-003	7.0400e-003	9.0700e-003	1.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2787
Total	**0.1027**	**7.0400e-003**	**9.0700e-003**	**1.0000e-005**		**4.1000e-004**	**4.1000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**1.2766**	**1.2766**	**8.0000e-005**	**0.0000**	**1.2787**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	3.4400e-003	0.0339	0.0440	7.0000e-005		1.7400e-003	1.7400e-003		1.6000e-003	1.6000e-003	0.0000	5.8848	5.8848	1.8700e-003	0.0000	5.9315
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total	**3.4400e-003**	**0.0339**	**0.0440**	**7.0000e-005**		**1.7400e-003**	**1.7400e-003**		**1.6000e-003**	**1.6000e-003**	**0.0000**	**5.8848**	**5.8848**	**1.8700e-003**	**0.0000**	**5.9315**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0831	0.0874	0.6071	1.7900e-003	0.1578	1.0700e-003	0.1588	0.0423	1.0000e-003	0.0433	0.0000	143.5479	143.5479	8.0700e-003	0.0000	143.7496
Unmitigated	0.0831	0.0874	0.6071	1.7900e-003	0.1578	1.0700e-003	0.1588	0.0423	1.0000e-003	0.0433	0.0000	143.5479	143.5479	8.0700e-003	0.0000	143.7496

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	234.08	234.64	170.52	427,636	427,636
Total	234.08	234.64	170.52	427,636	427,636

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	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.479119	0.070193	0.225986	0.142837	0.028110	0.006879	0.021591	0.006144	0.003257	0.001493	0.013003	0.000539	0.000849
Hotel	0.479119	0.070193	0.225986	0.142837	0.028110	0.006879	0.021591	0.006144	0.003257	0.001493	0.013003	0.000539	0.000849

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	12.5952	12.5952	2.8100e-003	5.8000e-004	12.8386
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	12.5952	12.5952	2.8100e-003	5.8000e-004	12.8386
NaturalGas Mitigated	3.7600e-003	0.0342	0.0287	2.1000e-004		2.6000e-003	2.6000e-003		2.6000e-003	2.6000e-003	0.0000	37.2264	37.2264	7.1000e-004	6.8000e-004	37.4476
NaturalGas Unmitigated	3.7600e-003	0.0342	0.0287	2.1000e-004		2.6000e-003	2.6000e-003		2.6000e-003	2.6000e-003	0.0000	37.2264	37.2264	7.1000e-004	6.8000e-004	37.4476

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	697597	3.7600e-003	0.0342	0.0287	2.1000e-004		2.6000e-003	2.6000e-003		2.6000e-003	2.6000e-003	0.0000	37.2264	37.2264	7.1000e-004	6.8000e-004	37.4476
Total		**3.7600e-003**	**0.0342**	**0.0287**	**2.1000e-004**		**2.6000e-003**	**2.6000e-003**		**2.6000e-003**	**2.6000e-003**	**0.0000**	**37.2264**	**37.2264**	**7.1000e-004**	**6.8000e-004**	**37.4476**

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	697597	3.7600e-003	0.0342	0.0287	2.1000e-004		2.6000e-003	2.6000e-003		2.6000e-003	2.6000e-003	0.0000	37.2264	37.2264	7.1000e-004	6.8000e-004	37.4476
Total		**3.7600e-003**	**0.0342**	**0.0287**	**2.1000e-004**		**2.6000e-003**	**2.6000e-003**		**2.6000e-003**	**2.6000e-003**	**0.0000**	**37.2264**	**37.2264**	**7.1000e-004**	**6.8000e-004**	**37.4476**

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	57492.5	3.3902	7.6000e-004	1.6000e-004	3.4557
Hotel	156104	9.2050	2.0500e-003	4.2000e-004	9.3829
Total		**12.5952**	**2.8100e-003**	**5.8000e-004**	**12.8386**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	57492.5	3.3902	7.6000e-004	1.6000e-004	3.4557
Hotel	156104	9.2050	2.0500e-003	4.2000e-004	9.3829
Total		**12.5952**	**2.8100e-003**	**5.8000e-004**	**12.8386**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0855	0.0000	4.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.1000e-004	9.1000e-004	0.0000	0.0000	9.7000e-004
Unmitigated	0.0855	0.0000	4.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.1000e-004	9.1000e-004	0.0000	0.0000	9.7000e-004

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	0.0102					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0753					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	0.0000	4.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.1000e-004	9.1000e-004	0.0000	0.0000	9.7000e-004
Total	**0.0855**	**0.0000**	**4.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**9.1000e-004**	**9.1000e-004**	**0.0000**	**0.0000**	**9.7000e-004**

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	0.0102					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0753					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	0.0000	4.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.1000e-004	9.1000e-004	0.0000	0.0000	9.7000e-004
Total	**0.0855**	**0.0000**	**4.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**9.1000e-004**	**9.1000e-004**	**0.0000**	**0.0000**	**9.7000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.4942	9.2000e-004	5.6000e-004	0.6834
Unmitigated	0.4942	9.2000e-004	5.6000e-004	0.6834

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	0.71027 / 0.0789188	0.4942	9.2000e-004	5.6000e-004	0.6834
Total		**0.4942**	**9.2000e-004**	**5.6000e-004**	**0.6834**

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	0.71027 / 0.0789188	0.4942	9.2000e-004	5.6000e-004	0.6834
Total		**0.4942**	**9.2000e-004**	**5.6000e-004**	**0.6834**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.1119	0.1839	0.0000	7.7095
Unmitigated	3.1119	0.1839	0.0000	7.7095

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	15.33	3.1119	0.1839	0.0000	7.7095
Total		**3.1119**	**0.1839**	**0.0000**	**7.7095**

Mitigated

	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	15.33	3.1119	0.1839	0.0000	7.7095
Total		**3.1119**	**0.1839**	**0.0000**	**7.7095**

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	0	50	200	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 (175 - 300 HP)	8.2000e-003	0.0229	0.0209	4.0000e-005		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	0.0000	3.8080	3.8080	5.3000e-004	0.0000	3.8213
Total	**8.2000e-003**	**0.0229**	**0.0209**	**4.0000e-005**		**1.2100e-003**	**1.2100e-003**		**1.2100e-003**	**1.2100e-003**	**0.0000**	**3.8080**	**3.8080**	**5.3000e-004**	**0.0000**	**3.8213**

11.0 Vegetation

160 ECR Hotel, San Bruno

San Mateo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	23.00	Space	0.00	9,811.00	0
Hotel	28.00	Room	0.23	19,107.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	130	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Assume PCE clean, using 2018 factors

Land Use - Acreage and SF provided by plans. 3 floors, subgrade parking

Construction Phase - Default construction schedule, No Demo but significant excavation. Swapped demo days and site prep

Off-road Equipment - Default consst equipment & hours

Off-road Equipment - Default consst equipment & hours; power onsite and electric crane

Off-road Equipment - Assume No Demo

Off-road Equipment - Default consst equipment & hours

Off-road Equipment - Default consst equipment & hours

Off-road Equipment - Default consst equipment & hours

Off-road Equipment - Trenching added, Default consst equipment & hours

Trips and VMT - Estimated Concrete volumes and deliveries from plans. No Ashpalt paving, all concrete.

Demolition - No Demo, Site is vacant.

Grading - Estimated from plans

Vehicle Trips - ITE LU 310 (Hotel); 10th Ed.

Vehicle Emission Factors - From EMFAC2017 for San Mateo Co; 2023

Vehicle Emission Factors -

Vehicle Emission Factors -

Energy Use -

Water And Wastewater - 100% WWTP

Construction Off-road Equipment Mitigation - Basic dust, T4 Final w/ electric crane

Stationary Sources - Emergency Generators and Fire Pumps - Assume 200 HP emergency generator.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
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	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
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	5.00
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
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
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	100.00	200.00
tblConstructionPhase	NumDays	10.00	1.00
tblConstructionPhase	NumDays	2.00	4.00
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	1.00	20.00
tblFleetMix	HHD	6.5950e-003	6.1440e-003
tblFleetMix	HHD	6.5950e-003	6.1440e-003
tblFleetMix	LDA	0.47	0.48
tblFleetMix	LDA	0.47	0.48
tblFleetMix	LDT1	0.05	0.07
tblFleetMix	LDT1	0.05	0.07
tblFleetMix	LDT2	0.27	0.23
tblFleetMix	LDT2	0.27	0.23
tblFleetMix	LHD1	0.02	0.03
tblFleetMix	LHD1	0.02	0.03
tblFleetMix	LHD2	6.9960e-003	6.8790e-003
tblFleetMix	LHD2	6.9960e-003	6.8790e-003
tblFleetMix	MCY	9.1590e-003	0.01

tblFleetMix	MCY	9.1590e-003	0.01
tblFleetMix	MDV	0.14	0.14
tblFleetMix	MDV	0.14	0.14
tblFleetMix	MH	7.9300e-004	8.4900e-004
tblFleetMix	MH	7.9300e-004	8.4900e-004
tblFleetMix	MHD	0.02	0.02
tblFleetMix	MHD	0.02	0.02
tblFleetMix	OBUS	4.2150e-003	3.2570e-003
tblFleetMix	OBUS	4.2150e-003	3.2570e-003
tblFleetMix	SBUS	4.8800e-004	5.3900e-004
tblFleetMix	SBUS	4.8800e-004	5.3900e-004
tblFleetMix	UBUS	3.1040e-003	1.4930e-003
tblFleetMix	UBUS	3.1040e-003	1.4930e-003
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tblGrading	AcresOfGrading	10.00	0.50
tblGrading	MaterialExported	0.00	4,724.00
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tblLandUse	LandUseSquareFeet	40,656.00	19,107.00
tblLandUse	LotAcreage	0.21	0.00
tblLandUse	LotAcreage	0.93	0.23
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	1.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00

tblOffRoadEquipment	UsageHours	1.00	6.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	4.00	0.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	130
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	200.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripNumber	591.00	0.00
tblTripsAndVMT	VendorTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	12.00	0.00
tblTripsAndVMT	WorkerTripNumber	2.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
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tblVehicleEF	HHD	0.25	0.17
tblVehicleEF	HHD	0.07	3.0000e-006
tblVehicleEF	HHD	1.47	5.21
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tblVehicleEF	HHD	10.35	0.03
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tblVehicleEF	HHD	1,783.55	1,647.23
tblVehicleEF	HHD	32.47	0.25
tblVehicleEF	HHD	14.52	5.38

tblVehicleEF	HHD	2.75	3.16
tblVehicleEF	HHD	16.57	2.39
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tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	7.4790e-003	0.02
tblVehicleEF	HHD	3.2500e-004	2.0000e-006
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tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.4860e-003	8.7020e-003
tblVehicleEF	HHD	7.1530e-003	0.02
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tblVehicleEF	HHD	1.6800e-004	4.0000e-006
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tblVehicleEF	HHD	1.2400e-004	2.0000e-006
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tblVehicleEF	HHD	4.9400e-004	3.0000e-006
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tblVehicleEF	LDA	0.01	9.9430e-003
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tblVehicleEF	LDT1	0.13	0.11
tblVehicleEF	LDT1	0.04	0.04
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tblVehicleEF	LDT1	0.11	0.41
tblVehicleEF	LDT1	0.10	0.25
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tblVehicleEF	LDT1	6.8200e-004	0.00
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tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.11	0.41
tblVehicleEF	LDT1	0.11	0.27
tblVehicleEF	LDT2	3.9620e-003	2.3690e-003
tblVehicleEF	LDT2	4.9310e-003	0.06
tblVehicleEF	LDT2	0.55	0.62
tblVehicleEF	LDT2	1.16	2.70
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tblVehicleEF	LDT2	0.08	0.23
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tblVehicleEF	LDT2	2.3570e-003	1.7990e-003
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tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	0.03	0.04
tblVehicleEF	LDT2	9.8320e-003	9.2710e-003
tblVehicleEF	LDT2	0.06	0.31
tblVehicleEF	LDT2	0.07	0.26
tblVehicleEF	LDT2	3.1990e-003	0.01
tblVehicleEF	LDT2	7.6200e-004	1.0200e-004
tblVehicleEF	LDT2	0.02	0.04
tblVehicleEF	LDT2	0.07	0.08
tblVehicleEF	LDT2	0.03	0.04
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.06	0.31
tblVehicleEF	LDT2	0.07	0.29
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tblVehicleEF	LHD1	30.36	11.71
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tblVehicleEF	LHD1	0.02	0.03
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tblVehicleEF	LHD1	0.26	0.38
tblVehicleEF	LHD1	0.23	0.07
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tblVehicleEF	LHD2	1.10	0.63

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tblVehicleEF	LHD2	699.24	757.38
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tblVehicleEF	LHD2	0.41	0.49
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tblVehicleEF	LHD2	0.01	0.01
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tblVehicleEF	LHD2	0.01	0.02
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tblVehicleEF	LHD2	0.06	0.22
tblVehicleEF	LHD2	0.07	0.04
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tblVehicleEF	LHD2	6.8000e-003	7.3190e-003
tblVehicleEF	LHD2	2.6000e-004	8.0000e-005
tblVehicleEF	LHD2	5.0200e-004	6.8000e-004
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.3200e-004	4.2800e-004
tblVehicleEF	LHD2	0.11	0.11
tblVehicleEF	LHD2	0.06	0.22

tblVehicleEF	LHD2	0.08	0.04
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tblVehicleEF	MCY	0.16	0.26
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tblVehicleEF	MCY	10.39	9.21
tblVehicleEF	MCY	172.84	212.96
tblVehicleEF	MCY	43.50	60.41
tblVehicleEF	MCY	1.15	1.15
tblVehicleEF	MCY	0.32	0.27
tblVehicleEF	MCY	2.0930e-003	2.1160e-003
tblVehicleEF	MCY	3.7000e-003	3.2150e-003
tblVehicleEF	MCY	1.9540e-003	1.9760e-003
tblVehicleEF	MCY	3.4740e-003	3.0180e-003
tblVehicleEF	MCY	0.60	1.23
tblVehicleEF	MCY	0.52	0.54
tblVehicleEF	MCY	0.35	0.74
tblVehicleEF	MCY	2.17	2.19
tblVehicleEF	MCY	0.45	1.88
tblVehicleEF	MCY	2.18	1.95
tblVehicleEF	MCY	2.0950e-003	2.1070e-003
tblVehicleEF	MCY	6.6900e-004	5.9800e-004
tblVehicleEF	MCY	0.60	1.23
tblVehicleEF	MCY	0.52	0.54
tblVehicleEF	MCY	0.35	0.74
tblVehicleEF	MCY	2.72	2.73
tblVehicleEF	MCY	0.45	1.88
tblVehicleEF	MCY	2.38	2.12
tblVehicleEF	MDV	6.1010e-003	2.5170e-003
tblVehicleEF	MDV	0.01	0.06
tblVehicleEF	MDV	0.73	0.63

tblVehicleEF	MDV	1.94	2.89
tblVehicleEF	MDV	421.91	355.36
tblVehicleEF	MDV	96.67	75.54
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tblVehicleEF	MDV	0.16	0.26
tblVehicleEF	MDV	1.7360e-003	1.4660e-003
tblVehicleEF	MDV	2.4070e-003	1.8650e-003
tblVehicleEF	MDV	1.6000e-003	1.3520e-003
tblVehicleEF	MDV	2.2130e-003	1.7150e-003
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	0.11	0.09
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	0.02	0.01
tblVehicleEF	MDV	0.09	0.31
tblVehicleEF	MDV	0.14	0.30
tblVehicleEF	MDV	4.2190e-003	3.5120e-003
tblVehicleEF	MDV	1.0000e-003	7.4800e-004
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	0.11	0.09
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	0.02	0.01
tblVehicleEF	MDV	0.09	0.31
tblVehicleEF	MDV	0.15	0.33
tblVehicleEF	MH	0.01	6.8080e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.97	0.59
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tblVehicleEF	MH	1,191.71	1,479.74
tblVehicleEF	MH	57.04	17.54
tblVehicleEF	MH	0.89	0.98

tblVehicleEF	MH	0.64	0.24
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	9.6600e-004	2.5800e-004
tblVehicleEF	MH	3.2240e-003	3.2750e-003
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	8.8900e-004	2.3700e-004
tblVehicleEF	MH	0.35	0.32
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	0.15	0.14
tblVehicleEF	MH	0.05	0.04
tblVehicleEF	MH	0.01	0.77
tblVehicleEF	MH	0.25	0.09
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.4600e-004	1.7400e-004
tblVehicleEF	MH	0.35	0.32
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	0.15	0.14
tblVehicleEF	MH	0.07	0.06
tblVehicleEF	MH	0.01	0.77
tblVehicleEF	MH	0.27	0.09
tblVehicleEF	MHD	0.02	3.9700e-003
tblVehicleEF	MHD	3.9320e-003	1.8740e-003
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.37	0.39
tblVehicleEF	MHD	0.32	0.25
tblVehicleEF	MHD	5.43	1.20
tblVehicleEF	MHD	134.00	65.21
tblVehicleEF	MHD	1,183.49	1,084.56
tblVehicleEF	MHD	60.23	10.30

tblVehicleEF	MHD	0.36	0.37
tblVehicleEF	MHD	1.03	1.29
tblVehicleEF	MHD	10.26	1.64
tblVehicleEF	MHD	9.7000e-005	3.2800e-004
tblVehicleEF	MHD	2.9220e-003	6.0860e-003
tblVehicleEF	MHD	8.8000e-004	1.2600e-004
tblVehicleEF	MHD	9.3000e-005	3.1400e-004
tblVehicleEF	MHD	2.7900e-003	5.8150e-003
tblVehicleEF	MHD	8.0900e-004	1.1500e-004
tblVehicleEF	MHD	5.9400e-004	3.1700e-004
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	3.8000e-004	2.0100e-004
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.02	0.11
tblVehicleEF	MHD	0.32	0.05
tblVehicleEF	MHD	1.2910e-003	6.1900e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	6.9700e-004	1.0200e-004
tblVehicleEF	MHD	5.9400e-004	3.1700e-004
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	3.8000e-004	2.0100e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.02	0.11
tblVehicleEF	MHD	0.35	0.06
tblVehicleEF	OBUS	0.01	6.6440e-003
tblVehicleEF	OBUS	5.3730e-003	3.0880e-003
tblVehicleEF	OBUS	0.02	0.01
tblVehicleEF	OBUS	0.25	0.61

tblVehicleEF	OBUS	0.38	0.38
tblVehicleEF	OBUS	4.63	1.56
tblVehicleEF	OBUS	120.06	102.06
tblVehicleEF	OBUS	1,294.27	1,321.95
tblVehicleEF	OBUS	64.70	13.37
tblVehicleEF	OBUS	0.27	0.42
tblVehicleEF	OBUS	0.91	1.45
tblVehicleEF	OBUS	3.11	1.21
tblVehicleEF	OBUS	2.4000e-005	1.3700e-004
tblVehicleEF	OBUS	2.7730e-003	7.1910e-003
tblVehicleEF	OBUS	8.6200e-004	1.4200e-004
tblVehicleEF	OBUS	2.3000e-005	1.3100e-004
tblVehicleEF	OBUS	2.6340e-003	6.8680e-003
tblVehicleEF	OBUS	7.9200e-004	1.3100e-004
tblVehicleEF	OBUS	7.9000e-004	7.9900e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	4.1600e-004	4.0800e-004
tblVehicleEF	OBUS	0.04	0.02
tblVehicleEF	OBUS	0.02	0.14
tblVehicleEF	OBUS	0.28	0.07
tblVehicleEF	OBUS	1.1570e-003	9.6900e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.2800e-004	1.3200e-004
tblVehicleEF	OBUS	7.9000e-004	7.9900e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	4.1600e-004	4.0800e-004
tblVehicleEF	OBUS	0.05	0.03
tblVehicleEF	OBUS	0.02	0.14

tblVehicleEF	OBUS	0.31	0.08
tblVehicleEF	SBUS	0.85	0.09
tblVehicleEF	SBUS	0.02	0.01
tblVehicleEF	SBUS	0.06	8.8030e-003
tblVehicleEF	SBUS	12.70	3.32
tblVehicleEF	SBUS	0.92	0.91
tblVehicleEF	SBUS	12.57	1.37
tblVehicleEF	SBUS	863.34	363.12
tblVehicleEF	SBUS	867.56	1,010.61
tblVehicleEF	SBUS	86.67	6.88
tblVehicleEF	SBUS	4.52	3.40
tblVehicleEF	SBUS	2.16	4.86
tblVehicleEF	SBUS	6.82	0.66
tblVehicleEF	SBUS	4.2180e-003	4.2000e-003
tblVehicleEF	SBUS	9.3910e-003	0.01
tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	1.6480e-003	1.0600e-004
tblVehicleEF	SBUS	4.0350e-003	4.0180e-003
tblVehicleEF	SBUS	2.3480e-003	2.5730e-003
tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	1.5150e-003	9.7000e-005
tblVehicleEF	SBUS	2.7140e-003	5.5800e-004
tblVehicleEF	SBUS	0.03	7.1600e-003
tblVehicleEF	SBUS	1.53	0.40
tblVehicleEF	SBUS	1.4040e-003	2.6400e-004
tblVehicleEF	SBUS	0.08	0.10
tblVehicleEF	SBUS	0.02	0.05
tblVehicleEF	SBUS	0.61	0.05
tblVehicleEF	SBUS	8.6860e-003	3.4700e-003
tblVehicleEF	SBUS	8.4760e-003	9.7050e-003

tblVehicleEF	SBUS	1.0830e-003	6.8000e-005
tblVehicleEF	SBUS	2.7140e-003	5.5800e-004
tblVehicleEF	SBUS	0.03	7.1600e-003
tblVehicleEF	SBUS	2.22	0.57
tblVehicleEF	SBUS	1.4040e-003	2.6400e-004
tblVehicleEF	SBUS	0.10	0.13
tblVehicleEF	SBUS	0.02	0.05
tblVehicleEF	SBUS	0.67	0.06
tblVehicleEF	UBUS	0.27	0.84
tblVehicleEF	UBUS	0.04	0.01
tblVehicleEF	UBUS	3.92	5.27
tblVehicleEF	UBUS	6.89	0.82
tblVehicleEF	UBUS	2,057.40	1,802.91
tblVehicleEF	UBUS	95.96	9.26
tblVehicleEF	UBUS	6.98	3.45
tblVehicleEF	UBUS	15.02	0.10
tblVehicleEF	UBUS	0.61	0.08
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.13	7.7540e-003
tblVehicleEF	UBUS	1.0290e-003	5.0000e-005
tblVehicleEF	UBUS	0.26	0.03
tblVehicleEF	UBUS	3.0000e-003	7.8010e-003
tblVehicleEF	UBUS	0.13	7.4170e-003
tblVehicleEF	UBUS	9.4600e-004	4.6000e-005
tblVehicleEF	UBUS	1.4610e-003	4.7000e-004
tblVehicleEF	UBUS	0.03	8.2320e-003
tblVehicleEF	UBUS	8.9700e-004	3.6000e-004
tblVehicleEF	UBUS	0.38	0.01
tblVehicleEF	UBUS	7.7290e-003	0.05
tblVehicleEF	UBUS	0.52	0.06

tblVehicleEF	UBUS	0.02	0.02
tblVehicleEF	UBUS	1.0830e-003	9.2000e-005
tblVehicleEF	UBUS	1.4610e-003	4.7000e-004
tblVehicleEF	UBUS	0.03	8.2320e-003
tblVehicleEF	UBUS	8.9700e-004	3.6000e-004
tblVehicleEF	UBUS	0.69	0.86
tblVehicleEF	UBUS	7.7290e-003	0.05
tblVehicleEF	UBUS	0.57	0.06
tblVehicleTrips	ST_TR	8.19	8.38
tblVehicleTrips	SU_TR	5.95	6.09
tblVehicleTrips	WD_TR	8.17	8.36
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2268	0.8674	0.9174	1.4300e-003	0.0623	0.0412	0.1035	0.0340	0.0395	0.0735	0.0000	114.3161	114.3161	0.0248	0.0000	114.9363
Maximum	**0.2268**	**0.8674**	**0.9174**	**1.4300e-003**	**0.0623**	**0.0412**	**0.1035**	**0.0340**	**0.0395**	**0.0735**	**0.0000**	**114.3161**	**114.3161**	**0.0248**	**0.0000**	**114.9363**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.1228	0.3358	0.8915	1.4300e-003	0.0280	1.9400e-003	0.0300	0.0153	1.9400e-003	0.0172	0.0000	114.3159	114.3159	0.0248	0.0000	114.9362
Maximum	**0.1228**	**0.3358**	**0.8915**	**1.4300e-003**	**0.0280**	**1.9400e-003**	**0.0300**	**0.0153**	**1.9400e-003**	**0.0172**	**0.0000**	**114.3159**	**114.3159**	**0.0248**	**0.0000**	**114.9362**

	ROG	NOx	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	**45.84**	**61.28**	**2.82**	**0.00**	**55.00**	**95.29**	**71.05**	**55.00**	**95.09**	**76.55**	**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	**1-3-2022**	**4-2-2022**	0.3236	0.0784
2	**4-3-2022**	**7-2-2022**	0.2430	0.1095
3	**7-3-2022**	**9-30-2022**	0.2403	0.1083
		Highest	0.3236	0.1095

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Area	0.0855	0.0000	4.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.1000e-004	9.1000e-004	0.0000	0.0000	9.7000e-004
Energy	3.7600e-003	0.0342	0.0287	2.1000e-004		2.6000e-003	2.6000e-003		2.6000e-003	2.6000e-003	0.0000	49.8216	49.8216	3.5200e-003	1.2600e-003	50.2863
Mobile	0.0831	0.0874	0.6071	1.7900e-003	0.1578	1.0700e-003	0.1588	0.0423	1.0000e-003	0.0433	0.0000	143.5479	143.5479	8.0700e-003	0.0000	143.7496
Stationary	8.2100e-003	0.0229	0.0209	4.0000e-005		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	0.0000	3.8080	3.8080	5.3000e-004	0.0000	3.8213
Waste						0.0000	0.0000		0.0000	0.0000	3.1119	0.0000	3.1119	0.1839	0.0000	7.7095
Water						0.0000	0.0000		0.0000	0.0000	0.2513	0.2429	0.4942	9.2000e-004	5.6000e-004	0.6834
Total	**0.1805**	**0.1445**	**0.6572**	**2.0400e-003**	**0.1578**	**4.8800e-003**	**0.1626**	**0.0423**	**4.8100e-003**	**0.0471**	**3.3631**	**197.4213**	**200.7844**	**0.1970**	**1.8200e-003**	**206.2510**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0855	0.0000	4.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.1000e-004	9.1000e-004	0.0000	0.0000	9.7000e-004
Energy	3.7600e-003	0.0342	0.0287	2.1000e-004		2.6000e-003	2.6000e-003		2.6000e-003	2.6000e-003	0.0000	49.8216	49.8216	3.5200e-003	1.2600e-003	50.2863
Mobile	0.0831	0.0874	0.6071	1.7900e-003	0.1578	1.0700e-003	0.1588	0.0423	1.0000e-003	0.0433	0.0000	143.5479	143.5479	8.0700e-003	0.0000	143.7496
Stationary	8.2100e-003	0.0229	0.0209	4.0000e-005		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	0.0000	3.8080	3.8080	5.3000e-004	0.0000	3.8213
Waste						0.0000	0.0000		0.0000	0.0000	3.1119	0.0000	3.1119	0.1839	0.0000	7.7095
Water						0.0000	0.0000		0.0000	0.0000	0.2513	0.2429	0.4942	9.2000e-004	5.6000e-004	0.6834
Total	**0.1805**	**0.1445**	**0.6572**	**2.0400e-003**	**0.1578**	**4.8800e-003**	**0.1626**	**0.0423**	**4.8100e-003**	**0.0471**	**3.3631**	**197.4213**	**200.7844**	**0.1970**	**1.8200e-003**	**206.2510**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/3/2022	1/3/2022	5	1	
2	Site Preparation	Site Preparation	1/3/2022	1/28/2022	5	20	
3	Grading	Grading	1/31/2022	2/3/2022	5	4	
4	Trenching	Trenching	2/2/2022	2/7/2022	5	4	
5	Building Construction	Building Construction	2/8/2022	11/14/2022	5	200	
6	Architectural Coating	Architectural Coating	11/15/2022	11/28/2022	5	10	
7	Paving	Paving	11/29/2022	12/12/2022	5	10	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 28,661; Non-Residential Outdoor: 9,554; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trenching	Excavators	1	8.00	158	0.38
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	0	0.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	0	0.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
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	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	0.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	0.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0532	0.0000	0.0532	0.0290	0.0000	0.0290	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.0131	0.1463	0.0709	1.7000e-004		6.2300e-003	6.2300e-003		5.7300e-003	5.7300e-003	0.0000	15.1153	15.1153	4.8900e-003	0.0000	15.2375
Total	**0.0131**	**0.1463**	**0.0709**	**1.7000e-004**	**0.0532**	**6.2300e-003**	**0.0595**	**0.0290**	**5.7300e-003**	**0.0348**	**0.0000**	**15.1153**	**15.1153**	**4.8900e-003**	**0.0000**	**15.2375**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					0.0240	0.0000	0.0240	0.0131	0.0000	0.0131	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1100e-003	9.1300e-003	0.0867	1.7000e-004		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	15.1153	15.1153	4.8900e-003	0.0000	15.2375
Total	**2.1100e-003**	**9.1300e-003**	**0.0867**	**1.7000e-004**	**0.0240**	**2.8000e-004**	**0.0242**	**0.0131**	**2.8000e-004**	**0.0134**	**0.0000**	**15.1153**	**15.1153**	**4.8900e-003**	**0.0000**	**15.2375**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.0300e-003	0.0000	9.0300e-003	4.9700e-003	0.0000	4.9700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8800e-003	0.0296	0.0192	4.0000e-005		1.3300e-003	1.3300e-003		1.2500e-003	1.2500e-003	0.0000	3.5516	3.5516	8.6000e-004	0.0000	3.5731
Total	**2.8800e-003**	**0.0296**	**0.0192**	**4.0000e-005**	**9.0300e-003**	**1.3300e-003**	**0.0104**	**4.9700e-003**	**1.2500e-003**	**6.2200e-003**	**0.0000**	**3.5516**	**3.5516**	**8.6000e-004**	**0.0000**	**3.5731**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					4.0600e-003	0.0000	4.0600e-003	2.2300e-003	0.0000	2.2300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7000e-004	2.0400e-003	0.0220	4.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.5516	3.5516	8.6000e-004	0.0000	3.5731
Total	**4.7000e-004**	**2.0400e-003**	**0.0220**	**4.0000e-005**	**4.0600e-003**	**6.0000e-005**	**4.1200e-003**	**2.2300e-003**	**6.0000e-005**	**2.2900e-003**	**0.0000**	**3.5516**	**3.5516**	**8.6000e-004**	**0.0000**	**3.5731**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Trenching - 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	7.3000e-004	6.9100e-003	0.0110	2.0000e-005		3.5000e-004	3.5000e-004		3.2000e-004	3.2000e-004	0.0000	1.4538	1.4538	4.7000e-004	0.0000	1.4655
Total	**7.3000e-004**	**6.9100e-003**	**0.0110**	**2.0000e-005**		**3.5000e-004**	**3.5000e-004**		**3.2000e-004**	**3.2000e-004**	**0.0000**	**1.4538**	**1.4538**	**4.7000e-004**	**0.0000**	**1.4655**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	2.0000e-004	8.8000e-004	0.0125	2.0000e-005		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	1.4538	1.4538	4.7000e-004	0.0000	1.4655
Total	**2.0000e-004**	**8.8000e-004**	**0.0125**	**2.0000e-005**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**1.4538**	**1.4538**	**4.7000e-004**	**0.0000**	**1.4655**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Off-Road	0.1039	0.6437	0.7631	1.1100e-003		0.0312	0.0312		0.0302	0.0302	0.0000	87.0340	87.0340	0.0166	0.0000	87.4501
Total	**0.1039**	**0.6437**	**0.7631**	**1.1100e-003**		**0.0312**	**0.0312**		**0.0302**	**0.0302**	**0.0000**	**87.0340**	**87.0340**	**0.0166**	**0.0000**	**87.4501**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0174	0.3197	0.7118	1.1100e-003		1.4400e-003	1.4400e-003		1.4400e-003	1.4400e-003	0.0000	87.0339	87.0339	0.0166	0.0000	87.4500
Total	**0.0174**	**0.3197**	**0.7118**	**1.1100e-003**		**1.4400e-003**	**1.4400e-003**		**1.4400e-003**	**1.4400e-003**	**0.0000**	**87.0339**	**87.0339**	**0.0166**	**0.0000**	**87.4500**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 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	0.1017					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0200e-003	7.0400e-003	9.0700e-003	1.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2787
Total	**0.1027**	**7.0400e-003**	**9.0700e-003**	**1.0000e-005**		**4.1000e-004**	**4.1000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**1.2766**	**1.2766**	**8.0000e-005**	**0.0000**	**1.2787**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1017					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5000e-004	6.4000e-004	9.1600e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2787
Total	**0.1018**	**6.4000e-004**	**9.1600e-003**	**1.0000e-005**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**1.2766**	**1.2766**	**8.0000e-005**	**0.0000**	**1.2787**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	3.4400e-003	0.0339	0.0440	7.0000e-005		1.7400e-003	1.7400e-003		1.6000e-003	1.6000e-003	0.0000	5.8848	5.8848	1.8700e-003	0.0000	5.9315
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.4400e-003**	**0.0339**	**0.0440**	**7.0000e-005**		**1.7400e-003**	**1.7400e-003**		**1.6000e-003**	**1.6000e-003**	**0.0000**	**5.8848**	**5.8848**	**1.8700e-003**	**0.0000**	**5.9315**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.0000e-004	3.4600e-003	0.0493	7.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	5.8848	5.8848	1.8700e-003	0.0000	5.9314
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.0000e-004**	**3.4600e-003**	**0.0493**	**7.0000e-005**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**5.8848**	**5.8848**	**1.8700e-003**	**0.0000**	**5.9314**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0831	0.0874	0.6071	1.7900e-003	0.1578	1.0700e-003	0.1588	0.0423	1.0000e-003	0.0433	0.0000	143.5479	143.5479	8.0700e-003	0.0000	143.7496
Unmitigated	0.0831	0.0874	0.6071	1.7900e-003	0.1578	1.0700e-003	0.1588	0.0423	1.0000e-003	0.0433	0.0000	143.5479	143.5479	8.0700e-003	0.0000	143.7496

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	234.08	234.64	170.52	427,636	427,636
Total	234.08	234.64	170.52	427,636	427,636

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	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.479119	0.070193	0.225986	0.142837	0.028110	0.006879	0.021591	0.006144	0.003257	0.001493	0.013003	0.000539	0.000849
Hotel	0.479119	0.070193	0.225986	0.142837	0.028110	0.006879	0.021591	0.006144	0.003257	0.001493	0.013003	0.000539	0.000849

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	12.5952	12.5952	2.8100e-003	5.8000e-004	12.8386
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	12.5952	12.5952	2.8100e-003	5.8000e-004	12.8386
NaturalGas Mitigated	3.7600e-003	0.0342	0.0287	2.1000e-004		2.6000e-003	2.6000e-003		2.6000e-003	2.6000e-003	0.0000	37.2264	37.2264	7.1000e-004	6.8000e-004	37.4476
NaturalGas Unmitigated	3.7600e-003	0.0342	0.0287	2.1000e-004		2.6000e-003	2.6000e-003		2.6000e-003	2.6000e-003	0.0000	37.2264	37.2264	7.1000e-004	6.8000e-004	37.4476

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	697597	3.7600e-003	0.0342	0.0287	2.1000e-004		2.6000e-003	2.6000e-003		2.6000e-003	2.6000e-003	0.0000	37.2264	37.2264	7.1000e-004	6.8000e-004	37.4476
Total		**3.7600e-003**	**0.0342**	**0.0287**	**2.1000e-004**		**2.6000e-003**	**2.6000e-003**		**2.6000e-003**	**2.6000e-003**	**0.0000**	**37.2264**	**37.2264**	**7.1000e-004**	**6.8000e-004**	**37.4476**

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	697597	3.7600e-003	0.0342	0.0287	2.1000e-004		2.6000e-003	2.6000e-003		2.6000e-003	2.6000e-003	0.0000	37.2264	37.2264	7.1000e-004	6.8000e-004	37.4476
Total		**3.7600e-003**	**0.0342**	**0.0287**	**2.1000e-004**		**2.6000e-003**	**2.6000e-003**		**2.6000e-003**	**2.6000e-003**	**0.0000**	**37.2264**	**37.2264**	**7.1000e-004**	**6.8000e-004**	**37.4476**

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	57492.5	3.3902	7.6000e-004	1.6000e-004	3.4557
Hotel	156104	9.2050	2.0500e-003	4.2000e-004	9.3829
Total		**12.5952**	**2.8100e-003**	**5.8000e-004**	**12.8386**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	57492.5	3.3902	7.6000e-004	1.6000e-004	3.4557

Hotel	156104	9.2050	2.0500e-003	4.2000e-004	9.3829
Total		**12.5952**	**2.8100e-003**	**5.8000e-004**	**12.8386**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0855	0.0000	4.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.1000e-004	9.1000e-004	0.0000	0.0000	9.7000e-004
Unmitigated	0.0855	0.0000	4.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.1000e-004	9.1000e-004	0.0000	0.0000	9.7000e-004

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	0.0102					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0753					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	0.0000	4.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.1000e-004	9.1000e-004	0.0000	0.0000	9.7000e-004

Total	**0.0855**	**0.0000**	**4.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**9.1000e-004**	**9.1000e-004**	**0.0000**	**0.0000**	**9.7000e-004**

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	0.0102					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0753					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	0.0000	4.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.1000e-004	9.1000e-004	0.0000	0.0000	9.7000e-004
Total	**0.0855**	**0.0000**	**4.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**9.1000e-004**	**9.1000e-004**	**0.0000**	**0.0000**	**9.7000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.4942	9.2000e-004	5.6000e-004	0.6834
Unmitigated	0.4942	9.2000e-004	5.6000e-004	0.6834

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	0.71027 / 0.0789188	0.4942	9.2000e-004	5.6000e-004	0.6834
Total		**0.4942**	**9.2000e-004**	**5.6000e-004**	**0.6834**

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	0.71027 / 0.0789188	0.4942	9.2000e-004	5.6000e-004	0.6834
Total		**0.4942**	**9.2000e-004**	**5.6000e-004**	**0.6834**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.1119	0.1839	0.0000	7.7095
Unmitigated	3.1119	0.1839	0.0000	7.7095

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	15.33	3.1119	0.1839	0.0000	7.7095
Total		**3.1119**	**0.1839**	**0.0000**	**7.7095**

Mitigated

	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	15.33	3.1119	0.1839	0.0000	7.7095
Total		**3.1119**	**0.1839**	**0.0000**	**7.7095**

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	0	50	200	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 (175 - 300 HP)	8.2100e-003	0.0229	0.0209	4.0000e-005		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	0.0000	3.8080	3.8080	5.3000e-004	0.0000	3.8213
Total	**8.2100e-003**	**0.0229**	**0.0209**	**4.0000e-005**		**1.2100e-003**	**1.2100e-003**		**1.2100e-003**	**1.2100e-003**	**0.0000**	**3.8080**	**3.8080**	**5.3000e-004**	**0.0000**	**3.8213**

11.0 Vegetation

Attachment 3: EMFAC2017 Calculations

CalEEMod EMFAC2017 Fleet Mix Input - 2022

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
	0.488412	0.068778	0.222494	0.139826	0.027692	0.006664	0.020733	0.006109	0.003335	0.001505	0.013108	0.000526	0.000818

CalEEMod EMFAC2017 Emission Factors Input - 2022

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.0053	0.003355	0.003921	0.03130689	0.006714	0	0	0.077785	0
A	CH4_RUNEX	0.002028	0.003279	0.002645	0.002892	0.007224	0.006302	0.004702	0.165944966	0.005076	0.843086	0.329874	0.010752	0.007821
A	CH4_STREX	0.050527	0.057799	0.062228	0.0702	0.013463	0.008137	0.01068	2.9456E-06	0.014846	0.011349	0.259736	0.008102	0.022271
A	CO_IDLEX	0	0	0	0	0.187717	0.143191	0.379501	4.861708748	0.584924	0	0	2.978992	0
A	CO_RUNEX	0.562061	0.780944	0.663709	0.686975	0.61635	0.516387	0.426299	0.999840715	0.490487	5.264473	19.01708	0.998759	0.730235
A	CO_STREX	2.271665	2.36554	2.776964	3.041029	1.080973	0.667562	1.259353	0.032571448	1.561974	0.824073	9.173957	1.262078	2.028799
A	CO2_NBIO_IDLEX	0	0	0	0	8.837961	13.62444	68.22659	986.473771	107.5351	0	0	360.0025	0
A	CO2_NBIO_RUNEX	246.9593	287.6294	306.0779	368.6606	796.6502	772.4931	1119.63	1722.894697	1354.47	1802.994	213.0842	1028.445	1502.517
A	CO2_NBIO_STREX	52.49448	61.35945	65.85557	78.54808	12.03043	8.38837	10.32902	0.239240549	13.26354	9.257118	60.80181	6.229294	18.01662
A	NOX_IDLEX	0	0	0	0	0.053477	0.087586	0.485934	5.832384319	0.543514	0	0	3.524576	0
A	NOX_RUNEX	0.035362	0.06329	0.053682	0.059453	0.523173	0.566852	1.732657	4.016591462	1.872892	3.446534	1.153943	5.242943	1.029335
A	NOX_STREX	0.186021	0.21206	0.247934	0.28588	0.3084	0.19149	1.387611	2.096419027	1.064168	0.094711	0.273469	0.61842	0.240354
A	PM10_IDLEX	0	0	0	0	0.000797	0.001354	0.000993	0.005023159	0.000792	0	0	0.004583	0
A	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034	0.059747261	0.13034	0.07505	0.01176	0.7448	0.13034
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009698	0.010679	0.012	0.034771489	0.012	0.031203	0.004	0.010398	0.013093
A	PM10_RUNEX	0.001371	0.001753	0.001479	0.001553	0.008251	0.012029	0.027834	0.033580905	0.016142	0.007755	0.002094	0.029551	0.015201
A	PM10_STREX	0.001812	0.002256	0.001869	0.001976	0.000248	0.000138	0.000127	1.55972E-06	0.000136	4.98E-05	0.003337	9.63E-05	0.000271
A	PM25_IDLEX	0	0	0	0	0.000763	0.001296	0.00095	0.00480586	0.000758	0	0	0.004385	0
A	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586	0.025605969	0.05586	0.032164	0.00504	0.3192	0.05586
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002425	0.00267	0.003	0.008692872	0.003	0.007801	0.001	0.002599	0.003273
A	PM25_RUNEX	0.001263	0.001613	0.001362	0.001432	0.007846	0.011482	0.026623	0.032128069	0.015432	0.007418	0.001956	0.028245	0.0145
A	PM25_STREX	0.001666	0.002074	0.001719	0.001817	0.000228	0.000127	0.000117	1.4341E-06	0.000125	4.58E-05	0.003138	8.85E-05	0.000249
A	ROG_DIURN	0.033615	0.049538	0.036727	0.042477	0.001287	0.000756	0.000343	3.33893E-06	0.000779	0.000376	1.245335	0.000562	0.375251
A	ROG_HTSK	0.092413	0.11617	0.086078	0.096209	0.057437	0.035349	0.01968	0.000162703	0.011962	0.006366	0.5674	0.007275	0.037561
A	ROG_IDLEX	0	0	0	0	0.021425	0.016326	0.020221	0.35879758	0.049734	0	0	0.35534	0
A	ROG_RESTL	0.033761	0.046485	0.039673	0.046363	0.000797	0.000466	0.000213	2.22513E-06	0.000395	0.000283	0.756717	0.000256	0.159322
A	ROG_RUNEX	0.007994	0.013907	0.010477	0.01188	0.080092	0.098025	0.070601	0.093141373	0.05945	0.012704	2.210717	0.109284	0.049859
A	ROG_RUNLS	0.207376	0.447641	0.314274	0.326695	0.406555	0.252418	0.115227	0.000762902	0.14074	0.040915	1.990179	0.053037	0.912145
A	ROG_STREX	0.232856	0.274996	0.284781	0.339119	0.067086	0.040376	0.056609	1.54025E-05	0.073804	0.056328	1.965768	0.046713	0.08977
A	SO2_IDLEX	0	0	0	0	8.58E-05	0.00013	0.000648	0.008851076	0.00102	0	0	0.003436	0
A	SO2_RUNEX	0.000101	0.002563	0.01069	0.003643	0.007784	0.007468	0.01069	0.014838362	0.013018	0.015212	0.002109	0.009865	0.014749
A	SO2_STREX	0	0	0.000102	0.000777	0.000119	8.3E-05	0.000102	2.36748E-06	0.000131	9.16E-05	0.000602	6.16E-05	0.000178
A	TOG_DIURN	0.033615	0.049538	0.036727	0.042477	0.001287	0.000756	0.000343	3.33893E-06	0.000779	0.000376	1.245335	0.000562	0.375251
A	TOG_HTSK	0.092413	0.11617	0.086078	0.096209	0.057437	0.035349	0.01968	0.000162703	0.011962	0.006366	0.5674	0.007275	0.037561
A	TOG_IDLEX	0	0	0	0	0.030259	0.022124	0.027388	0.423187682	0.062764	0	0	0.511212	0
A	TOG_RESTL	0.033761	0.046485	0.039673	0.046363	0.000797	0.000466	0.000213	2.22513E-06	0.000395	0.000283	0.756717	0.000256	0.159322
A	TOG_RUNEX	0.011623	0.020271	0.01525	0.017225	0.097907	0.114658	0.083195	0.268789913	0.072153	0.861211	2.749517	0.136102	0.065542
A	TOG_RUNLS	0.207376	0.447641	0.314274	0.326695	0.406555	0.252418	0.115227	0.000762902	0.14074	0.040915	1.990179	0.053037	0.912145
A	TOG_STREX	0.254947	0.301085	0.311799	0.371289	0.073451	0.044207	0.06198	1.68638E-05	0.080806	0.061672	2.139822	0.051145	0.098287

CalEEMod Construction Inputs

Phase	CalEEMod WORKER TRIPS	CalEEMod VENDOR TRIPS	Total Worker Trips	Total Vendor Trips	CalEEMod HAULING TRIPS	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class	*Worker VMT*	*Vendor VMT*	*Hauling VMT*
Demolition	5	0	5	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	54	0	0
Site Preparation	10	0	200	0	590	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2160	0	11800
Grading	10	0	40	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	432	0	0
Trenching	5	0	20	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	216	0	0
Building Construction	12	5	2400	1000	110	10.8	7.3	7.3	LD_Mix	HDT_Mix	HHDT	25920	7300	803
Architectural Coating	2	0	20	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	216	0	0
Paving	18	0	180	0	0	10.8	7.3	7.3	LD_Mix	HDT_Mix	HHDT	1944	0	0

Number of Days Per Year				
2022	1/3/22	12/12/22	344	
2023			0	
			344	**247** ***Total Workdays***

Phase	Start Date	End Date	Days/Week	Workdays
Demolition	1/3/2022	1/4/2022	5	1
Site Preparation	1/4/2022	1/28/2022	5	20
Grading	1/31/2022	2/3/2022	5	4
Trenching	2/2/2022	2/7/2022	5	4
Building Construction	2/8/2022	11/14/2022	5	200
Architectural Coating	11/15/2022	11/28/2022	5	10
Paving	11/29/2022	12/12/2022	5	10

Summary of Construction Traffic Emissions (EMFAC2017)

CATEGORY	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2
					Grams						
Hauling	1425.68	56171.26	16026.989	193.205	3768.30	1617.96	5386.3	567.01	840.54	1407.55	22404340.98
Vendor	798.69	19694.89	6444.7	87.523	2182.70	1174.37	3357.1	328.43	594.28	922.71	9460880.018
Worker	2221.14	1922.31	25831.4	103.418	9251.66	1434.43	10686.1	1392.08	595.05	1987.13	8437984.483
Total (g)	4445.51	77788.46446	48303.128	384.1464292	15202.655	4226.764796	19429.42	2287.51655	2029.875187	4317.391737	40303205.48
Total (lbs)	9.80	171.49	106.49	0.85	33.52	9.3	42.83	5.04	4.48	9.52	88853.35854
Total (tons)	0.0049	0.086	0.053	0.000	0.017	0.0047	0.0214	0.0025	0.002	0.005	44.43
Total (MT)											40.30

YEAR											
						Tons					
2022	0.0049	0.0857	0.0532	0.0004	0.0168	0.0047	0.0214	0.0025	0.0022	0.0048	40.3032

Summary of Construction Traffic Emissions (EMFAC2017)

CATEGORY	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2
					Grams						
Hauling	284.42	6955.97	3775.9404	11.391	104.65	48.35	153.0	15.75	26.61	42.36	1293712.252
Vendor	283.72	4377.98	2658.2	8.411	149.50	82.31	231.8	22.50	42.49	64.99	913722.3242
Worker	1948.94	651.82	7819.5	4.868	428.32	71.51	499.8	64.45	32.24	96.69	546635.8789
Total (g)	2517.08	11985.77558	14253.682	24.66979015	682.4675	202.1710565	884.63856	102.689675	101.3455378	204.0352128	2754070.455
Total (lbs)	5.55	26.42	31.42	0.05	1.50	0.4	1.95	0.23	0.22	0.45	6071.686028
Total (tons)	0.0028	0.013	0.016	0.000	0.001	0.0002	0.0010	0.0001	0.000	0.000	3.04
Total (MT)											2.75

YEAR											
						Tons					
2022	0.0028	0.0132	0.0157	0.0000	0.0008	0.0002	0.0010	0.0001	0.0001	0.0002	2.7541

CalEEMod EMFAC2017 Fleet Mix Input - 2023

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
	0.479119	0.070193	0.225986	0.142837	0.02811	0.006879	0.021591	0.006144	0.003257	0.001493	0.013003	0.000539	0.000849

CalEEMod EMFAC2017 Emission Factors Input - 2023

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.005074	0.003178	0.00397	0.031878574	0.006644	0	0	0.087655	0
A	CH4_RUNEX	0.001767	0.002817	0.002369	0.002517	0.006697	0.005938	0.001874	0.168411266	0.003088	0.843499	0.328042	0.010047	0.006808
A	CH4_STREX	0.046487	0.052593	0.057658	0.063773	0.012246	0.007282	0.010434	2.95572E-06	0.014832	0.011589	0.258109	0.008803	0.021514
A	CO_IDLEX	0	0	0	0	0.185918	0.141238	0.387382	5.206640438	0.608145	0	0	3.317362	0
A	CO_RUNEX	0.522776	0.706327	0.622201	0.632343	0.57409	0.490143	0.2477	0.899086849	0.375473	5.268368	18.72293	0.913898	0.586135
A	CO_STREX	2.201162	2.293745	2.697837	2.894146	1.037584	0.627422	1.204345	0.033119758	1.558668	0.823785	9.210173	1.369871	1.929089
A	CO2_NBIO_IDLEX	0	0	0	0	8.75479	13.52873	65.21084	954.7553111	102.0577	0	0	363.1241	0
A	CO2_NBIO_RUNEX	239.0651	279.4611	295.3644	355.3606	781.4948	757.376	1084.559	1647.225439	1321.948	1802.912	212.962	1010.613	1479.739
A	CO2_NBIO_STREX	50.88299	59.60361	63.52109	75.54132	11.7078	8.04936	10.30213	0.253254462	13.36919	9.260686	60.40771	6.882728	17.5384
A	NOX_IDLEX	0	0	0	0	0.051299	0.083234	0.370709	5.378779518	0.421449	0	0	3.397188	0
A	NOX_RUNEX	0.031129	0.054424	0.047058	0.050538	0.453567	0.489404	1.289089	3.161210696	1.452664	3.445593	1.151567	4.858463	0.980718
A	NOX_STREX	0.173808	0.19623	0.226642	0.256571	0.288681	0.176437	1.644712	2.387915129	1.207804	0.09674	0.273452	0.65764	0.23628
A	PM10_IDLEX	0	0	0	0	0.000817	0.001377	0.000328	0.004244138	0.000137	0	0	0.0042	0
A	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034	0.059816012	0.13034	0.07505	0.01176	0.7448	0.13034
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009737	0.01071	0.012	0.034808665	0.012	0.031203	0.004	0.010292	0.013101
A	PM10_RUNEX	0.00131	0.001628	0.001415	0.001466	0.00778	0.011827	0.006086	0.022981894	0.007191	0.007754	0.002116	0.02734	0.013876
A	PM10_STREX	0.001738	0.002113	0.001799	0.001865	0.000239	0.00013	0.000126	1.75149E-06	0.000142	4.98E-05	0.003215	0.000106	0.000258
A	PM25_IDLEX	0	0	0	0	0.000782	0.001317	0.000314	0.004060539	0.000131	0	0	0.004018	0
A	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586	0.025635434	0.05586	0.032164	0.00504	0.3192	0.05586
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002434	0.002678	0.003	0.008702166	0.003	0.007801	0.001	0.002573	0.003275
A	PM25_RUNEX	0.001206	0.001497	0.001302	0.001352	0.007396	0.011289	0.005815	0.021987553	0.006868	0.007417	0.001976	0.02613	0.013234
A	PM25_STREX	0.001598	0.001943	0.001654	0.001715	0.00022	0.00012	0.000115	1.61043E-06	0.000131	4.58E-05	0.003018	9.73E-05	0.000237
A	ROG_DIURN	0.031253	0.044594	0.035226	0.040425	0.001207	0.00068	0.000317	3.54387E-06	0.000799	0.00047	1.225431	0.000558	0.320085
A	ROG_HTSK	0.086907	0.105417	0.081448	0.090016	0.053381	0.031667	0.018405	0.000174325	0.012256	0.008232	0.54113	0.00716	0.031984
A	ROG_IDLEX	0	0	0	0	0.020605	0.015709	0.019015	0.357715857	0.046244	0	0	0.397617	0
A	ROG_RESTL	0.031723	0.04262	0.038513	0.044519	0.000757	0.000428	0.000201	2.43147E-06	0.000408	0.00036	0.73591	0.000264	0.138309
A	ROG_RUNEX	0.006839	0.011758	0.009271	0.010177	0.077455	0.096064	0.015667	0.034751764	0.021313	0.012708	2.192298	0.102471	0.044464
A	ROG_RUNLS	0.199848	0.413187	0.305478	0.312574	0.375956	0.219053	0.105712	0.000819265	0.1446	0.054396	1.878993	0.045436	0.768018
A	ROG_STREX	0.211691	0.246028	0.261302	0.303901	0.060762	0.035893	0.054457	1.5446E-05	0.073611	0.057672	1.950915	0.050686	0.085133
A	SO2_IDLEX	0	0	0	0	8.5E-05	0.000129	0.000619	0.008536055	0.000969	0	0	0.00347	0
A	SO2_RUNEX	0.0001	0.00255	0.010355	0.003512	0.007633	0.007319	0.010355	0.014077158	0.012707	0.01521	0.002107	0.009705	0.014524
A	SO2_STREX	0	0	0.000102	0.000748	0.000116	7.97E-05	0.000102	2.50616E-06	0.000132	9.16E-05	0.000598	6.81E-05	0.000174
A	TOG_DIURN	0.031253	0.044594	0.035226	0.040425	0.001207	0.00068	0.000317	3.54387E-06	0.000799	0.00047	1.225431	0.000558	0.320085
A	TOG_HTSK	0.086907	0.105417	0.081448	0.090016	0.053381	0.031667	0.018405	0.000174325	0.012256	0.008232	0.54113	0.00716	0.031984
A	TOG_IDLEX	0	0	0	0	0.029032	0.021192	0.02612	0.422580329	0.05892	0	0	0.573158	0
A	TOG_RESTL	0.031723	0.04262	0.038513	0.044519	0.000757	0.000428	0.000201	2.43147E-06	0.000408	0.00036	0.73591	0.000264	0.138309
A	TOG_RUNEX	0.009943	0.017143	0.013491	0.014756	0.094085	0.111894	0.020063	0.207509464	0.028295	0.861631	2.733575	0.127565	0.05782
A	TOG_RUNLS	0.199848	0.413187	0.305478	0.312574	0.375956	0.219053	0.105712	0.000819265	0.1446	0.054396	1.878993	0.045436	0.768018
A	TOG_STREX	0.231774	0.269369	0.286093	0.332731	0.066526	0.039298	0.059624	1.69114E-05	0.080595	0.063144	2.123956	0.055495	0.09321

Attachment 4: Construction Health Risk Calculations

160 ECR Hotel Project - San Bruno

DPM Emissions and Modeling Emission Rates - Without Controls

Construction Year	Activity	Area Source	DPM Emissions (ton/year)	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2022	Construction	DPM_CONST	0.0625	125.0	0.05625	7.09E-03	900.1	7.87E-06
				0.0	0.0000	0.0000		#DIV/0!

Construction Hours

hr/day =	9	(7am - 4pm)
days/yr =	247	
hours/year =	2223	

DPM Emissions and Modeling Emission Rates - With AQ-1 & AQ-2

Construction Year	Activity	Area Source	DPM Emissions (ton/year)	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2022	Construction	DPM_CONST	0.00216	4.3	0.00195	2.45E-04	900.1	2.72E-07
				0.0	0.0000	0.0000	0.0	#DIV/0!

Construction Hours

hr/day =	9	(7am - 4pm)
days/yr =	247	
hours/year =	2223	

160 ECR Hotel Project - San Bruno

PM2.5 Fugitive Dust Emissions for Modeling - Without Controls

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2022	Construction	PM25_Const	0.0341	68.2	0.03069	3.87E-03	900.1	4.30E-06
				0.0	0.0000	0.000000		#DIV/0!

Construction Hours

hr/day =	9	(7am - 4pm)
days/yr =	247	
hours/year =	2223	

PM2.5 Fugitive Dust Emissions for Modeling - With AQ-1 & AQ-2

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2022	Construction	PM25_Const	0.0154	30.8	0.01387	1.75E-03	900.1	1.94E-06
				0.0	0.0000	0.000000	0.0	#DIV/0!

Construction Hours

hr/day =	9	(7am - 4pm)
days/yr =	247	
hours/year =	2223	

160 ECR Hotel Project - San Bruno - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site Single Family Homes - 1.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

		Infant/Child - Exposure Information				Infant/Child	Adult - Exposure Information			Adult		Maximum	
			DPM Conc (ug/m3)		Age	Cancer	Modeled DPM Conc (ug/m3)		Age	Cancer			
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Sensitivity Factor**	**Risk (per million)**	**Year**	**Annual**	**Sensitivity Factor**	**Risk (per million)**	**HI**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	2022	0.3252	10	4.42							
1	1	0 - 1	2022	0.3252	10	53.42	2022	0.3252	1	0.93	0.065	0.5021	0.8273
2	1	1 - 2	2023	0.0000	10	0.00	2023	0.0000	1	0.00			
3	1	2 - 3	2024	0.0000	3	0.00	2024	0.0000	1	0.00			
4	1	3 - 4	2025	0.0000	3	0.00	2025	0.0000	1	0.00			
5	1	4 - 5	2026	0.0000	3	0.00	2026	0.0000	1	0.00			
6	1	5 - 6	2027	0.0000	3	0.00	2027	0.0000	1	0.00			
7	1	6 - 7	2028	0.0000	3	0.00	2028	0.0000	1	0.00			
8	1	7 - 8	2029	0.0000	3	0.00	2029	0.0000	1	0.00			
9	1	8 - 9	2030	0.0000	3	0.00	2030	0.0000	1	0.00			
10	1	9 - 10	2031	0.0000	3	0.00	2031	0.0000	1	0.00			
11	1	10 - 11	2032	0.0000	3	0.00	2032	0.0000	1	0.00			
12	1	11 - 12	2033	0.0000	3	0.00	2033	0.0000	1	0.00			
13	1	12 - 13	2034	0.0000	3	0.00	2034	0.0000	1	0.00			
14	1	13 - 14	2035	0.0000	3	0.00	2035	0.0000	1	0.00			
15	1	14 - 15	2036	0.0000	3	0.00	2036	0.0000	1	0.00			
16	1	15 - 16	2037	0.0000	3	0.00	2037	0.0000	1	0.00			
17	1	16-17	2038	0.0000	1	0.00	2038	0.0000	1	0.00			
18	1	17-18	2039	0.0000	1	0.00	2039	0.0000	1	0.00			
19	1	18-19	2040	0.0000	1	0.00	2040	0.0000	1	0.00			
20	1	19-20	2041	0.0000	1	0.00	2041	0.0000	1	0.00			
21	1	20-21	2042	0.0000	1	0.00	2042	0.0000	1	0.00			
22	1	21-22	2043	0.0000	1	0.00	2043	0.0000	1	0.00			
23	1	22-23	2044	0.0000	1	0.00	2044	0.0000	1	0.00			
24	1	23-24	2045	0.0000	1	0.00	2045	0.0000	1	0.00			
25	1	24-25	2046	0.0000	1	0.00	2046	0.0000	1	0.00			
26	1	25-26	2047	0.0000	1	0.00	2047	0.0000	1	0.00			
27	1	26-27	2048	0.0000	1	0.00	2048	0.0000	1	0.00			
28	1	27-28	2049	0.0000	1	0.00	2049	0.0000	1	0.00			
29	1	28-29	2050	0.0000	1	0.00	2050	0.0000	1	0.00			
30	1	29-30	2051	0.0000	1	0.00	2051	0.0000	1	0.00			
Total Increased Cancer Risk						**57.8**				**0.93**			

* Third trimester of pregnancy

160 ECR Hotel Project - San Bruno - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site Single Family Homes - 4.55 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

		Infant/Child - Exposure Information					Adult - Exposure Information						
			DPM Conc (ug/m3)				Modeled DPM Conc (ug/m3)					Maximum	
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Age Sensitivity Factor**	**Infant/Child Cancer Risk (per million)**	**Year**	**Annual**	**Age Sensitivity Factor**	**Adult Cancer Risk (per million)**	**HI**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	2022	0.9484	10	12.90							
1	1	0 - 1	2022	0.9484	10	155.77	2022	0.9484	1	2.72	0.190	0.4051	1.3535
2	1	1 - 2	2023	0.0000	10	0.00	2023	0.0000	1	0.00			
3	1	2 - 3	2024	0.0000	3	0.00	2024	0.0000	1	0.00			
4	1	3 - 4	2025	0.0000	3	0.00	2025	0.0000	1	0.00			
5	1	4 - 5	2026	0.0000	3	0.00	2026	0.0000	1	0.00			
6	1	5 - 6	2027	0.0000	3	0.00	2027	0.0000	1	0.00			
7	1	6 - 7	2028	0.0000	3	0.00	2028	0.0000	1	0.00			
8	1	7 - 8	2029	0.0000	3	0.00	2029	0.0000	1	0.00			
9	1	8 - 9	2030	0.0000	3	0.00	2030	0.0000	1	0.00			
10	1	9 - 10	2031	0.0000	3	0.00	2031	0.0000	1	0.00			
11	1	10 - 11	2032	0.0000	3	0.00	2032	0.0000	1	0.00			
12	1	11 - 12	2033	0.0000	3	0.00	2033	0.0000	1	0.00			
13	1	12 - 13	2034	0.0000	3	0.00	2034	0.0000	1	0.00			
14	1	13 - 14	2035	0.0000	3	0.00	2035	0.0000	1	0.00			
15	1	14 - 15	2036	0.0000	3	0.00	2036	0.0000	1	0.00			
16	1	15 - 16	2037	0.0000	3	0.00	2037	0.0000	1	0.00			
17	1	16-17	2038	0.0000	1	0.00	2038	0.0000	1	0.00			
18	1	17-18	2039	0.0000	1	0.00	2039	0.0000	1	0.00			
19	1	18-19	2040	0.0000	1	0.00	2040	0.0000	1	0.00			
20	1	19-20	2041	0.0000	1	0.00	2041	0.0000	1	0.00			
21	1	20-21	2042	0.0000	1	0.00	2042	0.0000	1	0.00			
22	1	21-22	2043	0.0000	1	0.00	2043	0.0000	1	0.00			
23	1	22-23	2044	0.0000	1	0.00	2044	0.0000	1	0.00			
24	1	23-24	2045	0.0000	1	0.00	2045	0.0000	1	0.00			
25	1	24-25	2046	0.0000	1	0.00	2046	0.0000	1	0.00			
26	1	25-26	2047	0.0000	1	0.00	2047	0.0000	1	0.00			
27	1	26-27	2048	0.0000	1	0.00	2048	0.0000	1	0.00			
28	1	27-28	2049	0.0000	1	0.00	2049	0.0000	1	0.00			
29	1	28-29	2050	0.0000	1	0.00	2050	0.0000	1	0.00			
30	1	29-30	2051	0.0000	1	0.00	2051	0.0000	1	0.00			
Total Increased Cancer Risk						**168.7**				**2.72**			

* Third trimester of pregnancy

160 ECR Hotel Project - San Bruno - Construction Impacts - With Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site Single Family Homes - 4.55 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

		Infant/Child - Exposure Information				Infant/Child	Adult - Exposure Information			Adult			
	Exposure		DPM Conc (ug/m3)		Age	Cancer	Modeled DPM Conc (ug/m3)		Age	Cancer		Maximum	
Exposure Year	Duration (years)	Age	Year	Annual	Sensitivity Factor	Risk (per million)	Year	Annual	Sensitivity Factor	Risk (per million)		Fugitive	Total
0	0.25	-0.25 - 0*	2022	0.0328	10	0.45					**HI**	**PM2.5**	**PM2.5**
1	1	0 - 1	2022	0.0328	10	5.39	2022	0.0328	1	0.09	0.007	0.1830	0.2159
2	1	1 - 2	2023	0.0000	10	0.00	2023	0.0000	1	0.00			
3	1	2 - 3	2024	0.0000	3	0.00	2024	0.0000	1	0.00			
4	1	3 - 4	2025	0.0000	3	0.00	2025	0.0000	1	0.00			
5	1	4 - 5	2026	0.0000	3	0.00	2026	0.0000	1	0.00			
6	1	5 - 6	2027	0.0000	3	0.00	2027	0.0000	1	0.00			
7	1	6 - 7	2028	0.0000	3	0.00	2028	0.0000	1	0.00			
8	1	7 - 8	2029	0.0000	3	0.00	2029	0.0000	1	0.00			
9	1	8 - 9	2030	0.0000	3	0.00	2030	0.0000	1	0.00			
10	1	9 - 10	2031	0.0000	3	0.00	2031	0.0000	1	0.00			
11	1	10 - 11	2032	0.0000	3	0.00	2032	0.0000	1	0.00			
12	1	11 - 12	2033	0.0000	3	0.00	2033	0.0000	1	0.00			
13	1	12 - 13	2034	0.0000	3	0.00	2034	0.0000	1	0.00			
14	1	13 - 14	2035	0.0000	3	0.00	2035	0.0000	1	0.00			
15	1	14 - 15	2036	0.0000	3	0.00	2036	0.0000	1	0.00			
16	1	15 - 16	2037	0.0000	3	0.00	2037	0.0000	1	0.00			
17	1	16-17	2038	0.0000	1	0.00	2038	0.0000	1	0.00			
18	1	17-18	2039	0.0000	1	0.00	2039	0.0000	1	0.00			
19	1	18-19	2040	0.0000	1	0.00	2040	0.0000	1	0.00			
20	1	19-20	2041	0.0000	1	0.00	2041	0.0000	1	0.00			
21	1	20-21	2042	0.0000	1	0.00	2042	0.0000	1	0.00			
22	1	21-22	2043	0.0000	1	0.00	2043	0.0000	1	0.00			
23	1	22-23	2044	0.0000	1	0.00	2044	0.0000	1	0.00			
24	1	23-24	2045	0.0000	1	0.00	2045	0.0000	1	0.00			
25	1	24-25	2046	0.0000	1	0.00	2046	0.0000	1	0.00			
26	1	25-26	2047	0.0000	1	0.00	2047	0.0000	1	0.00			
27	1	26-27	2048	0.0000	1	0.00	2048	0.0000	1	0.00			
28	1	27-28	2049	0.0000	1	0.00	2049	0.0000	1	0.00			
29	1	28-29	2050	0.0000	1	0.00	2050	0.0000	1	0.00			
30	1	29-30	2051	0.0000	1	0.00	2051	0.0000	1	0.00			
Total Increased Cancer Risk						**5.84**				**0.09**			

* Third trimester of pregnancy

160 ECR Hotel Project - San Bruno - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site Single Family Homes - 7.6 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

		Infant/Child - Exposure Information					Adult - Exposure Information						
			DPM Conc (ug/m3)				Modeled DPM Conc (ug/m3)					Maximum	
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Age Sensitivity Factor**	**Infant/Child Cancer Risk (per million)**	**Year**	**Annual**	**Age Sensitivity Factor**	**Adult Cancer Risk (per million)**	**HI**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	2022	0.7926	10	10.78							
1	1	0 - 1	2022	0.7926	10	130.18	2022	0.7926	1	2.28	0.159	0.0500	0.8426
2	1	1 - 2	2023	0.0000	10	0.00	2023	0.0000	1	0.00			
3	1	2 - 3	2024	0.0000	3	0.00	2024	0.0000	1	0.00			
4	1	3 - 4	2025	0.0000	3	0.00	2025	0.0000	1	0.00			
5	1	4 - 5	2026	0.0000	3	0.00	2026	0.0000	1	0.00			
6	1	5 - 6	2027	0.0000	3	0.00	2027	0.0000	1	0.00			
7	1	6 - 7	2028	0.0000	3	0.00	2028	0.0000	1	0.00			
8	1	7 - 8	2029	0.0000	3	0.00	2029	0.0000	1	0.00			
9	1	8 - 9	2030	0.0000	3	0.00	2030	0.0000	1	0.00			
10	1	9 - 10	2031	0.0000	3	0.00	2031	0.0000	1	0.00			
11	1	10 - 11	2032	0.0000	3	0.00	2032	0.0000	1	0.00			
12	1	11 - 12	2033	0.0000	3	0.00	2033	0.0000	1	0.00			
13	1	12 - 13	2034	0.0000	3	0.00	2034	0.0000	1	0.00			
14	1	13 - 14	2035	0.0000	3	0.00	2035	0.0000	1	0.00			
15	1	14 - 15	2036	0.0000	3	0.00	2036	0.0000	1	0.00			
16	1	15 - 16	2037	0.0000	3	0.00	2037	0.0000	1	0.00			
17	1	16-17	2038	0.0000	1	0.00	2038	0.0000	1	0.00			
18	1	17-18	2039	0.0000	1	0.00	2039	0.0000	1	0.00			
19	1	18-19	2040	0.0000	1	0.00	2040	0.0000	1	0.00			
20	1	19-20	2041	0.0000	1	0.00	2041	0.0000	1	0.00			
21	1	20-21	2042	0.0000	1	0.00	2042	0.0000	1	0.00			
22	1	21-22	2043	0.0000	1	0.00	2043	0.0000	1	0.00			
23	1	22-23	2044	0.0000	1	0.00	2044	0.0000	1	0.00			
24	1	23-24	2045	0.0000	1	0.00	2045	0.0000	1	0.00			
25	1	24-25	2046	0.0000	1	0.00	2046	0.0000	1	0.00			
26	1	25-26	2047	0.0000	1	0.00	2047	0.0000	1	0.00			
27	1	26-27	2048	0.0000	1	0.00	2048	0.0000	1	0.00			
28	1	27-28	2049	0.0000	1	0.00	2049	0.0000	1	0.00			
29	1	28-29	2050	0.0000	1	0.00	2050	0.0000	1	0.00			
30	1	29-30	2051	0.0000	1	0.00	2051	0.0000	1	0.00			
Total Increased Cancer Risk						**141.0**				**2.28**			

* Third trimester of pregnancy

160 ECR Hotel, San Bruno, CA

Standby Emergency Generator Impacts

Off-site Sensitive Receptors

DPM Emission Rates			
	DPM Emissions per Generator		
	Max Daily	Annual	
Source Type	(lb/day)	(lb/year)	
200- hp Generator	0.007	2.42	
CalEEMod DPM Emissions	1.21E-03	tons/year	

Modeling Information		
Model	AERMOD	
Source	Diesel Generator Engine	
Source Type	Point	
Meteorological Data	2013-2017 SFO Airport Meterological Data	
Point Source Stack Parameters		
Generator Engine Size (hp)	200	
Stack Height (ft)	12.00	near ground level release assumed
Stack Diameter (ft)**	0.60	
Exhaust Gas Flowrate (CFM)*	2527.73	
Stack Exit Velocity (ft/sec)**	149.00	
Exhaust Temperature (˚F)**	872.00	
Emissions Rate (lb/hr)	0.000276	

* AERMOD default

**BAAQMD default generator parameters

0.000

160 ECR, San Bruno, CA - Cancer Risks from Project Operation
Project Emergency Generator
Impacts at Construction MEI Receptors- 4.5m Cancer Risk MEI
Impact at Project MEI (30-year Exposure)

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor (mg/kg-day)$^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air (µg/m^3)
DBR = daily breathing rate (L/kg body weight-day
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Age	Infant/Child - Exposure Information: DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age Sensitivity Factor	Infant/Child Cancer Risk (per million)		Hazard Index	Fugitive PM2.5	Total PM2.5
0	0.25	-0.25 - 0*	2023	0.0000	10	0.00		0.0000	0.0000	0.0000
1	1	0 - 1	2023	0.0000	10	0.00		0.0000	0.0000	0.0000
2	1	1 - 2	2024	0.0005	10	0.09		0.0001	0.0000	0.0005
3	1	2 - 3	2025	0.0005	3	0.01		0.0001	0.0000	0.0005
4	1	3 - 4	2026	0.0005	3	0.01		0.0001	0.0000	0.0005
5	1	4 - 5	2027	0.0005	3	0.01		0.0001	0.0000	0.0005
6	1	5 - 6	2028	0.0005	3	0.01		0.0001	0.0000	0.0005
7	1	6 - 7	2029	0.0005	3	0.01		0.0001	0.0000	0.0005
8	1	7 - 8	2030	0.0005	3	0.01		0.0001	0.0000	0.0005
9	1	8 - 9	2031	0.0005	3	0.01		0.0001	0.0000	0.0005
10	1	9 - 10	2032	0.0005	3	0.01		0.0001	0.0000	0.0005
11	1	10 - 11	2033	0.0005	3	0.01		0.0001	0.0000	0.0005
12	1	11 - 12	2034	0.0005	3	0.01		0.0001	0.0000	0.0005
13	1	12 - 13	2035	0.0005	3	0.01		0.0001	0.0000	0.0005
14	1	13 - 14	2036	0.0005	3	0.01		0.0001	0.0000	0.0005
15	1	14 - 15	2037	0.0005	3	0.01		0.0001	0.0000	0.0005
16	1	15 - 16	2038	0.0005	3	0.01		0.0001	0.0000	0.0005
17	1	16-17	2039	0.0005	1	0.00		0.0001	0.0000	0.0005
18	1	17-18	2040	0.0005	1	0.00		0.0001	0.0000	0.0005
19	1	18-19	2041	0.0005	1	0.00		0.0001	0.0000	0.0005
20	1	19-20	2042	0.0005	1	0.00		0.0001	0.0000	0.0005
21	1	20-21	2043	0.0005	1	0.00		0.0001	0.0000	0.0005
22	1	21-22	2044	0.0005	1	0.00		0.0001	0.0000	0.0005
23	1	22-23	2045	0.0005	1	0.00		0.0001	0.0000	0.0005
24	1	23-24	2046	0.0005	1	0.00		0.0001	0.0000	0.0005
25	1	24-25	2047	0.0005	1	0.00		0.0001	0.0000	0.0005
26	1	25-26	2048	0.0005	1	0.00		0.0001	0.0000	0.0005
27	1	26-27	2049	0.0005	1	0.00		0.0001	0.0000	0.0005
28	1	27-28	2050	0.0005	1	0.00		0.0001	0.0000	0.0005
29	1	28-29	2051	0.0005	1	0.00		0.0001	0.0000	0.0005
30	1	29-30	2052	0.0005	1	0.00		0.0001	0.0000	0.0005
Total Increased Cancer Risk						**0.3**	**Max**	**0.0001**	**0.000**	**0.001**

* Third trimester of pregnancy

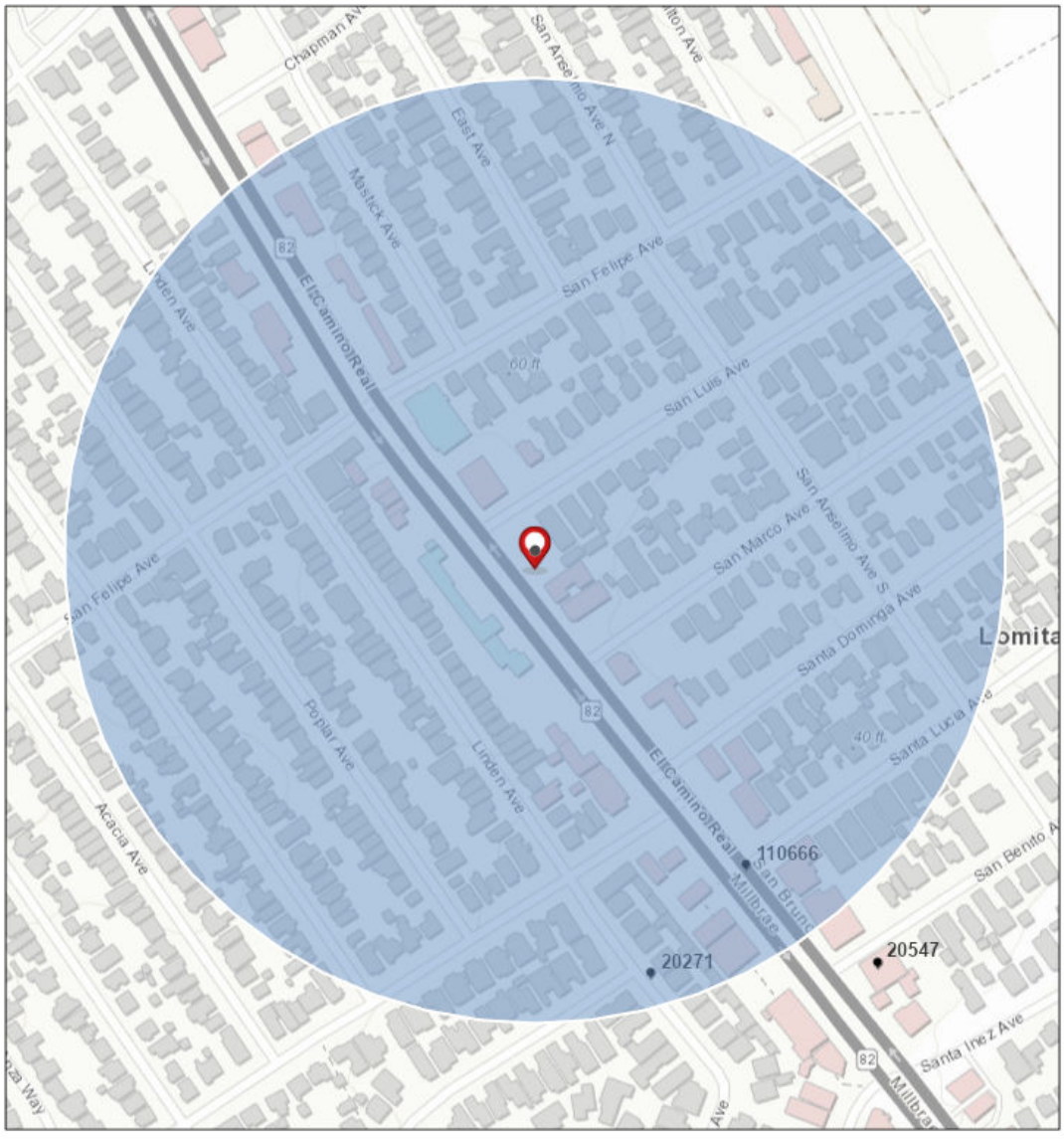
Attachment 5: Roadway and Stationary Source Emissions.

Stationary Source Risk & Hazards Screening Report

Area of Interest (AOI) Information

Area : 3,134,508.49 ft²

Dec 23 2020 11:54:39 Mountain Standard Time



Permitted Facilities 2018

1:4,514

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.19 km

Summary

Name	Count	Area(ft²)	Length(ft)
Permitted Facilities 2018	2	N/A	N/A

Permitted Facilities 2018

#	FACID	Name	Address	City	St
1	20271	Atlantic Richfield Company c/o Antea Group	1799 El Camino Real	San Bruno	CA
2	110666	ARCO Facility #00743	1799 El Camino Real	San Bruno	CA

#	Zip	County	Cancer	Hazard	PM_25	Type	Count
1	94066	San Mateo	0.030	0.000	0.010	Contact BAAQMD	1
2	94066	San Mateo	27.090	0.120	0.000	Gas Dispensing Facility	1

Note: The estimated risk and hazard impacts from these sources would be expected to be substantially lower when site specific Health Risk Screening Assessments are conducted.

The screening level map is not recommended for evaluating sensitive land uses such as schools, senior centers, day cares, and health facilities.

Road Link	Description	Direction	No. Lanes	Link Length (miles)	Link Width (ft)	Link Width (m)	Release Height (ft)	Release Height (m)	Initial Vertical Dimention (m)	Initial Vertical Dispersion (m)	Average Speed (mph)	Average Vehicles per Day
NB_ECR_DPM	Northbound El Camino Real	NW	3	0.42	36	10.97	11.15	3.4	6.8	3.16	35mph off peak, 25mph AM Peak,25mph PM peak period	18,283
SB_ECR_DPM	Southbound El Camino Real	SE	3	0.43	36	10.97	11.15	3.4	6.8	3.16	35mph off peak, 25mph AM Peak, 25mph PM peak period	18,283
NB_ECR__XXX	Northbound El Camino Real	NW	3	0.42	36	10.97	4.27	1.3	2.69	1.25	35mph off peak, 25mph AM Peak, 25mph PM peak period	18,283
SB_ECR_XXX	Southbound El Camino Real	SE	3	0.43	36	10.97	4.27	1.3	2.69	1.25	35mph off peak, 25mph AM Peak, 25mph PM peak period	18,283

Emission Factors

	Speed Category	1	2
	Travel Speed (mph)	25	35
Emisions per vehicle (g/VMT)	DPM	0.000452	0.00040
	PM2.5	0.002344	0.00161
	TOG Exhaust	0.054905	0.03669
	TOG Evap	0.04953	0.03538
	Fugitive PM2.5	0.033025	0.03303

		El Comino Real							
Vehicle Type	Truck 1 (MDT)	439			-		-	0	
	Truck 2 (HDT)	366			-		-	0	
	Non-Truck	35,761			-		-	0	
Total	2022 AADT		36,565						
	Directional Volume	**18,283**	**18,283**	-	-	**0**	**0**	**0**	**0**
	Average Veh/Hour/Dir	762	762	0	0	0	0	0	0

DPM

2022 Hourly Traffic Volumes and DPM Emisssions - Northbound El Camino Real

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01655878	303	0.000014	8	0.0536715	981	5.21708E-05	16	0.05863815	1072	5.69986E-05
1	0.01078528	197	0.000009	9	0.0546062	998	5.30794E-05	17	0.05748752	1051	5.58801E-05
2	0.00839642	154	0.000007	10	0.0545882	998	4.64878E-05	18	0.05465619	999	4.65458E-05
3	0.00836881	153	0.000007	11	0.0552139	1009	4.70207E-05	19	0.05060367	925	4.30946E-05
4	0.01459671	267	0.000012	12	0.0561483	1027	4.78164E-05	20	0.04545157	831	3.8707E-05
5	0.02962399	542	0.000025	13	0.0568503	1039	4.84143E-05	21	0.04193056	767	3.57085E-05
6	0.04544216	831	0.000039	14	0.0570254	1043	4.85634E-05	22	0.03525902	645	3.00269E-05
7	0.05207508	952	0.000044	15	0.05711	1044	4.86355E-05	23	0.02491223	455	2.12155E-05
									TOTAL	18,283	

2022 Hourly Traffic Volumes and DPM Emisssions - Southbound El Camino Real

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01655878	303	0.000014	8	0.0536715	981	5.23627E-05	16	0.05863815	1072	5.72083E-05
1	0.01078528	197	0.000009	9	0.0546062	998	5.32747E-05	17	0.05748752	1051	5.60857E-05
2	0.00839642	154	0.000007	10	0.0545882	998	4.66589E-05	18	0.05465619	999	4.6717E-05
3	0.00836881	153	0.000007	11	0.0552139	1009	4.71937E-05	19	0.05060367	925	4.32531E-05
4	0.01459671	267	0.000012	12	0.0561483	1027	4.79923E-05	20	0.04545157	831	3.88494E-05
5	0.02962399	542	0.000025	13	0.0568503	1039	4.85924E-05	21	0.04193056	767	3.58399E-05
6	0.04544216	831	0.000039	14	0.0570254	1043	4.87421E-05	22	0.03525902	645	3.01374E-05
7	0.05207508	952	0.000045	15	0.05711	1044	4.88144E-05	23	0.02491223	455	2.12936E-05
									TOTAL	18,283	

2022 Hourly Traffic Volumes and PM2.5 Emisssions - Northbound El Camino Real

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01655878	303	0.000057	8	0.0536715	981	0.000270549	16	0.05863815	1072	0.000295586
1	0.01078528	197	3.73E-05	9	0.0546062	998	0.000275261	17	0.05748752	1051	0.000289785
2	0.00839642	154	2.904E-05	10	0.0545882	998	0.000188769	18	0.05465619	999	0.000189004
3	0.00836881	153	2.894E-05	11	0.0552139	1009	0.000190933	19	0.05060367	925	0.00017499
4	0.01459671	267	5.048E-05	12	0.0561483	1027	0.000194164	20	0.04545157	831	0.000157174
5	0.02962399	542	0.0001024	13	0.0568503	1039	0.000196591	21	0.04193056	767	0.000144998
6	0.04544216	831	0.0001571	14	0.0570254	1043	0.000197197	22	0.03525902	645	0.000121928
7	0.05207508	952	0.0001801	15	0.05711	1044	0.000197489	23	0.02491223	455	8.61478E-05
									TOTAL	18,283	

2022 Hourly Traffic Volumes and PM2.5 Emisssions - Southbound El Camino Real

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01655878	303	5.747E-05	8	0.0536715	981	0.000271545	16	0.05863815	1072	0.000296673
1	0.01078528	197	3.743E-05	9	0.0546062	998	0.000276274	17	0.05748752	1051	0.000290852
2	0.00839642	154	2.914E-05	10	0.0545882	998	0.000189463	18	0.05465619	999	0.000189699
3	0.00836881	153	2.905E-05	11	0.0552139	1009	0.000191635	19	0.05060367	925	0.000175634
4	0.01459671	267	5.066E-05	12	0.0561483	1027	0.000194878	20	0.04545157	831	0.000157752
5	0.02962399	542	0.0001028	13	0.0568503	1039	0.000197315	21	0.04193056	767	0.000145532
6	0.04544216	831	0.0001577	14	0.0570254	1043	0.000197922	22	0.03525902	645	0.000122376
7	0.05207508	952	0.0002635	15	0.05711	1044	0.000198216	23	0.02491223	455	8.64647E-05
									TOTAL	18,283	

2022 Hourly Traffic Volumes and TOG Exhaust Emisssi Northbound El Camino Real

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01655878	303	0.001306	8	0.0536715	981	0.00633725	16	0.05863815	1072	0.006923691
1	0.01078528	197	0.0008509	9	0.0546062	998	0.004308359	17	0.05748752	1051	0.00678783
2	0.00839642	154	0.0006625	10	0.0545882	998	0.004306933	18	0.05465619	999	0.004312299
3	0.00836881	153	0.0006603	11	0.0552139	1009	0.004356305	19	0.05060367	925	0.003992561
4	0.01459671	267	0.0011517	12	0.0561483	1027	0.004430021	20	0.04545157	831	0.003586067
5	0.02962399	542	0.0023373	13	0.0568503	1039	0.004485413	21	0.04193056	767	0.003308264
6	0.04544216	831	0.0035853	14	0.0570254	1043	0.004499229	22	0.03525902	645	0.002781889
7	0.05207508	952	0.0041087	15	0.05711	1044	0.004505903	23	0.02491223	455	0.001965541
									TOTAL	18,283	

2022 Hourly Traffic Volumes and TOG Exhaust Emisssi Southbound El Camino Real

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01655878	303	0.0013113	8	0.0536715	981	0.006360566	16	0.05863815	1072	0.006949164
1	0.01078528	197	0.0008541	9	0.0546062	998	0.006471346	17	0.05748752	1051	0.006812803
2	0.00839642	154	0.0006649	10	0.0545882	998	0.004322779	18	0.05465619	999	0.004328165
3	0.00836881	153	0.0006627	11	0.0552139	1009	0.004372332	19	0.05060367	925	0.00400725
4	0.01459671	267	0.0011559	12	0.0561483	1027	0.00444632	20	0.04545157	831	0.003599261
5	0.02962399	542	0.0023459	13	0.0568503	1039	0.004501916	21	0.04193056	767	0.003320436
6	0.04544216	831	0.0035985	14	0.0570254	1043	0.004515782	22	0.03525902	645	0.002792124
7	0.05207508	952	0.0041238	15	0.05711	1044	0.004522481	23	0.02491223	455	0.001972772
									TOTAL	18,283	

2022 Hourly Traffic Volumes and TOG Evaporative Emi Northbound El Camino Real

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01655878	303	0.001260	8	0.0536715	981	0.005716879	16	0.05863815	1072	0.006245912
1	0.01078528	197	0.0008206	9	0.0546062	998	0.005816449	17	0.05748752	1051	0.00612335
2	0.00839642	154	0.0006388	10	0.0545882	998	0.004153231	18	0.05465619	999	0.004158406
3	0.00836881	153	0.0006367	11	0.0552139	1009	0.004200841	19	0.05060367	925	0.003850078
4	0.01459671	267	0.0011106	12	0.0561483	1027	0.004271927	20	0.04545157	831	0.003458091
5	0.02962399	542	0.0022539	13	0.0568503	1039	0.004325342	21	0.04193056	767	0.003190202
6	0.04544216	831	0.0034574	14	0.0570254	1043	0.004338665	22	0.03525902	645	0.002682611
7	0.05207508	952	0.003962	15	0.05711	1044	0.004345101	23	0.02491223	455	0.001895396
									TOTAL	18,283	

2022 Hourly Traffic Volumes and TOG Evaporative Emi Southbound El Camino Real

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01655878	303	0.0012645	8	0.0536715	981	0.005737913	16	0.05863815	1072	0.006268892
1	0.01078528	197	0.0008236	9	0.0546062	998	0.005837848	17	0.05748752	1051	0.00614588
2	0.00839642	154	0.0006412	10	0.0545882	998	0.004168512	18	0.05465619	999	0.004173706
3	0.00836881	153	0.0006391	11	0.0552139	1009	0.004216297	19	0.05060367	925	0.003864244
4	0.01459671	267	0.0011146	12	0.0561483	1027	0.004287644	20	0.04545157	831	0.003470814
5	0.02962399	542	0.0022622	13	0.0568503	1039	0.004341256	21	0.04193056	767	0.00320194
6	0.04544216	831	0.0034701	14	0.0570254	1043	0.004354627	22	0.03525902	645	0.002692481
7	0.05207508	952	0.0039766	15	0.05711	1044	0.004361087	23	0.02491223	455	0.00190237
									TOTAL	18,283	

2022 Hourly Traffic Volumes and Fugitive PM2.5 Emiss Northbound El Camino Real

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01655878	303	0.001176	8	0.0536715	981	0.003811814	16	0.05863815	1072	0.004164555
1	0.01078528	197	0.000766	9	0.0546062	998	0.003878204	17	0.05748752	1051	0.004082835
2	0.00839642	154	0.0005963	10	0.0545882	998	0.00387692	18	0.05465619	999	0.003881751
3	0.00836881	153	0.0005944	11	0.0552139	1009	0.003921363	19	0.05060367	925	0.003593936
4	0.01459671	267	0.0010367	12	0.0561483	1027	0.003987719	20	0.04545157	831	0.003228028
5	0.02962399	542	0.0021039	13	0.0568503	1039	0.004037581	21	0.04193056	767	0.002977961
6	0.04544216	831	0.0032274	14	0.0570254	1043	0.004050017	22	0.03525902	645	0.00250414
7	0.05207508	952	0.0036984	15	0.05711	1044	0.004056025	23	0.02491223	455	0.001769297
									TOTAL	18,283	

2022 Hourly Traffic Volumes and Fugitive PM2.5 Emiss Southbound El Camino Real

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01655878	303	0.0011804	8	0.0536715	981	0.003825839	16	0.05863815	1072	0.004179877
1	0.01078528	197	0.0007688	9	0.0546062	998	0.003892473	17	0.05748752	1051	0.004097857
2	0.00839642	154	0.0005985	10	0.0545882	998	0.003891184	18	0.05465619	999	0.003896033
3	0.00836881	153	0.0005965	11	0.0552139	1009	0.00393579	19	0.05060367	925	0.003607159
4	0.01459671	267	0.0010405	12	0.0561483	1027	0.004002391	20	0.04545157	831	0.003239904
5	0.02962399	542	0.0021117	13	0.0568503	1039	0.004052436	21	0.04193056	767	0.002988917
6	0.04544216	831	0.0032392	14	0.0570254	1043	0.004064918	22	0.03525902	645	0.002513353
7	0.05207508	952	0.003712	15	0.05711	1044	0.004070948	23	0.02491223	455	0.001775807
									TOTAL	18,283	

Attachment 6: Cumulative Community Health Risk Impacts Calculations

160 ECR Hotel Project - San Bruno - El Camino Real Impacts to Construction MEI
AERMOD Risk Modeling Parameters and Maximum Concentrations
2nd Floor MEI Receptors

Emissions Years	2022
Receptor Information	
Number of Receptors	
Receptor Height (in m) =	4.5 (2nd Floor)
Receptor Distances =	Construction MEI Location
Meteorological Conditions	
BAAQMD Moffett Field Met Data	2013 - 2017
Land Use Classification	urban
Wind Speed =	variable
Wind Direction =	variable

El Camino Real - Construction MEI Maximum Concentrations - Floor 2

Meteorological Data Years	TAC Concentrations (µg/m^3)		
	DPM	Exhaust TOG	Evaporative TOG
2013 - 2017	0.00296	0.36663	0.35087

Meteorological Data Years	PM2.5 Concentrations (µg/m^3)		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013 - 2017	0.32612	0.30983	0.01629

160 ECR Hotel Project - San Bruno - El Camino Real Impacts to Construction MEI
Maximum DPM Cancer Risk and PM2.5 Calculations
4.5 meter receptor height

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age --> / Parameter	3rd Trimester	0 - 2	2 - 16	16 - 30
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			TOTAL
Exposure Year	Exposure Duration (years)	Age	Year	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	
0	0.25	-0.25 - 0*	2023	10	0.0030	0.3666	0.3509	0.040	0.028	0.0016	0.07
1	1	0 - 1	2023	10	0.0030	0.3666	0.3509	0.486	0.344	0.0194	0.85
2	1	1 - 2	2024	10	0.0030	0.3666	0.3509	0.486	0.344	0.0194	0.85
3	1	2 - 3	2025	3	0.0030	0.3666	0.3509	0.077	0.054	0.0031	0.13
4	1	3 - 4	2026	3	0.0030	0.3666	0.3509	0.077	0.054	0.0031	0.13
5	1	4 - 5	2027	3	0.0030	0.3666	0.3509	0.077	0.054	0.0031	0.13
6	1	5 - 6	2028	3	0.0030	0.3666	0.3509	0.077	0.054	0.0031	0.13
7	1	6 - 7	2029	3	0.0030	0.3666	0.3509	0.077	0.054	0.0031	0.13
8	1	7 - 8	2030	3	0.0030	0.3666	0.3509	0.077	0.054	0.0031	0.13
9	1	8 - 9	2031	3	0.0030	0.3666	0.3509	0.077	0.054	0.0031	0.13
10	1	9 - 10	2032	3	0.0030	0.3666	0.3509	0.077	0.054	0.0031	0.13
11	1	10 - 11	2033	3	0.0030	0.3666	0.3509	0.077	0.054	0.0031	0.13
12	1	11 - 12	2034	3	0.0030	0.3666	0.3509	0.077	0.054	0.0031	0.13
13	1	12 - 13	2035	3	0.0030	0.3666	0.3509	0.077	0.054	0.0031	0.13
14	1	13 - 14	2036	3	0.0030	0.3666	0.3509	0.077	0.054	0.0031	0.13
15	1	14 - 15	2037	3	0.0030	0.3666	0.3509	0.077	0.054	0.0031	0.13
16	1	15 - 16	2038	3	0.0030	0.3666	0.3509	0.077	0.054	0.0031	0.13
17	1	16-17	2039	1	0.0030	0.3666	0.3509	0.008	0.006	0.0003	0.015
18	1	17-18	2040	1	0.0030	0.3666	0.3509	0.008	0.006	0.0003	0.015
19	1	18-19	2041	1	0.0030	0.3666	0.3509	0.008	0.006	0.0003	0.015
20	1	19-20	2042	1	0.0030	0.3666	0.3509	0.008	0.006	0.0003	0.015
21	1	20-21	2043	1	0.0030	0.3666	0.3509	0.008	0.006	0.0003	0.015
22	1	21-22	2044	1	0.0030	0.3666	0.3509	0.008	0.006	0.0003	0.015
23	1	22-23	2045	1	0.0030	0.3666	0.3509	0.008	0.006	0.0003	0.015
24	1	23-24	2046	1	0.0030	0.3666	0.3509	0.008	0.006	0.0003	0.015
25	1	24-25	2047	1	0.0030	0.3666	0.3509	0.008	0.006	0.0003	0.015
26	1	25-26	2048	1	0.0030	0.3666	0.3509	0.008	0.006	0.0003	0.015
27	1	26-27	2049	1	0.0030	0.3666	0.3509	0.008	0.006	0.0003	0.015
28	1	27-28	2050	1	0.0030	0.3666	0.3509	0.008	0.006	0.0003	0.015
29	1	28-29	2051	1	0.0030	0.3666	0.3509	0.008	0.006	0.0003	0.015
30	1	29-30	2052	1	0.0030	0.3666	0.3509	0.008	0.006	0.0003	0.015
Total Increased Cancer Risk								2.20	1.558	0.088	**3.8**

Maximum	
Hazard Index	**Total PM2.5 (µg/m3)**
0.0006	0.326

* Third trimester of pregnancy

Gasoline Dispensing Facility (GDF) Distance Multiplier Tool: This distance multiplier tool refines the screening values for cancer risk and chronic hazard index found in the District's Stationary Source Screening Analysis Tool for GDF's, to represent adjusted risk and hazard impacts that can be expected with farther distances from the source of emissions.

Gas Station

Distance (meters)	Distance (feet)	**Distance adjustment multiplier**	**Enter Risk or Hazard**	**Adjusted Risk or Hazard**
0	0.0	1.000		0.0000
5	16.4	1.000		0.0000
10	32.8	1.000		0.0000
15	49.2	1.000		0.0000
20	65.6	1.000		0.0000
25	82.0	0.728		0.0000
30	98.4	0.559		0.0000
35	114.8	0.445		0.0000
40	131.2	0.365		0.0000
45	147.6	0.305		0.0000
50	164.0	0.260		0.0000
55	180.4	0.225		0.0000
60	196.9	0.197		0.0000
65	213.3	0.174		0.0000
70	229.7	0.155		0.0000
75	246.1	0.139		0.0000
80	262.5	0.126		0.0000
85	278.9	0.114		0.0000
90	295.3	0.104		0.0000
95	311.7	0.096		0.0000
100	328.1	0.088		0.0000
105	344.5	0.082		0.0000
110	360.9	0.076		0.0000
115	377.3	0.071		0.0000
120	393.7	0.066		0.0000
125	410.1	0.062		0.0000
130	426.5	0.058		0.0000
135	442.9	0.055		0.0000
140	459.3	0.052		0.0000
145	475.7	0.049		0.0000
150	492.1	0.046		0.0000
155	508.5	0.044		0.0000
160	524.9	0.042		0.0000
165	541.3	0.040		0.0000
170	557.7	0.038		0.0000
175	574.1	0.036		0.0000
180	590.6	0.034		0.0000
185	607.0	0.033		0.0000
190	623.4	0.031		0.0000
195	639.8	0.030	27.09	0.8168
200	656.2	0.029		0.0000
205	672.6	0.028		0.0000
210	689.0	0.027		0.0000
215	705.4	0.026		0.0000
220	721.8	0.025		0.0000
225	738.2	0.024		0.0000
230	754.6	0.023		0.0000
235	771.0	0.022		0.0000
240	787.4	0.022		0.0000
245	803.8	0.021		0.0000
250	820.2	0.020		0.0000
255	836.6	0.020		0.0000
260	853.0	0.019		0.0000
265	869.4	0.018		0.0000
270	885.8	0.018		0.0000
275	902.2	0.017		0.0000
280	918.6	0.017		0.0000
285	935.0	0.016		0.0000
290	951.4	0.016		0.0000
295	967.8	0.015		0.0000
300	984.3	0.015		0.0000

Generic Distance Multiplier Tool: This distance multiplier tool refines the screening values to represent adjusted risk and hazard impacts that can be expected with farther distances from the source of emissions.

Generic Case

Distance (meters)	Distance (feet)	Multiplier	Enter Risk or Hazard	Adjusted Risk or Hazard	Enter PM2.5 Concentration	Adjusted PM2.5 Concentration
0	0.0	1.000		0		0
5	16.4	1.000		0		0
10	32.8	0.883		0		0
15	49.2	0.855		0		0
20	65.6	0.827		0		0
25	82.0	0.801		0		0
30	98.4	0.775		0		0
35	114.8	0.750		0		0
40	131.2	0.726		0		0
45	147.6	0.702		0		0
50	164.0	0.679		0		0
55	180.4	0.658		0		0
60	196.9	0.636		0		0
65	213.3	0.616		0		0
70	229.7	0.596		0		0
75	246.1	0.577		0		0
80	262.5	0.558		0		0
85	278.9	0.540		0		0
90	295.3	0.523		0		0
95	311.7	0.506		0		0
100	328.1	0.489		0		0
105	344.5	0.474		0		0
110	360.9	0.458		0		0
115	377.3	0.444		0		0
120	393.7	0.429		0		0
125	410.1	0.415		0		0
130	426.5	0.402		0		0
135	442.9	0.389		0		0
140	459.3	0.376		0		0
145	475.7	0.364		0		0
150	492.1	0.353		0		0
155	508.5	0.341		0		0
160	524.9	0.330		0		0
165	541.3	0.319		0		0
170	557.7	0.309		0		0
175	574.1	0.299		0		0
180	590.6	0.290		0		0
185	607.0	0.280		0		0
190	623.4	0.271		0		0
195	639.8	0.262	0.03	0.007871895	0.01	0.002623965
200	656.2	0.254		0		0
205	672.6	0.246		0		0
210	689.0	0.238		0		0
215	705.4	0.230		0		0
220	721.8	0.223		0		0
225	738.2	0.216		0		0
230	754.6	0.209		0		0
235	771.0	0.202		0		0
240	787.4	0.195		0		0
245	803.8	0.189		0		0
250	820.2	0.183		0		0
255	836.6	0.177		0		0
260	853.0	0.171		0		0
265	869.4	0.166		0		0
270	885.8	0.160		0		0
275	902.2	0.155		0		0
280	918.6	0.150		0		0
285	935.0	0.145		0		0
290	951.4	0.141		0		0
295	967.8	0.136		0		0
300	984.3	0.132		0		0