APPENDIX A

Air Quality & Greenhouse Gas Assessment

THE CARLYSLE AIR QUALITY AND GREENHOUSE GAS EMISSION ASSESSMENT

San José, California

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Prepared for:

Mike Campbell, AICP, CPSWQ
David J. Powers & Associates, Inc.
1871 The Alameda, Suite 200
San José, California 95126

Prepared by:

Casey Divine
James A. Reyff
William Popenuck

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

I&R Project: #20-021

Introduction

The purpose of this report is to address air quality, community health risk, and greenhouse gas (GHG) impacts associated with the proposed mixed-use development located on the north side of Carlysle Street, between Notre Dame Avenue and Almaden Boulevard in downtown San José, California. The air quality impacts from this project would be associated with the demolition of the existing uses at the site, construction of the new buildings and infrastructure, and operation of the project. Air pollutants and GHG emissions associated with construction and operation of the project were predicted using models. In addition, the potential project health risk impacts (includes construction and operation) and the impact of existing toxic air contaminant (TAC) sources affecting the nearby sensitive receptors were evaluated. The analysis was conducted following guidance provided by the Bay Area Air Quality Management District (BAAQMD).[1]

Project Description

The project proposes to demolish an existing 8,800 square-foot (sf) single-story commercial building and construct a 21-story building containing 123,479-sf of office space, 290 residential units, 7,603-sf of commercial retail space, and three floors of garage parking on a 0.67-acre site. The ground floor of the building would have the retail land use and some building amenities. The office land use would be located on the fifth through ninth floors, with the residential units occupying the tenth through twenty-first floors. The parking garage with 330 spaces would be located on the second, third and fourth floors. A basement floor would contain storage areas, electrical and mechanical equipment rooms, and a room with an approximately 500-kilowatt (kW), 650-horsepower (HP) emergency generator. The garage entrance driveway would be located on N. Almaden Boulevard, at the northwest corner of the building.

Setting

The project is located in Santa Clara 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 with the exception of 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

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

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.

Toxic Air Contaminants

Toxic air contaminants (TAC) 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). 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 complex 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.

Regulatory Agencies

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. These regulations include the solid waste collection vehicle (SWCV) rule, in-use public and utility fleets, and the heavy-duty diesel truck and bus regulations. In 2008, CARB approved a new regulation to reduce emissions of DPM and nitrogen oxides from existing on-road heavy-duty diesel fueled vehicles.[2] The regulation requires affected vehicles to meet specific performance requirements between 2014 and 2023, with all affected diesel vehicles required to have 2010 model-year engines or equivalent by 2023. These requirements are phased in over the compliance period and depend on the model year of the vehicle.

The BAAQMD is the regional agency tasked with managing air quality in the region. At the State level, the CARB (a part of the California Environmental Protection Agency [EPA]) oversees regional air district activities and regulates air quality at the State level. The BAAQMD has published California Environmental Quality Act (CEQA) Air Quality Guidelines that are used in this assessment to evaluate air quality impacts of projects.[3] The detailed community risk modeling methodology used in this assessment is contained in *Attachment 1*.

[2] Available online: http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm. Accessed: November 21, 2014.
[3] Bay Area Air Quality Management District. 2017. *BAAQMD CEQA Air Quality Guidelines.* May.

San José Envision 2040 General Plan

The San José Envision 2040 General Plan includes goals, policies, and actions to reduce exposure of the City's sensitive population to exposure of air pollution and toxic air contaminants or TACs. The following goals, policies, and actions are applicable to the proposed project and this assessment:

Applicable Goals – Air Pollutant Emission Reduction

Goal MS-10 Minimize emissions from new development.

Applicable Policies – Air Pollutant Emission Reduction

MS-10.1 Assess projected air emissions from new development in conformance with the Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines and relative to state and federal standards. Identify and implement feasible air emission reduction measures.

MS-10.2 Consider the cumulative air quality impacts from proposed developments for proposed land use designation changes and new development, consistent with the region's Clean Air Plan and State law.

MS-10.3 Promote the expansion and improvement of public transportation services and facilities, where appropriate, to both encourage energy conservation and reduce air pollution.

Applicable Goals – Toxic Air Contaminants

Goal MS-11 Minimize exposure of people to air pollution and toxic air contaminants such as ozone, carbon monoxide, lead, and particulate matter.

Applicable Policies – Toxic Air Contaminants

MS-11.2 For projects that emit toxic air contaminants, require project proponents to prepare health risk assessments in accordance with BAAQMD-recommended procedures as part of environmental review and employ effective mitigation to reduce possible health risks to a less than significant level. Alternatively, require new projects (such as, but not limited to, industrial, manufacturing, and processing facilities) that are sources of TACs to be located an adequate distance from residential areas and other sensitive receptors.

MS-11.5 Encourage the use of pollution absorbing trees and vegetation in buffer areas between substantial sources of TACs and sensitive land uses.

Actions – Toxic Air Contaminants

MS-11.7 Consult with BAAQMD to identify stationary and mobile TAC sources and determine the need for and requirements of a health risk assessment for proposed developments.

MS-11.8 For new projects that generate truck traffic, require signage which reminds drivers that the State truck idling law limits truck idling to five minutes.

Downtown Strategy 2040 Plan

The San José Downtown Strategy (DTS) 2040 Plan is an urban design plan that guides development activities planned within the Downtown area. This strategy would increase the amount of new commercial office by an additional three million -sf (approximately 10,000 jobs with the new total being 14.2 million -sf of commercial by the year 2040. The residential capacity would be increased up to 4,360 units. The amount of new retail development (1.4 million sq. ft.) and hotel room (3,600 rooms) capacities of the Downtown Strategy 2000 would be maintained. The integrated Final Environmental Impact Report was published December 2018.

The DTS identified less-than-significant construction period emissions if development projects are in conformance with 2017 BAAQMD CEQA Guidelines, GP Policy MS-13.1, and current City requirements that include various levels of construction emissions control measures. All projects are required to implement the following control measures:

City requirements, all projects will be required to implement the following control measures:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- 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.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- 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.
- 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). Clear signage shall be provided for construction workers at all access points.

- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
- 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.

Future projects developed under the DTS that incorporate these measures and are below the screening levels would not result in a significant impact related to construction emissions of regional criteria pollutants. Projects that exceed the screening levels would be required to complete additional project level analysis of construction-related emissions of criteria pollutants and may require additional measures to ensure that construction emissions would not exceed the threshold for average daily emissions. ***The proposed project exceeds these screening thresholds, and therefore, an analysis of construction emissions was conducted.***

Operational emissions of regional criteria air pollutants with measures included to reduce emissions under the DTS were identified as significant and unavoidable. To reduce operational emissions associated with vehicle travel, future development will be required to implement a transportation demand management (TDM) program, consistent with the Downtown Transportation Plan.

The TDM programs may incorporate, but would not be limited to, the following Transportation Control Measures (TCMs):

- Rideshare Measures:
- Implement carpool/vanpool program (e.g., carpool ride matching for employees, assistance with vanpool formation, provision of vanpool vehicles, etc.)
- Transit Measures:
- Construct transit facilities such as bus turnouts/bus bulbs, benches, shelters, etc.
- Design and locate buildings to facilitate transit access (e.g., locate building entrances near transit stops, eliminate building setbacks, etc.)
- Services Measures:
- Provide on-site shops and services for employees, such as cafeteria, bank/ATM, dry cleaners, convenience market, etc.;
- Provide on-site child care or contribute to off-site childcare within walking distance.
- Shuttle Measures:
- Establish mid-day shuttle service from work site to food service establishments/commercial areas;
- Provide shuttle service to transit stations/multimodal centers
- Parking Measures:
- Provide preferential parking (e.g., near building entrance, sheltered area, etc.) for carpool and vanpool vehicles;
- Implement parking fees for single occupancy vehicle commuters;

- Implement parking cash-out program for employees (i.e., non-driving employees receive transportation allowance equivalent to value of subsidized parking);
- Bicycle and Pedestrian Measures:
- Provide secure, weather-protected bicycle parking for employees;
- Provide safe, direct access for bicyclists to adjacent bicycle routes;
- Provide showers and lockers for employees bicycling or walking to work;
- Provide secure short-term bicycle parking for retail customers or non-commute trips;
- Provide direct, safe, attractive pedestrian access from Planning Area to transit stops and adjacent development;
- Other Measures:
- Implement compressed work week schedule (e.g., 4 days/40 hours, 9 days/80 hours);
- Implement home-based telecommuting program.

During project-level supplemental review of future individual development projects, the measures will be evaluated for consistency with the Downtown Strategy 2040 and General Plan policies. All feasible and applicable measures will be required as part of project design or as conditions of approval.

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 project would introduce new sensitive receptors to the area. The closest sensitive receptors to the project site are multi-family residences to the south of the project site opposite Carlysle Street and multi-family residences to the east of the project site opposite Notre Dame Avenue. Additional existing and future single- and multi-family residences are located at further distance.

Significance Thresholds

In June 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under 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 Air Quality Significance 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	*Evaluated in DTS DEIR*	
NO_x	54		
PM_{10}	82 (Exhaust)		
$PM_{2.5}$	54 (Exhaust)		
CO	Not Applicable		
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 µg/m^3	>0.8 µg/m^3	
Greenhouse Gas Emissions			
Land Use Projects – direct and indirect emissions	*Evaluated in DTS DEIR*		

Note: ROG = reactive organic gases, NOx = nitrogen oxides, PM_{10} = course particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, $PM_{2.5}$ = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less. GHG = greenhouse gases.

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 federal or state 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 construction and operation of the site assuming full build-out of the project. The project land use types and size, and anticipated construction schedule were input to CalEEMod. The model output from CalEEMod along with construction inputs are included as *Attachment 2*.

Land Use Inputs

The project includes rentable office space, common interior areas, retail space, and outdoor amenity spaces on several floors. The proposed project land uses were input into CalEEMod as follows:

- 290 dwelling units and 348,435-sf[4] entered as "Apartments High Rise" on 0.67 acres,
- 123,479-sf entered as "General Office Building",
- 7,603-sf entered as "Strip Mall" to represent the proposed retail, and
- 330 spaces and 78,232-sf entered as "Enclosed Parking with Elevator".

Construction Inputs

CalEEMod computes annual emissions for construction that are based on the project type, size and acreage. Inputs to CalEEMod were developed that take into account demolition of the on-site uses, excavation, and the tall building construction. CalEEMod 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 information provided by the project applicant.

[4] The 348,435-sf includes 230,073-sf for the residential use and 118,362-sf for the amenities/outdoor/BOH use.

Construction phases include demolition/site preparation, shoring/grading/excavation, below slab utilities, foundation/structure, exterior building construction, and interior building/architectural coatings. For demolition, it was estimated that 8,800-sf of existing building and 320 tons of pavement materials would be demolished and hauled from the site. For grading, 12,500 cubic yards of exported material would be excavated and hauled from the site. Additionally, 2,400 total round cement truck trips were included in the model's exterior building construction vendor trips.

The construction equipment worksheet provided included the schedule for each phase. Within each phase, the quantity of equipment to be used along with the average hours per day and total number of workdays was provided. Since different equipment would have different estimates of the working days per phase, the hours per day for each phase was computed by dividing the total number of hours that the equipment would be used by the total number of days in that phase. The construction schedule assumed that the earliest possible start date would be January 2021 and the project would be built out over a period of approximately 25 months, or 545 construction workdays. The first year of operation was assumed to be 2023.

CalEEMod predicted the amount of worker traffic, vendor trips, and haul trips. Haul trips were computed by CalEEMod based on the amount of demolition material and excavated dirt that would be hauled from the site. CalEEMod assumes haul trip lengths of 20 miles

Summary of Computed Construction Period Emissions

Annual emissions were predicted using CalEEMod and the estimated 545 construction workdays. Average daily emissions were computed by dividing the total construction emissions by the number of construction days. Table 2 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 2, predicted construction period emissions would not exceed the BAAQMD significance thresholds. Additionally, the DTS control measures requires to implement best management practices to control dust and exhaust during construction. Therefore, air pollutant emissions from the project would be further reduced.

Table 2. Construction Period Emissions

Scenario	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Total construction emissions (tons)	4.0 tons	6.6 tons	0.2 tons	0.2 tons
Average daily emissions (pounds)[1]	**14.5 lbs./day**	**24.2 lbs./day**	**0.8 lbs./day**	**0.8 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

[1]Assumes 545 workdays.

Operational Period Emissions

The impact of operational emissions was addressed in the DTS DEIR and found to be significant and unavoidable. Emissions from the project were computed for information purposes. Operational air emissions from the project would be generated primarily from autos driven by future residents, employees, customers, and vendors. 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.

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.

Operational Trip Generation Rates

CalEEMod allows the user to enter specific vehicle trip generation rates. Therefore, the project-specific daily trip generation rate provided by the traffic consultant was entered into the model. The daily trip rate, depending on the land use type, accounted for the housing & retail mixed-use reduction, housing & employment mixed-use reduction, employment & retail mixed-use reduction, VMT reduction, and the location-based reduction.[5] For each land use type, the forecasted daily trip rate with trip reductions applied was divided by the quantity of that land use to identify the weekday daily trip rate. The 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. Note that the project may implement a transportation demand management (TDM) program; however, the effects of a TDM program were not included in the operational analysis.

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 PG&E's 2008 emissions rate. PG&E published 2015 emissions rates for 2009 through 2015, which showed the emission rate for delivered electricity had been reduced to 405 pounds CO_2 per megawatt of electricity delivered.[6] The projected GHG intensity factor for the year 2020 is 290 pounds of CO_2 per megawatt of electricity produced, which was input to the model.[7] The project would use electricity supplied by San José Clean Energy (SJCE) that will be 100-percent carbon free by 2021 before the project becomes operational.[8]

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[5] Hexagon Transportation Consultants, Inc., 2020, *Carlysle Mixed-Use Development Local Transportation Analysis*. January.
[6] PG&E 2017. Climate Change. See http://www.pgecorp.com/corp_responsibility/reports/2017/en02_climate_change.html accessed March 13, 2018.
[7] PG&E. 2015. Greenhouse Gas Emission Factors: Guidance for PG&E Customers See: https://www.ca-ilg.org/sites/main/files/file-attachments/ghg_emission_factor_guidance.pdf
[8] Kerrie Romanow and Rosalynn Hughey, 2019. *Building reach Code for New Construction Memorandum*. August. Web: https://sanJose.legistar.com/LegislationDetail.aspx?ID=4090015&GUID=278596A7-1A2B-4248-B794-7A34E2279E85

Project Generators

The project would include one emergency generator on the basement-level in the northwest corner of the project. The generator would be powered by a diesel engine and its preliminary size would be approximately 500-kW and 650-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

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. All hearths were assumed to be gas powered.

Existing Uses

A CalEEMod model run was developed to compute emissions from use of the existing building as if it was operating in 2023. Inputs for this modeling scenario included 9,000-sf entered as "Strip Mall" and 0.46-acres entered as "Parking Lot". These inputs were applied to the modeling in the same manner described for the proposed project. Historical energy usage rates were assigned by CalEEMod.

Summary of Computed Operational Emissions

As shown in Table 3, operational emissions would not exceed the BAAQMD significance thresholds.

Table 3. Operational Period Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
2023 Project Operational Emissions (*tons/year*)	2.6 tons	1.6 tons	1.4 tons	0.4 tons
2023 Existing Site Operational Emissions (tons/year)	0.1 tons	0.2 tons	0.2 tons	<0.1 tons
Net Annual Emissions (*tons/year*)	2.5 tons	1.4 tons	1.2 tons	0.4 tons
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Threshold?	*No*	*No*	*No*	*No*
2023 Project Operational Emissions (*lbs/day*)[1]	13.9 lbs.	7.5 lbs.	6.6 lbs.	1.9 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 with the potential to adversely affect existing sensitive receptors in the project vicinity or by significantly exacerbating existing cumulative TAC impacts. This project would introduce new sources of TACs during construction (i.e. on-site construction and truck hauling emissions) and operation (i.e. emergency diesel generators and project traffic).

Project construction activity would generate dust and equipment exhaust that would affect nearby sensitive receptors. Project operation would increase traffic in the area that would increase the air pollutant and TAC emissions. In addition, the project would include the installation of an emergency generator powered by a diesel engine that would also have emissions of TACs and air pollutants.

Project impacts to existing sensitive receptors were addressed for temporary construction activities and long-term operational conditions. There are also several sources of existing TACs and localized air pollutants in the vicinity of the project. The impact of the existing sources of TAC was also assessed in terms of the cumulative risk that includes the project contribution.

The project would introduce new residents that are sensitive receptors. There are also several sources of TACs and localized air pollutants in the vicinity of the project. The impact of the existing TACs upon the new incoming sensitive receptors was assessed.

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

Community Risks from Project Construction

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 2) that construction exhaust air pollutant emissions would not be considered to 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 risk impact issues associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A health risk assessment of the project construction activities was conducted that evaluated potential health effects to nearby sensitive receptors from construction emissions of DPM and $PM_{2.5}$.[9] This assessment included dispersion modeling to predict the off-site concentrations resulting from project construction, so that increased cancer risks and non-cancer health effects could be evaluated.

[9] DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.

Construction Emissions

The CalEEMod model provided total annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles, with total emissions from all construction stages of 0.2053 tons (411 pounds). The on-road emissions are a result of haul truck travel during demolition and grading activities, worker travel, and vendor deliveries during construction. A trip length of one mile was used to represent vehicle travel while at or near the construction site. Fugitive $PM_{2.5}$ dust emissions were calculated by CalEEMod as 0.0540 tons (108 pounds) for the overall construction period.

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict concentrations of DPM and $PM_{2.5}$ concentrations at sensitive receptors (residences) in the vicinity of the project construction area. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.[10] Emission sources for the construction site were grouped into two categories: exhaust emissions of DPM and fugitive $PM_{2.5}$ dust emissions. Combustion equipment exhaust emissions were modeled as a series of point sources with a nine-foot release height (construction equipment exhaust stack height) placed at 20-feet (5-meter) intervals throughout the construction site. This resulted in 112 individual point sources being used to represent mobile equipment DPM exhaust emissions in the construction area, with DPM emissions occurring throughout the project construction site. Construction fugitive $PM_{2.5}$ dust emissions were modeled as an area source encompassing the entire construction site with a near ground level release height of two meters. Construction emissions were modeled as occurring daily between 7 a.m. to 7 p.m. per the project applicant's construction schedule.

Since there are a number of tall buildings adjacent to or in close proximity to the project construction site, the effects of building downwash on the construction equipment exhaust plumes were also included in the modeling analysis. The locations of the point sources used for the modeling and the buildings that were evaluated for potential downwash effects are identified in Figure 1.

The modeling used a 5-year meteorological data set (2013-2017) from the San José International Airport prepared for use with the AERMOD model by the BAAQMD. Annual DPM and $PM_{2.5}$ concentrations from construction activities during the 2021-2023 period were calculated using the model. DPM and $PM_{2.5}$ concentrations were calculated at nearby sensitive receptor locations. Receptor heights of 5 feet (1.5 meters), 15 feet (4.5 meters), 20 feet (6.1 meters), 25 feet (7.6 meters), 30 feet (9.1 meters), and 35 feet (10.7 meters) were used to represent the breathing heights of residents in nearby multi-story, mixed-used residential developments and single-family homes. These breathing heights account for residents occupying the second, third, and fourth floors of the multi-story, mixed-used developments and the first floors of the single-family homes.

The cancer risk calculations were based on applying the BAAQMD recommended age sensitivity factors to the TAC concentrations, as described in *Attachment 1*. Age-sensitivity factors reflect the

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

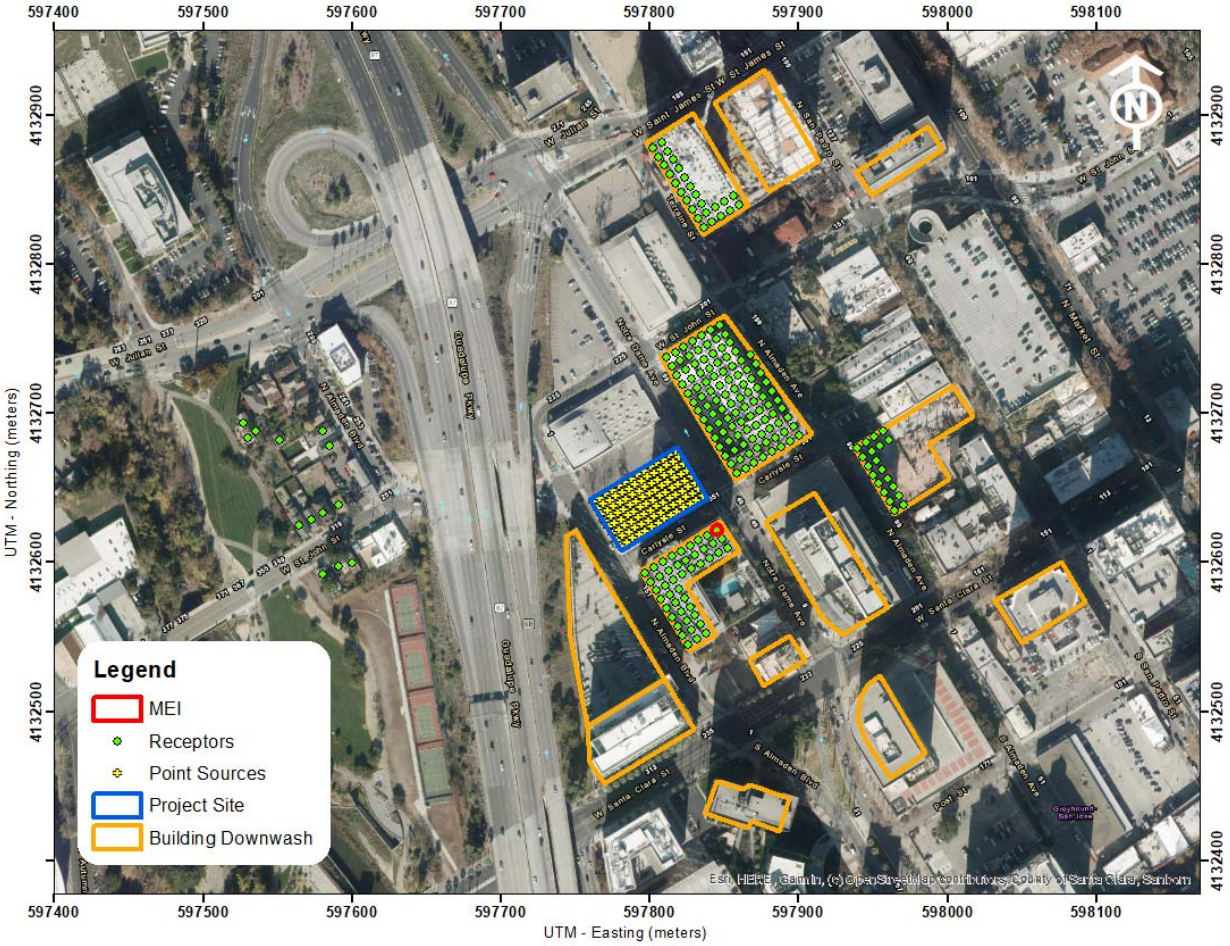
greater sensitivity of infants and small children to cancer causing TACs. Infant and adult exposures were assumed to occur at all residences during the entire construction period.

Figure 1 shows the locations where the maximum-modeled DPM and $PM_{2.5}$ concentrations from construction activities occurred. The maximum increased cancer risk at the location of the maximally exposed individual (MEI) was calculated using the annual modeled DPM concentration and using BAAQMD recommended methods for calculation health risks. The maximum concentrations occurred at apartments south of the project site opposite Carlysle Street at the northeast corner unit on the third floor (7.6-meter breathing height). *Attachment 3* to this report includes the emission calculations used for the construction modeling and the cancer risk calculations. Table 4 lists the community risks from construction at the MEI with *Mitigation Measure AQ-1*.

Table 4. Construction Risk Impacts at the Offsite Residential MEI

Source	Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Construction			
Unmitigated	**155.7 (infant)**	**0.60**	0.10
Mitigated	6.0 (infant)	0.09	<0.01
BAAQMD Single-Source Threshold	***>10.0***	***>0.3***	***>1.0***
Exceed Threshold?			
Unmitigated	***Yes***	***Yes***	*No*
Mitigated	*No*	*No*	*No*

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



Community Risks from Project Operation – Traffic and Generators

Operation of the project would have long-term emissions from mobile sources (i.e., traffic) and stationary sources (i.e., generators). 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.

Operational Traffic

BAAQMD has provided the *Roadway Screening Analysis Calculator* to assess whether roadways may have a potentially significant effect on sensitive receptors. Two adjustments were made to the cancer risk predictions made by this calculator: (1) adjustment for latest vehicle emissions rates predicted using EMFAC2014 and (2) adjustment of cancer risk to reflect new Office of Environmental Health Hazard Assessment (OEHHA) guidance (see *Attachment 1*).

The calculator uses EMFAC2011 emission rates for the year 2014. However, an updated version of the emissions factor model, EMFAC2014, is available. This version predicts lower emission rates. An adjustment factor of 0.5 was developed by comparing emission rates of total organic

gases (TOG) for running exhaust and running losses developed using EMFAC2011 for year 2014 and those from EMFAC2014 for 2018. The predicted cancer risk was then adjusted using a factor of 1.3744 to account for new OEHHA guidance. This factor was provided by BAAQMD for use with their CEQA screening tools that are used to predict cancer risk.

The project would generate 1,813 net new vehicle trips per day.[11] The effect of local traffic generated by the project was computed using the BAAQMD's *Roadway Screening Analysis Calculator*. The project's daily traffic would primarily occur on Almaden Boulevard since the entrances and exits to the project site are on this street. New project trips forecasted by the traffic consultants for the roadway was entered into the screening calculator. The cancer risk was adjusted for exposure duration since the MEI would only be exposed to the increased traffic impacts once the project would be operational, and the calculator computed cancer risk based on a 30-year exposure period. Therefore, the increased cancer risk exposure duration for operational impacts was adjusted for 28 years of exposure since construction would occur for the first two years. The risks and hazards from the project's traffic were also adjusted for distance.

At the MEI, the project traffic would result in an 0.2 per million increased cancer risk and an annual $PM_{2.5}$ concentrations of 0.01 $\mu g/m^3$. BAAQMD has found that non-cancer hazards (i.e. HI) were found to be minimal for all surface streets[12] and the HI value is therefore not included. These risk levels are below the BAAQMD thresholds of greater than 10 chances per million, 0.3 $\mu g/m^3$, and 1.0. Note this is a screening method and had refined modeling been conducted, lower impacts would likely have been identified.

Operational Emergency Generator Modeling

The project would include a 500-kW emergency generator powered by a 650-HP diesel engine located on the basement-level of the project in the northwest corner. Operation of a diesel generator would be a source of TAC emissions. The generator would be operated for testing and maintenance purposes, with a maximum of 50 hours per year of non-emergency operation under normal conditions. During testing periods, the engine would typically be run for less than one hour under light engine loads. The generator engine would be required to meet U.S. EPA emission standards and consume commercially available California low sulfur diesel fuel. The emissions from the operation of the generator were calculated using the CalEEMod model.

This diesel engine would be subject to CARB's Stationary Diesel Airborne Toxics Control Measure (ATCM) and require permits from the BAAQMD, since it will be equipped with an engine larger than 50-HP. As part of the BAAQMD permit requirements for toxics screening analysis, the 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). Sources of air pollutant emissions

[11] Hexagon Transportation Consultants, Inc., 2020, *Carlysle Mixed-Use Development Local Transportation Analysis.* January.

[12] BAAQMD, *Recommended Methods for Screening and Modeling Local Risks and Hazards*, May 2012, https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf?la=en

complying with all applicable BAAQMD regulations generally will not be considered to have a significant air quality community risk impact.

To obtain an estimate of potential cancer risks and $PM_{2.5}$ impacts from operation of the emergency generators 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 model. Additionally, the same building downwash and BAAQMD San José Airport meteorological data was used. Stack parameters (stack height, exhaust flow rate, and exhaust gas temperature) for modeling the generators was based on BAAQMD default parameters for emergency generators.[13] Annual average DPM and $PM_{2.5}$ concentrations were modeled assuming that generator testing could occur at any time of the day.

To calculate the increased cancer risk from the generators at the MEI, the cancer risks were also adjusted for exposure duration to account for the MEI being exposed to construction for the first two years of the 30-year period. The exposure duration was adjusted for 28 years of exposure. Based on this duration, the increased cancer risk from the generators would be 1.4 per million. The maximum annual $PM_{2.5}$ concentration would be less than 0.01 $\mu g/m^3$ and the HI value would be less than 0.01. The emissions and health risk calculations for the proposed generators are included in *Attachment 3*.

Summary of Project-Related Community Risks at MEI

The cumulative risk impacts from a project is the combination of construction and operation sources. These sources include on-site construction activity, project generators, and increased traffic from the project. The project impact is computed by adding the construction cancer risk for an infant to the increased cancer risk for the project operational conditions for the roadway and generator at the MEI over a 30-year period. The project MEI is identified as the sensitive receptor that is most impacted by the project's construction and operation.

For this project, the sensitive receptor identified in Figure 1 as the construction MEI is also the project MEI. At this location, the MEI would be exposed to two years of construction cancer risks and 28 years of operational (includes traffic and emergency backup generators) cancer risks. The cancer risks from construction and operation of the project were summed together. Unlike, the increased maximum cancer risk, the annual $PM_{2.5}$ concentration and HI risks are not additive but based on an annual maximum risk for the entirety of the project.

The unmitigated maximum cancer risks and $PM_{2.5}$ concentration would exceed the BAAQMD single-source thresholds of greater than 10.0 per million for cancer risk and 0.03 $\mu g/m^3$ for $PM_{2.5}$ concentration. However, with *Mitigation Measure AQ-1* the mitigated increased project cancer risk and $PM_{2.5}$ concentration would not exceed the single-source thresholds. The unmitigated non-cancer hazards from construction and operation activities would be below the single-source significance threshold as seen in Table 5

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

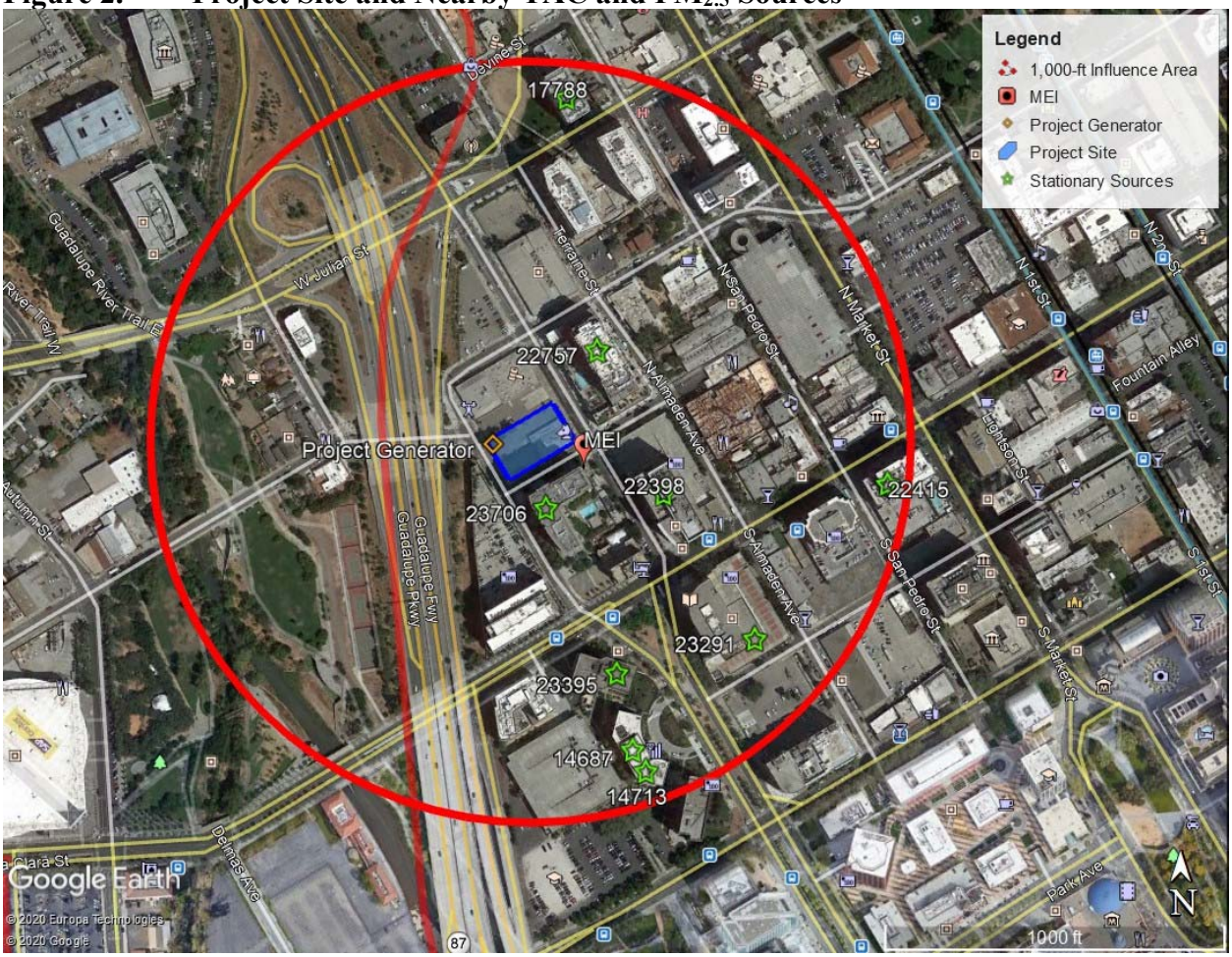
Table 5. Construction and Operation Risk Impacts at the Offsite Project MEI

Source	Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Construction (Years 0-2)			
Unmitigated	**155.7 (infant)**	**0.60**	0.10
Mitigated	6.0 (infant)	0.09	<0.01
Project Traffic (Years 3-30)	0.2	0.01	--
Project Generators (Years 3-30)	1.4	<0.01	<0.01
Unmitigated Total/Maximum Project (Years 0-30)	**157.3**	**<0.60**	<0.10
Mitigated Total/Maximum Project (Years 0-30)	7.6	<0.09	<0.01
BAAQMD Single-Source Threshold	***>10.0***	***>0.3***	***>1.0***
Exceed Threshold?			
Unmitigated	***Yes***	***Yes***	*No*
Mitigated	*No*	*No*	*No*

Cumulative Community Risks of all TAC Sources at Project 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 a project site (i.e. influence area). These sources include freeways or highways, busy surface streets, and stationary sources identified by BAAQMD. A review of the project area indicates that traffic on State Route 87 (S.R. 87), W. Santa Clara Street, and W. Julian Street would exceed 10,000 vehicles per day. Other nearby streets are assumed to have less than 10,000 vehicles per day. A review of BAAQMD's stationary source Google Earth map tool identified nine stationary sources with the potential to affect the MEI. In addition, there are development projects whose construction would contribute to the cumulative risk. The risk impacts from these developments are included within the analysis. Figure 2 shows the location of the sources affecting the MEI. Community risk impacts from these sources upon the MEI are reported in Table 6. Details of the modeling and community risk calculations are included in *Attachment 4.*

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



Highways – S.R. 87

The project site and construction MEI are located near S.R. 87. The construction MEI is located approximately 400 feet west of the S.R. 87. A refined analysis of the impacts of TACs and $PM_{2.5}$ to the construction MEI and new sensitive receptors is necessary to evaluate potential cancer risks and $PM_{2.5}$ concentrations from S.R. 87. A review of the traffic information reported by the California Department of Transportation (Caltrans) indicates that S.R. 87 traffic includes 126,600 vehicles per day (based on an annual average) that are about 3.7 percent trucks, of which 1.0 percent are considered diesel heavy duty trucks and 2.7 percent are medium duty trucks.[14]

Traffic Emissions Modeling

This analysis involved the development of DPM, organic TACs, and $PM_{2.5}$ emissions for traffic on S.R. 87 using the Caltrans version of the CARB 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 tire and brake

[14] Caltrans. 2019. *2018 Annual Average Daily Truck Traffic on the California State Highway System*

wear and fugitive road dust for $PM_{2.5}$. DPM emissions are projected to decrease in the future and are reflected in the CT-EMFAC2017 emissions data. Inputs to the model include region (i.e., Santa Clara County), type of road, traffic mix assigned by CT-EMFAC2017 for the county and adjusted for the local truck mix on S.R. 87, year of analysis, and season.

Residential occupation of the project was assumed to occur in 2023 or later. In order to estimate TAC and $PM_{2.5}$ emissions over the 30-year exposure period used for calculating increased cancer risks to new residents from traffic on S.R. 87, the CT-EMFAC2017 model was used to develop vehicle emission factors for the year 2023 using the calculated mix of cars and trucks on S.R. 87. 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 CT-EMFAC2017. Year 2023 emissions were conservatively assumed as being representative of future conditions over the time period that cancer risks are evaluated (30 years), since, as discussed above, overall vehicle emissions, and in particular diesel truck emissions will decrease in the future. Average daily traffic volumes truck percentages were based on Caltrans data for S.R. 87. Traffic volumes were assumed to increase 1 percent per year. Average hourly traffic distributions for Santa Clara County roadways were developed using the EMFAC model,[15] which were then applied to the average daily traffic volumes to obtain estimated hourly traffic volumes and emissions for S.R. 87.

For all hours of the day, other than during peak a.m. and p.m. periods, an average speed of 65 mph was assumed for all vehicles. Based on traffic data from the Santa Clara Valley Transportation Authority's 2017 Monitoring and Conformance Report, traffic speeds during the peak a.m. and p.m. periods were identified.[16] For a 2-hour period during the peak a.m. period, an average travel speed of 15 mph was used for northbound traffic and an average speed of 60 mph was used for southbound traffic. For the peak p.m. period, an average travel speed of 60 mph was used for northbound traffic and an average travel speed of 30 mph was used for southbound traffic.

This analysis involved the development of DPM, organic TACs, and $PM_{2.5}$ emissions for future traffic on S.R. 87 and using these emissions with an air quality dispersion model to calculate TAC and $PM_{2.5}$ concentrations at the construction MEI and on-site receptor locations. Maximum increased lifetime cancer risks and annual $PM_{2.5}$ concentrations for the receptors 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. Northbound and southbound traffic on S.R. 87 within about 1,000 feet of the project site was evaluated with the model. Emissions from vehicle traffic were modeled in AERMOD using a series of volume sources along a line (line volume sources), with line segments used to represent northbound and

[15] The Burden output from EMFAC2007, CARB's previous version of the EMFAC model, was used for this since the current web-based version of EMFAC2011 does not include Burden type output with hour by hour traffic volume information.

[16] Santa Clara Valley Transportation Authority. *2017 CMP Monitoring and Conformance Report April 23, 2018.*

southbound travel lanes on S.R. 87. The modeling used a five-year data set (2013-2017) of hourly meteorological data from the San José Airport 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.

Computed Cancer and Non-Cancer Health Impacts

The maximum increased cancer risk at the construction MEI receptors would be 5.9 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 these locations would be less than 0.01. The risk impacts from the highway on the construction MEI is shown in Table 6. Details of the emission calculations, dispersion modeling and cancer risk calculations for the receptors with the maximum cancer risk from S.R. 87 traffic are provided in *Attachment 4.*

Local Roadways –W. Santa Clara Street and W. Julian Street

The same *Roadway Screening Analysis Calculator* used in the project traffic screening calculations was used for the cumulative risk analysis. The only two roadways with and ADT over 10,000 vehicles per day were W. Santa Clara Street and W. Julian Street. These ADTs were based on the peak-hour traffic volumes included in the project's traffic analysis for background plus project conditions. The AM and PM peak-hour volumes were averaged and then multiplied by 10 to estimate the ADT. Estimated increased cancer risks and annual $PM_{2.5}$ concentration values for the roadways are listed in Table 6. Note that BAAQMD has found that non-cancer hazards (i.e. HI) were found to be minimal for all surface streets and the HI value is therefore not included.

Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Permitted Stationary Sources 2018* GIS website[17] and *Stationary Source Risk & Hazard Analysis Google Earth Tool,* which identifies the location of nearby stationary sources and their estimated risk and hazard impacts. A Stationary Source Information Form (SSIF) containing the identified sources was prepared and submitted to BAAQMD. BAAQMD provided updated emissions data and risk values including new OEHHA guidance adjustments.[18] The emissions data were input into BAAQMD's *Risk and Hazards Emissions Screening Calculator,* which computes the cancer risk, annual $PM_{2.5}$ concentrations, and HI using adjustments to account for new OEHHA guidance. The provided and calculated 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*. If screening levels were to exceed the thresholds, the provided emissions information would be used in refined modeling.

All nine stationary sources were identified as diesel generators. Community risk impacts from these sources upon the project are reported in Table 6.

[17]BAAQMD, https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65
[18] Correspondence with Areana Flores, BAAQMD, February 7, 2020.

Construction Risk Impacts from Nearby Developments

Within the 1,000-ft influence area, there are four developments that are under construction or planning approved.[19] The developments under construction include the Silvery Towers at 188 W. St. James Street (File Number H13-041, HA13-041-03) and the Modera San Pedro Square at 45 N. San Pedro Street (File Number H15-007). The developments that have been approved include the Almaden Corner Hotel at 8 N. Almaden Boulevard (File Number HP18-038) and the Post and San Pedro Tower at 171 Post Street (File Number H14-023, HA14-023-02). It was assumed that projects currently under construction would mostly be completed before construction of this project, such that those projects would not contribute to the MEI risk.

The construction of the Almaden Corner Hotel and Post and San Pedro Tower projects was assumed to occur simultaneously with the proposed project. Illingworth & Rodkin, Inc. had analyzed the construction risk impacts for both these projects in previous reports.[20,21] It was assumed that both of these nearby developments incorporated construction mitigation measures. The mitigated construction risk values from these developments was used within the cumulative community risk table. Note that the mitigated risk values used are at the location of each development's MEI, which is not project's MEI identified in Figure 1. Therefore, the construction risk impacts from these developments at the proposed project's MEI would be less.

Summary of Cumulative Risks at MEI

Table 6 reports both the project and cumulative community risk impacts at the sensitive receptor most affected by construction and operation (i.e. the MEI). Without mitigation, the project's community risk from project construction and operation activities would exceed the single-source maximum increased cancer risk of 10.0 per million and the $PM_{2.5}$ concentration threshold of 0.3 $\mu g/m^3$. The incorporation of *Mitigation Measures AQ-1* would reduce these levels to below the significance thresholds. The mitigated cumulative community risks would not exceed their respective BAAQMD cumulative-source thresholds.

[19] Developments under planning review are not included within the cumulative analysis since it is speculative to include construction emissions from projects that may or may not be approved.
[20] Illingworth & Rodkin, Inc., 2019. *Almaden Corner Hotel Construction Toxic Air Contaminant Assessment*. July.
[21] Illingworth & Rodkin, Inc., 2015. *45 N. San Pedro St Community Risk Assessment*. February.

Table 6. Cumulative Community Risk Impacts from Combined TAC Sources at MEI

Source	Maximum Cancer Risk (per million)	$PM_{2.5}$ concentration ($\mu g/m^3$)	Hazard Index
Project Impacts			
Unmitigated Total/Maximum Project (Years 0-30)	**157.3**	**<0.60**	<0.10
Mitigated Total/Maximum Project (Years 0-30)	7.6	<0.09	<0.01
BAAQMD Single-Source Threshold	***>10.0***	***>0.3***	***>1.0***
Exceed Threshold? Unmitigated	***Yes***	***Yes***	*No*
Mitigated	*No*	*No*	*No*
Cumulative Sources			
S.R. 87 (MEI at 400 feet west)	5.9	0.33	<0.01
W. Santa Clara Street, ADT 23,170 (MEI at 360 feet north)	2.4	0.07	--
W. Julian Street, ADT 25,000 (MEI at 820 feet south)	1.3	0.05	--
Plant #14687 (Generator)	0.1	0.00	0.00
Plant #14713 (Generator)	0.1	0.00	0.00
Plant #17788 (Generator)	0.2	0.00	0.00
Plant #22398 (Generator)	2.9	<0.01	<0.01
Plant #22415 (Generator)	0.2	0.00	0.00
Plant #22757 (Generator)	0.1	--	--
Plant #23291 (Generator)	0.4	0.00	0.00
Plant #23395 (Generator)	0.5	0.00	0.00
Plant #23706 (Generator)	2.4	0.00	0.01
Almaden Corner Hotel Mitigated Construction Emissions	<6.7	<0.08	<0.01
Post and San Pedro Tower Mitigated Construction Emissions	<9.5	<0.14	<0.01
Combined Sources *Unmitigated*	**<190.0 (infant)**	**<1.28**	<0.15
Mitigated	<40.3 (infant)	<0.77	<0.06
BAAQMD Cumulative Source Threshold	***>100***	***>0.8***	***>10.0***
Exceed Threshold? Unmitigated	***Yes***	***Yes***	*No*
Mitigated	*No*	*No*	*No*

Mitigation Measure AQ-1: **Selection of equipment during construction to minimize emissions. Such equipment selection would include the following:**

The project shall develop a plan demonstrating that the off-road equipment used on-site to construct the project would achieve a fleet-wide average 94-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 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.

- Install electric line power during early construction phases to avoid use of diesel generators and compressors.

- Stationary construction cranes (building cranes) shall be powered by electricity.

- A majority or forklifts and aerial lifts used for exterior and interior building construction shall be electric or propane/natural gas powered.

Effectiveness of Mitigation Measure AQ-1

CalEEMod was used to compute emissions associated with his mitigation measure assuming that all equipment met U.S. EPA Tier 4 finals standards and cranes, aerial lifts, and forklifts were electrified. The computed maximum increased residential cancer risk from construction, assuming infant exposure, would be 6.0 in one million or less and the maximum annual $PM_{2.5}$ concentration would be reduced to 0.09 $\mu g/m^3$. With the implementation of Mitigation Measure AQ-1, risk levels would not exceed the BAAQMD significance thresholds.

Non-CEQA Impact: Exposure of Project Residents to Existing TACs Sources

Operational Community Health Risk Impacts – New Project Residences

In addition to evaluating health impact from project construction, a health risk assessment was completed to assess the impact that existing TAC sources would have on the new proposed sensitive receptors that the project would introduce. The same TAC sources identified above were used in this health risk assessment.[22]

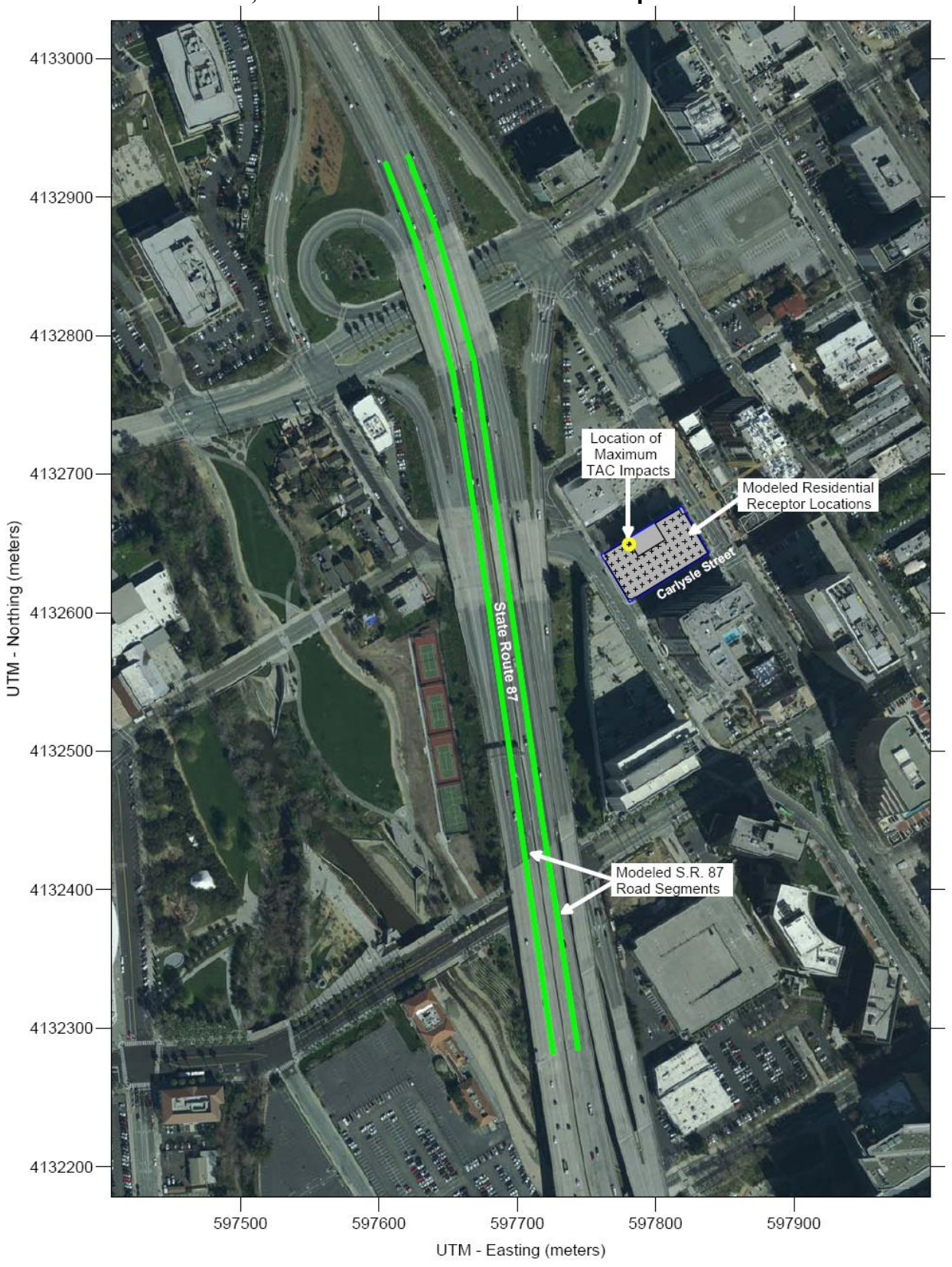
Highways – S.R. 87

The highway analysis for the new project sensitive receptors was conducted in the same manner as described above for the construction MEI. TAC and $PM_{2.5}$ concentrations were calculated at receptor locations placed proposed residential areas using a grid of receptors with 20-foot (6-meter) spacing. Residential units in the project building would be on the 10th through 21st floors. S.R. 87 impacts were modeled for the 10th through 12th floor levels. Figure 3 shows the roadway links used for the modeling and receptor locations at the project site where concentrations were calculated. The closest project site boundary is about 200 feet west from S.R. 87.

The risk impacts from the highway on the project receptors are provided in Table 7. The maximum modeled TAC and $PM_{2.5}$ concentrations occurred at a 10th-floor residential unit in the northwestern portion of the building. The maximum increased cancer risk at the project site was computed as 0.7 in one million. TAC and $PM_{2.5}$ concentrations above the 10th floor would be lower than those identified on the 10th floor. The location of maximum cancer risks and $PM_{2.5}$ concentration is shown in Figure 3. The maximum $PM_{2.5}$ concentration at the project site was 0.03 $\mu g/m^3$, occurring at the same receptor that had the maximum cancer risk on the 10th floor. The maximum predicted annual DPM concentration from S.R. 87 traffic was 0.0007 $\mu g/m^3$. This concentration is much lower than the REL and the HI would be less than 0.01.

[22] We note that to the extent this analysis considers *existing* air quality issues in relation to the impact on *future residents* of the Project, it does so for informational purposes only pursuant to the judicial decisions in *CBIA v. BAAQMD* (2015) 62 Cal.4th 369, 386 and *Ballona Wetlands Land Trust v. City of Los Angeles* (2011) 201 Cal.App.4th 455, 473, which confirm that the impacts of the environment on a project are excluded from CEQA unless the project itself "exacerbates" such impacts.

Figure 3. Project Site and Onsite Residential Receptors, S.R. 87 Road Segments Evaluated, and Location of Maximum TAC Impacts



Local Roadways –W. Santa Clara Street and W. Julian Street

The roadway analysis was conducted for the new project sensitive receptors in the same manner as described above for the construction MEI. The health risk results from the roadways are provided in Table 7.

Stationary Sources

The stationary source screening analysis for the new project sensitive receptors was conducted in the same manner as described above for the construction MEIs. Table 7 shows the health risk assessment results from the stationary sources.

Construction Risk Impacts from Nearby Developments

The construction risk analysis from nearby approved developments at the new project sensitive receptors were conducted in the same manner as described above for the construction MEIs. Table 7 shows the health risk assessment results from the nearby developments.

Combined Community Health Risk at Project Site

Community risk impacts from combined sources upon the project site sensitive receptors are reported in Table 7. As shown, the annual cancer risks, annual $PM_{2.5}$ concentrations, and Hazard Indexes are all below their respective single-source and cumulative significance thresholds.

Table 7. Community Risk Impact to New Project Residences

Source	Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
S.R. 87 (MEI at 200 feet west)	0.7	0.03	<0.01
W. Santa Clara Street, ADT 23,170 (MEI at 440 feet north)	2.2	0.06	--
W. Julian Street, ADT 25,000 (MEI at 630 feet south)	1.6	0.06	--
Plant #14687 (Generator)	0.1	0.00	0.00
Plant #14713 (Generator)	0.1	0.00	0.00
Plant #17788 (Generator)	0.3	0.00	0.00
Plant #22398 (Generator)	2.0	0.00	0.00
Plant #22415 (Generator)	0.2	0.00	0.00
Plant #22757 (Generator)	0.1	--	--
Plant #23291 (Generator)	0.4	0.00	0.00
Plant #23395 (Generator)	0.5	0.00	0.00
Plant #23706 (Generator)	2.4	<0.01	0.01
Almaden Corner Hotel Mitigated Construction Emissions	<6.7	<0.08	<0.01
Post and San Pedro Tower Mitigated Construction Emissions	<9.5	<0.14	<0.01
BAAQMD Single-Source Threshold	***>10.0***	***>0.3***	***>0.1***
Exceed Threshold?	*No*	*No*	*No*
Cumulative Total	<26.8	<0.38	<0.04
BAAQMD Cumulative Source Threshold	***>100***	***>0.8***	***>10.0***
Exceed Threshold?	*No*	*No*	*No*

Greenhouse Gases

Setting

Gases that trap heat in the atmosphere, GHGs, regulate the earth's temperature. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate. The most common GHGs are carbon dioxide (CO_2) and water vapor but there are also several others, most importantly methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These are released into the earth's atmosphere through a variety of natural processes and human activities. Sources of GHGs are generally as follows:

- CO_2 and N_2O are byproducts of fossil fuel combustion.
- N_2O is associated with agricultural operations such as fertilization of crops.
- CH_4 is commonly created by off-gassing from agricultural practices (e.g., keeping livestock) and landfill operations.
- Chlorofluorocarbons (CFCs) were widely used as refrigerants, propellants, and cleaning solvents but their production has been stopped by international treaty.
- HFCs are now used as a substitute for CFCs in refrigeration and cooling.
- PFCs and sulfur hexafluoride emissions are commonly created by industries such as aluminum production and semi-conductor manufacturing.

Each GHG has its own potency and effect upon the earth's energy balance. This is expressed in terms of a global warming potential (GWP), with CO_2 being assigned a value of 1 and sulfur hexafluoride being several orders of magnitude stronger. In GHG emission inventories, the weight of each gas is multiplied by its GWP and is measured in units of CO_2 equivalents (CO_2e).

An expanding body of scientific research supports the theory that global climate change is currently affecting changes in weather patterns, average sea level, ocean acidification, chemical reaction rates, and precipitation rates, and that it will increasingly do so in the future. The climate and several naturally occurring resources within California are adversely affected by the global warming trend. Increased precipitation and sea level rise will increase coastal flooding, saltwater intrusion, and degradation of wetlands. Mass migration and/or loss of plant and animal species could also occur. Potential effects of global climate change that could adversely affect human health include more extreme heat waves and heat-related stress; an increase in climate-sensitive diseases; more frequent and intense natural disasters such as flooding, hurricanes and drought; and increased levels of air pollution.

Recent Regulatory Actions

Assembly Bill 32 (AB 32), California Global Warming Solutions Act (2006)

AB 32, the Global Warming Solutions Act of 2006, codified the State's GHG emissions target by directing CARB to reduce the State's global warming emissions to 1990 levels by 2020. AB 32 was signed and passed into law by Governor Schwarzenegger on September 27, 2006. Since that time, the CARB, CEC, California Public Utilities Commission (CPUC), and Building Standards

Commission have all been developing regulations that will help meet the goals of AB 32 and Executive Order S-3-05.

A Scoping Plan for AB 32 was adopted by CARB in December 2008. It contains the State's main strategies to reduce GHGs from business-as-usual emissions projected in 2020 back down to 1990 levels. Business-as-usual (BAU) is the projected emissions in 2020, including increases in emissions caused by growth, without any GHG reduction measures. The Scoping Plan has a range of GHG reduction actions, including direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system.

Senate Bill 375, California's Regional Transportation and Land Use Planning Efforts (2008)

California enacted legislation (SB 375) to expand the efforts of AB 32 by controlling indirect GHG emissions caused by urban sprawl. SB 375 provides incentives for local governments and applicants to implement new conscientiously planned growth patterns. This includes incentives for creating attractive, walkable, and sustainable communities and revitalizing existing communities. The legislation also allows applicants to bypass certain environmental reviews under CEQA if they build projects consistent with the new sustainable community strategies. Development of more alternative transportation options that would reduce vehicle trips and miles traveled, along with traffic congestion, would be encouraged. SB 375 enhances CARB's ability to reach the AB 32 goals by directing the agency in developing regional GHG emission reduction targets to be achieved from the transportation sector for 2020 and 2035. CARB works with the metropolitan planning organizations (e.g. Association of Bay Area Governments [ABAG] and Metropolitan Transportation Commission [MTC]) to align their regional transportation, housing, and land use plans to reduce vehicle miles traveled and demonstrate the region's ability to attain its GHG reduction targets. A similar process is used to reduce transportation emissions of ozone precursor pollutants in the Bay Area.

SB 350 Renewable Portfolio Standards

In September 2015, the California Legislature passed SB 350, which increases the states Renewables Portfolio Standard (RPS) for content of electrical generation from the 33 percent target for 2020 to a 50 percent renewables target by 2030.

Executive Order EO-B-30-15 (2015) and SB 32 GHG Reduction Targets

In April 2015, Governor Brown signed Executive Order which extended the goals of AB 32, setting a greenhouse gas emissions target at 40 percent of 1990 levels by 2030. On September 8, 2016, Governor Brown signed SB 32, which legislatively established the GHG reduction target of 40 percent of 1990 levels by 2030. In November 2017, CARB issued *California's 2017 Climate Change Scoping Plan*. While the State is on track to exceed the AB 32 scoping plan 2020 targets, this plan is an update to reflect the enacted SB 32 reduction target.

The new Scoping Plan establishes a strategy that will reduce GHG emissions in California to meet the 2030 target (note that the AB 32 Scoping Plan only addressed 2020 targets and a long-term

goal). Key features of this plan are:

- Cap and Trade program places a firm limit on 80 percent of the State's emissions;
- Achieving a 50-percent Renewable Portfolio Standard by 2030 (currently at about 29 percent statewide);
- Increase energy efficiency in existing buildings;
- Develop fuels with an 18-percent reduction in carbon intensity;
- Develop more high-density, transit oriented housing;
- Develop walkable and bikable communities;
- Greatly increase the number of electric vehicles on the road and reduce oil demand in half;
- Increase zero-emissions transit so that 100 percent of new buses are zero emissions;
- Reduce freight-related emissions by transitioning to zero emissions where feasible and near-zero emissions with renewable fuels everywhere else; and
- Reduce "super pollutants" by reducing methane and hydrofluorocarbons or HFCs by 40 percent.

In the updated Scoping Plan, CARB recommends statewide targets of no more than 6 metric tons CO_2e per capita (statewide) by 2030 and no more than 2 metric tons CO_2e per capita by 2050. The statewide per capita targets account for all emissions sectors in the State, statewide population forecasts, and the statewide reductions necessary to achieve the 2030 statewide target under SB 32 and the longer-term State emissions reduction goal of 80 percent below 1990 levels by 2050.

GHG Emissions

The U.S. EPA reported that in 2017, total gross nationwide GHG emissions were 6,457 MMT. These emissions were lower than peak levels of 7,370 MMT that were emitted in 2008. Relative to 1990 levels, these emissions were CARB updates the statewide GHG emission inventory on an annual basis where the latest inventory includes 2000 through 2017 emissions[23]. In 2017, GHG emissions from statewide emitting activities were 424 MMT. The 2017 emissions have decreased by 14 percent since peak levels in 2004 and are 7 MMT below the 1990 emissions level and the State's 2020 GHG limit. Per capita GHG emissions in California have dropped from a 2001 peak of 14.1 MT per person to 10.7 MT per person in 2017. The most recent Bay Area emission inventory was completed for the year 2011, where emissions were 87 MMT [24]. As a point of comparison, statewide emissions were about 444 MMT in 2011.

Climate Smart San José

Climate Smart San José is a plan to reduce air pollution, save water, and create a stronger and healthier community. The City approved goals and milestones in February 2018 to ensure the City can substantially reduce GHG emissions through reaching the following goals and milestones:

[23] CARB. 2019. *2019 Edition, California Greenhouse Gas Emission Inventory: 2000 – 2017*. Available at https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2017/ghg_inventory_trends_00-17.pdf accessed on Nov. 26, 2019.
[24] BAAQMD. 2015. *Bay Area Emissions Inventory Summary Report: Greenhouse Gases Base Year 2011*. January. Available at http://www.baaqmd.gov/~/media/files/planning-and-research/emission-inventory/by2011_ghgsummary.pdf accessed Nov. 26, 2019.

- All new residential buildings will be Zero Net Carbon Emissions (ZNE) by 2020 and all new commercial buildings will be ZNE by 2030 (Note that ZNE buildings would be all electric with a carbon-free electricity source).
- San José Clean Energy (SJCE) will provide 100-percent carbon-free base power by 2021.
- One gigawatt of solar power will be installed in San José by 2040.
- 61 percent of passenger vehicles will be powered by electricity by 2030.

The California Energy Commission (CEC) updates the California Building Energy Efficiency Standards every three years, in alignment with the California Code of regulations. Title 24 Parts 6 and 11 of the California Building Energy Efficiency Standards and the California Green Building Standards Code (CALGreen) address the need for regulations to improve energy efficiency and combat climate change. The 2019 CAL Green standards include some substantial changes intended to increase the energy efficiency of buildings. For example, the code encourages the installation of solar and heat pump water heaters in low-rise residential buildings. The 2019 California Code went before City Council in October 2019 for approval, with an effective date of January 1, 2020. As part of this action, the City adopted a "reach code" that requires development projects to exceed the minimum Building Energy Efficiency requirements.[25] The City's reach code applies only to new residential and non-residential construction in San José. It incentivizes all-electric construction, requires increased energy efficiency and electrification-readiness for those choosing to maintain the presence of natural gas. The code requires that non-residential construction include solar readiness. It also requires additional EV charging readiness and/or electric vehicle service equipment (EVSE) installation for all development types.

Significance Thresholds

The BAAQMD's CEQA Air Quality Guidelines recommended a GHG threshold of 1,100 metric tons or 4.6 metric tons (MT) per capita. These thresholds were developed based on meeting the 2020 GHG targets set in the scoping plan that addressed AB 32. Development of the project would occur beyond 2020, so a threshold that addresses a future target is appropriate. Although BAAQMD has not published a quantified threshold for 2030 yet, this assessment uses a "Substantial Progress" efficiency metric of 2.6 MT CO_2e/year/service population and a bright-line threshold of 660 MT CO_2e/year based on the GHG reduction goals of EO B-30-15. The service population metric of 2.6 is calculated for 2030 based on the 1990 inventory and the projected 2030 statewide population and employment levels.[26] The 2030 bright-line threshold is a 40 percent reduction of the 2020 1,100 MT CO_2e/year threshold.

[25] City of San José Transportation and Environmental Committee, *Building Reach Code for New Construction Memorandum,* August 2019.

[26] Association of Environmental Professionals, 2016. *Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California*. April.

Impact-GHG 1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

GHG emissions associated with development of the proposed project would occur over the short-term from construction activities, consisting primarily of emissions from equipment exhaust and worker and vendor trips. There would also be long-term operational emissions associated with vehicular traffic within the project vicinity, the generator, energy and water usage, and solid waste disposal. The impact of GHG emissions were addressed in the DTS DEIR and found to be significant and unavoidable under 2040 conditions. Emissions from the project were computed for information purposes. Emissions for the proposed project are discussed below and were analyzed using the methodology recommended in the BAAQMD CEQA Air Quality Guidelines.

CalEEMod Modeling

CalEEMod was used to predict GHG emissions from operation of the site assuming full build-out of the project. The project land use types and size and other project-specific information were input to the model, as described above. CalEEMod output is included in *Attachment 2*.

Service Population Emissions

The project service population efficiency rate is based on the number of future residents and future full-time employees. For this project, the number of future residents was estimated by multiplying the total number of units (e.g. 290 units) by the persons per household rate for the City of San Jose found in the California Department of Finance Population and Housing Estimate report.[27] Using the 3.20 person per household 2019 rate, the number of futures residents is estimated to be 928 residents. The number of workers was estimated using a rate of approximately one office worker per 175-sf of office space and one retail worker per 250-sf of small retail space.[28] Based on the project's proposed 123,479-sf for office use and 7,603-sf for retail use, there would be 736 future full-time employees. The estimated total service population would be 1,664 individuals.

Construction Emissions

GHG emissions associated with construction were computed to be 1,821 MT of CO_2e for the total construction period. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the City nor BAAQMD have an adopted threshold of significance for construction-related GHG emissions, though BAAQMD recommends quantifying emissions and disclosing that GHG emissions would occur during construction. BAAQMD also encourages the incorporation of best management practices to reduce GHG emissions during construction where feasible and applicable.

[27] State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties and the State — January 1, 2011-2019*. Sacramento, California, May 2019.
[28] Strategic Economics. 2016. *San* José *Market Overview and Employment Lands Analysis*. January 20.

Operational Emissions

The CalEEMod model, along with the project vehicle trip generation rates, was used to estimate daily emissions associated with operation of the fully-developed site under the proposed project. The effects from a TDM program or other project-specific sustainability measures were not included in this analysis.

As shown in Table 8, annual emissions resulting from operation of the proposed project are predicted to be 1,519 MT of CO_2e in 2023 and 1,330 MT of CO_2e in 2030. The service population emission for the years 2023 and 2030 are predicted to be 1.1 and 0.9 MT/CO_{2e}/year/service population, respectively.

To be considered significant, the project must exceed both the GHG significance threshold in metric tons per year and the service population significance threshold in the opening and future year. Note that if the project exceeds in the opening but not the future year, then it is still considered a significant impact. Emissions from both years must be below at least one of the thresholds.

The project would exceed the 2030 operational annual emissions bright-line threshold of 660 MT CO_2e/year in both the opening and future year. However, the project would not exceed the service population emissions "Substantial Progress" efficiency metric of 2.6 MT CO_2e/year/service population in either 2023 or 2030.

Table 8. Annual Project GHG Emissions (CO_2e) in Metric Tons

Source Category	Existing Land Uses		Proposed Project	
	2023	**2030**	**2023**	**2030**
Area	<1	<1	15	15
Energy Consumption	31	31	244	244
Mobile	208	173	1,310	1,086
Solid Waste Generation	5	5	129	129
Water Usage	2	2	67	67
Total (MT CO_2e/yr)	246	211	1,765	1,541
Net Emissions			**1,519 MT CO_{2e}/year**	**1,330 MT CO_{2e}/year**
Bright-Line Significance Threshold			***660 MT CO_2e/year***	
Service Population Emissions (MT CO2e/year/service population)			1.1	0.9
Per Capita Significance Threshold			***2.6 MT of CO2e/year/service population***	
Exceed both thresholds?			*No*	*No*

Supporting Documentation

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

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

Attachment 3 is the construction and operational 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 4 includes the screening community risk calculations, modeling results, and health risk calculations from sources affecting the construction MEI and project, including refined highway modeling. Due to the large size of the BAAQMD health risk calculators, these files were not included but are available upon request and would be provided in digital format.

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.[29] 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.[30] 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.[31] 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

[29] 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.
[30] CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.
[31] BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

30 years for sources with long-term emissions (e.g., roadways). For workers, assumed to be adults, 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 Inputs and Outputs

Air Quality/Noise Construction Information Data Request

Project Name: **The Carlysle**

Complete ALL Portions in Yellow

See Equipment Type TAB for type, horsepower and load factor

Project Size 290 Dwelling Units 0.667 total project acres disturbed

230,073 s.f. residential

7,603 s.f. retail

123,479 s.f. office/commercial

118,362 s.f. other, specify: Amenities/Outdoor/BOH

78,232 s.f. parking garage 330 spaces

0 s.f. parking lot 0 spaces

Construction Hours 7:00 am to 7:00 pm

Pile Driving? No

Project include OPERATIONAL GENERATOR OR FIRE PUMP on-site? Y/N? Y

IF YES (if BOTH separate values) -->

Kilowatts/Horsepower: _____

Fuel Type: _____

Location in project (Plans Desired if Available):

DO NOT MULTIPLY EQUIPMENT HOURS/DAY BY THE QUANTITY OF EQUIPMENT

Quantity	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	Annual Hours	Comments
	Demolition / Site Preparation	**Start Date:**	**1/4/2021**	**Total phase:**	**5**			**Overall Import/Export Volumes**
		End Date:	**1/8/2021**					
1	Concrete/Industrial Saws	81	0.73	10	5	10	50	**Demolition Volume**
1	Excavators	158	0.38	10	5	10	50	Square footage of buildings to be demolished
1	Rubber-Tired Dozers	247	0.4	10	5	10	50	(*or* total tons to be hauled)
2	Tractors/Loaders/Backhoes	97	0.37	10	5	10	100	**8,800** square feet *or*
								? Hauling volume (tons) (See row Above)
								Any pavement demolished and hauled? **320 tons**
	Shoring / Grading / Excavation	**Start Date:**	**1/11/2021**	**Total phase:**	**20**			
		End Date:	**2/5/2021**					**Soil Hauling Volume**
1	Excavators	158	0.38	10	15	7.5	150	Export volume = **12,500** cubic yards
1	Rubber Tired Dozers	247	0.4	10	15	7.5	150	Import volume = **0** cubic yards
3	Tractors/Loaders/Backhoes	97	0.37	10	15	7.5	450	
1	Shoring Pile Rig			12	10	6	120	
	Below Slab Utilities	**Start Date:**	**2/8/2021**	**Total phase:**	**10**			
		End Date:	**2/19/2021**					
2	Tractor/Loader/Backhoes	97	0.37	12	10	12	240	
	Foundation / Structure	**Start Date:**	**2/22/2021**	**Total phase:**	**280**			
		End Date:	**3/18/2022**					
2	Tractor/Loader/Backhoes	97	0.37	12	20	0.9	480	
2	Concrete Pumper			10	120	4.3	2400	
	Building - Exterior	**Start Date:**	**10/4/2021**	**Total phase:**	**220**			**Cement Trucks? 2,400 Total Round-Trips**
		End Date:	**8/5/2022**					
1	Cranes	231	0.29	12	220	12	2640	Electric? (Y/N) Y Otherwise assumed diesel
4	Forklifts	89	0.2	10	220	10	8800	Liquid Propane (LPG)? (Y/N) Y Otherwise Assumed diesel
0	Generator Sets	84	0.74	0	0	0	0	Or temporary line power? (Y/N) Y
0	Tractors/Loaders/Backhoes	97	0.37	0	0	0	0	
4	Welders	46	0.45	5	220	5	4400	
	Other Equipment?							
Building - Interior/Architectural Coating		**Start Date:**	**5/17/2021**	**Total phase:**	**450**			
		End Date:	**2/3/2023**					
2	Air Compressors	78	0.48	10	450	10	9000	
4	Aerial Lift	62	0.31	10	225	5	9000	
	Other Equipment?							

Equipment types listed in "Equipment Types" worksheet tab.

Equipment listed in this sheet is to provide an example of inputs

It is assumed that water trucks would be used during grading

Add or subtract phases and equipment, as appropriate

Modify horsepower or load factor, as appropriate

Complete one sheet for each project component

Table 2
Project Trip Generation

Land Use	Size	Daily		AM Peak Hour						PM Peak Hour					
				Split			Trip			Split			Trip		
		Rate	Trip	Rate	In	Out	In	Out	Total	Rate	In	Out	In	Out	Total
Multifamily Housing (High-Rise) (ITE LU 222)	290 Dwelling Units	4.45	1,291	0.31	24%	76%	22	68	90	0.36	61%	39%	63	41	104
Housing & Retail Mixed-Use Reduction (15%) [1]			*-43*				*0*	*-1*	*-1*				*-2*	*-2*	*-4*
Housing & Employment Mixed-Use Reduction (3%) [2]			*-36*				*-1*	*-2*	*-3*				*-2*	*-1*	*-3*
Location-Based Reduction (22%) [4]			*-267*				*-5*	*-14*	*-19*				*-13*	*-8*	*-21*
VMT Reduction (9%) [5]			*-85*				*-1*	*-5*	*-6*				*-4*	*-3*	*-7*
Shopping Center (ITE LU 820)	7,600 Square Feet	37.75	287	0.94	62%	38%	4	3	7	3.81	48%	52%	14	15	29
Housing & Retail Mixed-Use Reduction (15%) [1]			*-43*				*-1*	*0*	*-1*				*-2*	*-2*	*-4*
Employment & Retail Mixed-Use Reduction (3%) [3]			*-36*				*-1*	*-3*	*-4*				*-4*	*-1*	*-5*
Location-Based Reduction (17%) [4]			*-35*				*0*	*0*	*0*				*-1*	*-2*	*-3*
General Office Building (ITE LU 710)	123,500 Square Feet	9.74	1,203	1.16	86%	14%	123	20	143	1.15	16%	84%	23	119	142
Housing & Employment Mixed-Use Reduction (3%) [2]			*-36*				*-2*	*-1*	*-3*				*-1*	*-2*	*-3*
Employment & Retail Mixed-Use Reduction (3%) [3]			*-36*				*-3*	*-1*	*-4*				*-1*	*-4*	*-5*
Location-Based Reduction (31%) [4]			*-351*				*-37*	*-6*	*-43*				*-7*	*-35*	*-42*
Total Project Trips			**1,813**				**98**	**58**	**156**				**63**	**115**	**178**

Source: ITE Trip Generation Manual, 10th Edition 2017

[1] As prescribed by the VTA Transportation Impact Analysis Guidelines (October 2014), the maximum trip reduction for a mixed-use development project with housing and retail components is equal to 15% off the smaller trip generator.

[2] As prescribed by the VTA Transportation Impact Analysis Guidelines (October 2014), the maximum trip reduction for a mixed-use development project with housing and employment components is equal to 3% off the smaller trip generator.

[3] As prescribed by the VTA Transportation Impact Analysis Guidelines (October 2014), the maximum trip reduction for a mixed-use development project with employment and employee-serving retail components is equal to 3% off the employment component.

[4] The project site is located within an urban high-transit area based on the City of San Jose VMT Evaluation Tool (February 29, 2019). The location-based vehicle mode shares are obtained from Table 6 of the City of San Jose Transportation Analysis Handbook (April 2018). The trip reductions are based on the percent of mode share for all of the other modes of travel beside vehicle.

[5] Existing (8.78) and project (8.03) VMTs per capita were estimated using the City of San Jose Evaluation Tool (February 29, 2019). It is assumed that every percent reduction in VMT per capita is equivalent to one percent reduction in peak-hour vehicle trips. VMT reduction was not applied to the office and retail uses because there's no reduction in VMTs.

The Carlysle, San Jose - Santa Clara County, Annual

The Carlysle, San Jose

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	123.48	1000sqft	0.00	123,479.00	0
Enclosed Parking with Elevator	330.00	Space	0.00	78,232.00	0
Apartments High Rise	290.00	Dwelling Unit	0.67	348,435.00	829
Strip Mall	7.60	1000sqft	0.00	7,603.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 Rate Co2 Intensity= 290

Land Use - Provided land uses, amenities uses in res sf

Construction Phase - Provided construction schedule

Off-road Equipment - Provided construction equip & hours

Off-road Equipment - Provided construction equip & hours

Off-road Equipment - Provided construction equip & hours

Off-road Equipment - Provided construction equip & hours

Off-road Equipment - Provided construction equip & hours

Off-road Equipment - Provided construction equip & hours

Trips and VMT - pavement demo 320 tons = 64 one-way trips, 40 + 64 = 104, building ext = 2400 cement truck round trips

Demolition - existing building demo = 8,800sf

Grading - grading = 12,500cy export

Vehicle Trips - With reductions, res = 2.97, 3.52, 2.58, Office = 6.32, 1.41, 0.60, retail = 22.75, 21.58, 10.49

Woodstoves - All wood no gas

Water And Wastewater - WTP treatment 100% aerobic

Energy Mitigation - SJCE 100% carbor free renewable energy

Stationary Sources - Emergency Generators and Fire Pumps - 1 emergency diesel generator, 500kW, 650hp, 50hrs/year

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	5.00
tblConstructionPhase	NumDays	2.00	20.00
tblConstructionPhase	NumDays	100.00	280.00
tblConstructionPhase	NumDays	5.00	450.00
tblConstructionPhase	NumDays	100.00	220.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	43.50	92.80
tblFireplaces	NumberWood	49.30	0.00
tblGrading	MaterialExported	0.00	12,500.00
tblLandUse	LandUseSquareFeet	123,480.00	123,479.00
tblLandUse	LandUseSquareFeet	132,000.00	78,232.00
tblLandUse	LandUseSquareFeet	290,000.00	348,435.00
tblLandUse	LandUseSquareFeet	7,600.00	7,603.00
tblLandUse	LotAcreage	2.83	0.00
tblLandUse	LotAcreage	2.97	0.00
tblLandUse	LotAcreage	4.68	0.67
tblLandUse	LotAcreage	0.17	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	1.00	10.00
tblOffRoadEquipment	UsageHours	6.00	10.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	1.00	7.50
tblOffRoadEquipment	UsageHours	6.00	7.50
tblOffRoadEquipment	UsageHours	4.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.90
tblOffRoadEquipment	UsageHours	6.00	10.00
tblOffRoadEquipment	UsageHours	4.00	12.00
tblOffRoadEquipment	UsageHours	6.00	10.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	650.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	40.00	104.00
tblTripsAndVMT	HaulingTripNumber	0.00	4,800.00
tblVehicleTrips	ST_TR	4.98	3.52
tblVehicleTrips	ST_TR	2.46	1.41
tblVehicleTrips	ST_TR	42.04	21.58

tblVehicleTrips	SU_TR	3.65	2.58
tblVehicleTrips	SU_TR	1.05	0.60
tblVehicleTrips	SU_TR	20.43	10.49
tblVehicleTrips	WD_TR	4.20	2.97
tblVehicleTrips	WD_TR	11.03	6.32
tblVehicleTrips	WD_TR	44.32	22.75
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
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	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	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					
2021	1.5535	3.2998	3.2932	0.0103	0.5367	0.1022	0.6389	0.1594	0.0985	0.2579	0.0000	937.0472	937.0472	0.0718	0.0000	938.8419

2022	2.2146	3.2187	3.3167	9.5300e-003	0.3779	0.1080	0.4858	0.1016	0.1036	0.2052	0.0000	860.6894	860.6894	0.0824	0.0000	862.7482
2023	0.1861	0.0722	0.1234	2.2000e-004	5.6500e-003	3.2700e-003	8.9200e-003	1.5000e-003	3.2500e-003	4.7500e-003	0.0000	19.5855	19.5855	2.2100e-003	0.0000	19.6408
Maximum	**2.2146**	**3.2998**	**3.3167**	**0.0103**	**0.5367**	**0.1080**	**0.6389**	**0.1594**	**0.1036**	**0.2579**	**0.0000**	**937.0472**	**937.0472**	**0.0824**	**0.0000**	**938.8419**

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					
2021	1.5535	3.2998	3.2932	0.0103	0.5367	0.1022	0.6389	0.1594	0.0985	0.2579	0.0000	937.0469	937.0469	0.0718	0.0000	938.8416
2022	2.2146	3.2187	3.3167	9.5300e-003	0.3779	0.1080	0.4858	0.1016	0.1036	0.2052	0.0000	860.6890	860.6890	0.0824	0.0000	862.7479
2023	0.1861	0.0722	0.1234	2.2000e-004	5.6500e-003	3.2700e-003	8.9200e-003	1.5000e-003	3.2500e-003	4.7500e-003	0.0000	19.5854	19.5854	2.2100e-003	0.0000	19.6408
Maximum	**2.2146**	**3.2998**	**3.3167**	**0.0103**	**0.5367**	**0.1080**	**0.6389**	**0.1594**	**0.1036**	**0.2579**	**0.0000**	**937.0469**	**937.0469**	**0.0824**	**0.0000**	**938.8416**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-4-2021**	**4-3-2021**	0.6782	0.6782
2	**4-4-2021**	**7-3-2021**	0.7818	0.7818
3	**7-4-2021**	**10-3-2021**	1.1279	1.1279
4	**10-4-2021**	**1-3-2022**	2.2336	2.2336
5	**1-4-2022**	**4-3-2022**	1.9801	1.9801
6	**4-4-2022**	**7-3-2022**	1.6697	1.6697
7	**7-4-2022**	**10-3-2022**	1.0512	1.0512
8	**10-4-2022**	**1-3-2023**	0.6954	0.6954

9	**1-4-2023**	**4-3-2023**	0.2291	0.2291
		Highest	2.2336	2.2336

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.2595	0.0349	2.1623	1.8000e-004		0.0127	0.0127		0.0127	0.0127	0.0000	15.1107	15.1107	3.6300e-003	2.1000e-004	15.2646
Energy	0.0245	0.2154	0.1331	1.3400e-003		0.0169	0.0169		0.0169	0.0169	0.0000	760.6146	760.6146	0.0565	0.0152	766.5454
Mobile	0.3424	1.2848	3.9909	0.0143	1.3629	0.0111	1.3740	0.3648	0.0104	0.3752	0.0000	1,308.5807	1,308.5807	0.0419	0.0000	1,309.6274
Stationary	0.0267	0.0745	0.0680	1.3000e-004		3.9200e-003	3.9200e-003		3.9200e-003	3.9200e-003	0.0000	12.3759	12.3759	1.7400e-003	0.0000	12.4193
Waste						0.0000	0.0000		0.0000	0.0000	52.0103	0.0000	52.0103	3.0737	0.0000	128.8534
Water						0.0000	0.0000		0.0000	0.0000	14.6489	41.3062	55.9551	0.0546	0.0327	67.0668
Total	**2.6531**	**1.6096**	**6.3542**	**0.0159**	**1.3629**	**0.0447**	**1.4076**	**0.3648**	**0.0440**	**0.4088**	**66.6592**	**2,137.9882**	**2,204.6474**	**3.2320**	**0.0481**	**2,299.7769**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.2595	0.0349	2.1623	1.8000e-004		0.0127	0.0127		0.0127	0.0127	0.0000	15.1107	15.1107	3.6300e-003	2.1000e-004	15.2646
Energy	0.0245	0.2154	0.1331	1.3400e-003		0.0169	0.0169		0.0169	0.0169	0.0000	242.5284	242.5284	4.6500e-003	4.4500e-003	243.9696

Mobile	0.3424	1.2848	3.9909	0.0143	1.3629	0.0111	1.3740	0.3648	0.0104	0.3752	0.0000	1,308.5807	1,308.5807	0.0419	0.0000	1,309.6274
Stationary	0.0267	0.0745	0.0680	1.3000e-004		3.9200e-003	3.9200e-003		3.9200e-003	3.9200e-003	0.0000	12.3759	12.3759	1.7400e-003	0.0000	12.4193
Waste						0.0000	0.0000		0.0000	0.0000	52.0103	0.0000	52.0103	3.0737	0.0000	128.8534
Water						0.0000	0.0000		0.0000	0.0000	14.6489	41.3062	55.9551	0.0546	0.0327	67.0668
Total	**2.6531**	**1.6096**	**6.3542**	**0.0159**	**1.3629**	**0.0447**	**1.4076**	**0.3648**	**0.0440**	**0.4088**	**66.6592**	**1,619.9020**	**1,686.5612**	**3.1802**	**0.0374**	**1,777.2012**

	ROG	NOx	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**	**24.23**	**23.50**	**1.60**	**22.29**	**22.72**

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/Site Preperation	Demolition	1/4/2021	1/8/2021	5	5	
2	Shoring/Grading/Excavation	Grading	1/11/2021	2/5/2021	5	20	
3	Below Slab Utilities	Trenching	2/8/2021	2/19/2021	5	10	
4	Foundation/Structure	Building Construction	2/22/2021	3/18/2022	5	280	
5	Architectural Coating	Architectural Coating	5/17/2021	2/3/2023	5	450	
6	Building - Exterior	Building Construction	10/4/2021	8/5/2022	5	220	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 705,581; Residential Outdoor: 235,194; Non-Residential Indoor: 196,623; Non-Residential Outdoor: 65,541; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition/Site Preperation	Concrete/Industrial Saws	1	10.00	81	0.73

Demolition/Site Preperation	Excavators	1	10.00	158	0.38
Demolition/Site Preperation	Rubber Tired Dozers	1	10.00	247	0.40
Demolition/Site Preperation	Tractors/Loaders/Backhoes	2	10.00	97	0.37
Shoring/Grading/Excavation	Bore/Drill Rigs	1	6.00	221	0.50
Shoring/Grading/Excavation	Concrete/Industrial Saws	0	0.00	81	0.73
Shoring/Grading/Excavation	Excavators	1	7.50	158	0.38
Shoring/Grading/Excavation	Graders	0	0.00	187	0.41
Shoring/Grading/Excavation	Rubber Tired Dozers	1	7.50	247	0.40
Shoring/Grading/Excavation	Tractors/Loaders/Backhoes	3	7.50	97	0.37
Below Slab Utilities	Concrete/Industrial Saws	0	0.00	81	0.73
Below Slab Utilities	Rubber Tired Dozers	0	0.00	247	0.40
Below Slab Utilities	Tractors/Loaders/Backhoes	2	12.00	97	0.37
Foundation/Structure	Cranes	0	0.00	231	0.29
Foundation/Structure	Forklifts	0	0.00	89	0.20
Foundation/Structure	Pumps	2	4.30	84	0.74
Foundation/Structure	Tractors/Loaders/Backhoes	2	0.90	97	0.37
Architectural Coating	Aerial Lifts	4	5.00	63	0.31
Architectural Coating	Air Compressors	2	10.00	78	0.48
Building - Exterior	Cement and Mortar Mixers	0	0.00	9	0.56
Building - Exterior	Cranes	1	12.00	231	0.29
Building - Exterior	Forklifts	4	10.00	89	0.20
Building - Exterior	Pavers	0	0.00	130	0.42
Building - Exterior	Rollers	0	0.00	80	0.38
Building - Exterior	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Building - Exterior	Welders	4	5.00	46	0.45

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/Site Preperation	5	13.00	0.00	104.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Shoring/Grading/Excavation	6	15.00	0.00	1,563.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Below Slab Utilities	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Foundation/Structure	4	284.00	65.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	6	57.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building - Exterior	9	284.00	65.00	4,800.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition/Site Preperation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.3300e-003	0.0000	4.3300e-003	6.6000e-004	0.0000	6.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.3600e-003	0.0624	0.0485	8.0000e-005		3.2300e-003	3.2300e-003		3.0100e-003	3.0100e-003	0.0000	7.1498	7.1498	1.8700e-003	0.0000	7.1964
Total	**6.3600e-003**	**0.0624**	**0.0485**	**8.0000e-005**	**4.3300e-003**	**3.2300e-003**	**7.5600e-003**	**6.6000e-004**	**3.0100e-003**	**3.6700e-003**	**0.0000**	**7.1498**	**7.1498**	**1.8700e-003**	**0.0000**	**7.1964**

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	4.1000e-004	0.0139	3.0300e-003	4.0000e-005	8.8000e-004	4.0000e-005	9.3000e-004	2.4000e-004	4.0000e-005	2.8000e-004	0.0000	3.9158	3.9158	1.8000e-004	0.0000	3.9202
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	1.0000e-004	7.0000e-005	7.4000e-004	0.0000	2.6000e-004	0.0000	2.6000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2134	0.2134	0.0000	0.0000	0.2135
Total	**5.1000e-004**	**0.0140**	**3.7700e-003**	**4.0000e-005**	**1.1400e-003**	**4.0000e-005**	**1.1900e-003**	**3.1000e-004**	**4.0000e-005**	**3.5000e-004**	**0.0000**	**4.1292**	**4.1292**	**1.8000e-004**	**0.0000**	**4.1337**

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					4.3300e-003	0.0000	4.3300e-003	6.6000e-004	0.0000	6.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.3600e-003	0.0624	0.0485	8.0000e-005		3.2300e-003	3.2300e-003		3.0100e-003	3.0100e-003	0.0000	7.1498	7.1498	1.8700e-003	0.0000	7.1964
Total	**6.3600e-003**	**0.0624**	**0.0485**	**8.0000e-005**	**4.3300e-003**	**3.2300e-003**	**7.5600e-003**	**6.6000e-004**	**3.0100e-003**	**3.6700e-003**	**0.0000**	**7.1498**	**7.1498**	**1.8700e-003**	**0.0000**	**7.1964**

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	4.1000e-004	0.0139	3.0300e-003	4.0000e-005	8.8000e-004	4.0000e-005	9.3000e-004	2.4000e-004	4.0000e-005	2.8000e-004	0.0000	3.9158	3.9158	1.8000e-004	0.0000	3.9202
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	7.0000e-005	7.4000e-004	0.0000	2.6000e-004	0.0000	2.6000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2134	0.2134	0.0000	0.0000	0.2135
Total	**5.1000e-004**	**0.0140**	**3.7700e-003**	**4.0000e-005**	**1.1400e-003**	**4.0000e-005**	**1.1900e-003**	**3.1000e-004**	**4.0000e-005**	**3.5000e-004**	**0.0000**	**4.1292**	**4.1292**	**1.8000e-004**	**0.0000**	**4.1337**

3.3 Shoring/Grading/Excavation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0572	0.0000	0.0572	0.0311	0.0000	0.0311	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0192	0.1990	0.1477	2.9000e-004		9.8000e-003	9.8000e-003		9.0200e-003	9.0200e-003	0.0000	25.1735	25.1735	8.1400e-003	0.0000	25.3770
Total	**0.0192**	**0.1990**	**0.1477**	**2.9000e-004**	**0.0572**	**9.8000e-003**	**0.0670**	**0.0311**	**9.0200e-003**	**0.0402**	**0.0000**	**25.1735**	**25.1735**	**8.1400e-003**	**0.0000**	**25.3770**

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	6.1300e-003	0.2090	0.0455	6.1000e-004	0.0133	6.5000e-004	0.0139	3.6400e-003	6.2000e-004	4.2700e-003	0.0000	58.8495	58.8495	2.6700e-003	0.0000	58.9163
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.4300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9848	0.9848	2.0000e-005	0.0000	0.9854
Total	**6.5900e-003**	**0.2093**	**0.0490**	**6.2000e-004**	**0.0144**	**6.6000e-004**	**0.0151**	**3.9600e-003**	**6.3000e-004**	**4.5900e-003**	**0.0000**	**59.8343**	**59.8343**	**2.6900e-003**	**0.0000**	**59.9017**

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					0.0572	0.0000	0.0572	0.0311	0.0000	0.0311	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0192	0.1990	0.1477	2.9000e-004		9.8000e-003	9.8000e-003		9.0200e-003	9.0200e-003	0.0000	25.1735	25.1735	8.1400e-003	0.0000	25.3770
Total	**0.0192**	**0.1990**	**0.1477**	**2.9000e-004**	**0.0572**	**9.8000e-003**	**0.0670**	**0.0311**	**9.0200e-003**	**0.0402**	**0.0000**	**25.1735**	**25.1735**	**8.1400e-003**	**0.0000**	**25.3770**

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	6.1300e-003	0.2090	0.0455	6.1000e-004	0.0133	6.5000e-004	0.0139	3.6400e-003	6.2000e-004	4.2700e-003	0.0000	58.8495	58.8495	2.6700e-003	0.0000	58.9163
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.4300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9848	0.9848	2.0000e-005	0.0000	0.9854
Total	**6.5900e-003**	**0.2093**	**0.0490**	**6.2000e-004**	**0.0144**	**6.6000e-004**	**0.0151**	**3.9600e-003**	**6.3000e-004**	**4.5900e-003**	**0.0000**	**59.8343**	**59.8343**	**2.6900e-003**	**0.0000**	**59.9017**

3.4 Below Slab Utilities - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.8100e-003	0.0284	0.0339	5.0000e-005		1.6800e-003	1.6800e-003		1.5400e-003	1.5400e-003	0.0000	4.0946	4.0946	1.3200e-003	0.0000	4.1277
Total	**2.8100e-003**	**0.0284**	**0.0339**	**5.0000e-005**		**1.6800e-003**	**1.6800e-003**		**1.5400e-003**	**1.5400e-003**	**0.0000**	**4.0946**	**4.0946**	**1.3200e-003**	**0.0000**	**4.1277**

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	8.0000e-005	5.0000e-005	5.7000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1641	0.1641	0.0000	0.0000	0.1642
Total	**8.0000e-005**	**5.0000e-005**	**5.7000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1641**	**0.1641**	**0.0000**	**0.0000**	**0.1642**

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	2.8100e-003	0.0284	0.0339	5.0000e-005		1.6800e-003	1.6800e-003		1.5400e-003	1.5400e-003	0.0000	4.0946	4.0946	1.3200e-003	0.0000	4.1277
Total	**2.8100e-003**	**0.0284**	**0.0339**	**5.0000e-005**		**1.6800e-003**	**1.6800e-003**		**1.5400e-003**	**1.5400e-003**	**0.0000**	**4.0946**	**4.0946**	**1.3200e-003**	**0.0000**	**4.1277**

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	8.0000e-005	5.0000e-005	5.7000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1641	0.1641	0.0000	0.0000	0.1642
Total	**8.0000e-005**	**5.0000e-005**	**5.7000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1641**	**0.1641**	**0.0000**	**0.0000**	**0.1642**

3.5 Foundation/Structure - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0508	0.4362	0.5096	8.7000e-004		0.0243	0.0243		0.0241	0.0241	0.0000	75.2645	75.2645	5.9600e-003	0.0000	75.4136
Total	**0.0508**	**0.4362**	**0.5096**	**8.7000e-004**		**0.0243**	**0.0243**		**0.0241**	**0.0241**	**0.0000**	**75.2645**	**75.2645**	**5.9600e-003**	**0.0000**	**75.4136**

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	0.0239	0.7514	0.2000	1.9700e-003	0.0481	1.6700e-003	0.0498	0.0139	1.5900e-003	0.0155	0.0000	189.4152	189.4152	8.2500e-003	0.0000	189.6216
Worker	0.0984	0.0682	0.7309	2.3200e-003	0.2534	1.5900e-003	0.2550	0.0674	1.4700e-003	0.0689	0.0000	209.7651	209.7651	4.7700e-003	0.0000	209.8844
Total	**0.1223**	**0.8196**	**0.9309**	**4.2900e-003**	**0.3015**	**3.2600e-003**	**0.3048**	**0.0813**	**3.0600e-003**	**0.0844**	**0.0000**	**399.1804**	**399.1804**	**0.0130**	**0.0000**	**399.5060**

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	0.0508	0.4362	0.5096	8.7000e-004		0.0243	0.0243		0.0241	0.0241	0.0000	75.2644	75.2644	5.9600e-003	0.0000	75.4135
Total	**0.0508**	**0.4362**	**0.5096**	**8.7000e-004**		**0.0243**	**0.0243**		**0.0241**	**0.0241**	**0.0000**	**75.2644**	**75.2644**	**5.9600e-003**	**0.0000**	**75.4135**

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	0.0239	0.7514	0.2000	1.9700e-003	0.0481	1.6700e-003	0.0498	0.0139	1.5900e-003	0.0155	0.0000	189.4152	189.4152	8.2500e-003	0.0000	189.6216
Worker	0.0984	0.0682	0.7309	2.3200e-003	0.2534	1.5900e-003	0.2550	0.0674	1.4700e-003	0.0689	0.0000	209.7651	209.7651	4.7700e-003	0.0000	209.8844

Total	**0.1223**	**0.8196**	**0.9309**	**4.2900e-003**	**0.3015**	**3.2600e-003**	**0.3048**	**0.0813**	**3.0600e-003**	**0.0844**	**0.0000**	**399.1804**	**399.1804**	**0.0130**	**0.0000**	**399.5060**

3.5 Foundation/Structure - 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	0.0114	0.0981	0.1242	2.1000e-004		5.1600e-003	5.1600e-003		5.1200e-003	5.1200e-003	0.0000	18.3999	18.3999	1.4000e-003	0.0000	18.4349
Total	**0.0114**	**0.0981**	**0.1242**	**2.1000e-004**		**5.1600e-003**	**5.1600e-003**		**5.1200e-003**	**5.1200e-003**	**0.0000**	**18.3999**	**18.3999**	**1.4000e-003**	**0.0000**	**18.4349**

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	5.4400e-003	0.1736	0.0461	4.8000e-004	0.0118	3.5000e-004	0.0121	3.4000e-003	3.4000e-004	3.7400e-003	0.0000	45.8585	45.8585	1.9300e-003	0.0000	45.9067
Worker	0.0225	0.0150	0.1642	5.5000e-004	0.0619	3.8000e-004	0.0623	0.0165	3.5000e-004	0.0168	0.0000	49.4134	49.4134	1.0500e-003	0.0000	49.4395
Total	**0.0279**	**0.1886**	**0.2103**	**1.0300e-003**	**0.0737**	**7.3000e-004**	**0.0744**	**0.0199**	**6.9000e-004**	**0.0206**	**0.0000**	**95.2719**	**95.2719**	**2.9800e-003**	**0.0000**	**95.3462**

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	0.0114	0.0981	0.1242	2.1000e-004		5.1600e-003	5.1600e-003		5.1200e-003	5.1200e-003	0.0000	18.3998	18.3998	1.4000e-003	0.0000	18.4348
Total	**0.0114**	**0.0981**	**0.1242**	**2.1000e-004**		**5.1600e-003**	**5.1600e-003**		**5.1200e-003**	**5.1200e-003**	**0.0000**	**18.3998**	**18.3998**	**1.4000e-003**	**0.0000**	**18.4348**

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	5.4400e-003	0.1736	0.0461	4.8000e-004	0.0118	3.5000e-004	0.0121	3.4000e-003	3.4000e-004	3.7400e-003	0.0000	45.8585	45.8585	1.9300e-003	0.0000	45.9067
Worker	0.0225	0.0150	0.1642	5.5000e-004	0.0619	3.8000e-004	0.0623	0.0165	3.5000e-004	0.0168	0.0000	49.4134	49.4134	1.0500e-003	0.0000	49.4395
Total	**0.0279**	**0.1886**	**0.2103**	**1.0300e-003**	**0.0737**	**7.3000e-004**	**0.0744**	**0.0199**	**6.9000e-004**	**0.0206**	**0.0000**	**95.2719**	**95.2719**	**2.9800e-003**	**0.0000**	**95.3462**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

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

Archit. Coating	1.1560					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0679	0.5438	0.7255	1.1600e-003		0.0282	0.0282		0.0281	0.0281	0.0000	100.6418	100.6418	0.0147	0.0000	101.0083
Total	**1.2239**	**0.5438**	**0.7255**	**1.1600e-003**		**0.0282**	**0.0282**		**0.0281**	**0.0281**	**0.0000**	**100.6418**	**100.6418**	**0.0147**	**0.0000**	**101.0083**

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	0.0145	0.0100	0.1076	3.4000e-004	0.0373	2.3000e-004	0.0375	9.9200e-003	2.2000e-004	0.0101	0.0000	30.8739	30.8739	7.0000e-004	0.0000	30.8914
Total	**0.0145**	**0.0100**	**0.1076**	**3.4000e-004**	**0.0373**	**2.3000e-004**	**0.0375**	**9.9200e-003**	**2.2000e-004**	**0.0101**	**0.0000**	**30.8739**	**30.8739**	**7.0000e-004**	**0.0000**	**30.8914**

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	1.1560					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0679	0.5438	0.7255	1.1600e-003		0.0282	0.0282		0.0281	0.0281	0.0000	100.6417	100.6417	0.0147	0.0000	101.0081
Total	**1.2239**	**0.5438**	**0.7255**	**1.1600e-003**		**0.0282**	**0.0282**		**0.0281**	**0.0281**	**0.0000**	**100.6417**	**100.6417**	**0.0147**	**0.0000**	**101.0081**

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	0.0145	0.0100	0.1076	3.4000e-004	0.0373	2.3000e-004	0.0375	9.9200e-003	2.2000e-004	0.0101	0.0000	30.8739	30.8739	7.0000e-004	0.0000	30.8914
Total	**0.0145**	**0.0100**	**0.1076**	**3.4000e-004**	**0.0373**	**2.3000e-004**	**0.0375**	**9.9200e-003**	**2.2000e-004**	**0.0101**	**0.0000**	**30.8739**	**30.8739**	**7.0000e-004**	**0.0000**	**30.8914**

3.6 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	1.8215					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1004	0.7924	1.1414	1.8300e-003		0.0388	0.0388		0.0385	0.0385	0.0000	158.5870	158.5870	0.0227	0.0000	159.1548
Total	**1.9219**	**0.7924**	**1.1414**	**1.8300e-003**		**0.0388**	**0.0388**		**0.0385**	**0.0385**	**0.0000**	**158.5870**	**158.5870**	**0.0227**	**0.0000**	**159.1548**

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	0.0213	0.0142	0.1558	5.2000e-004	0.0588	3.6000e-004	0.0591	0.0156	3.3000e-004	0.0160	0.0000	46.8826	46.8826	9.9000e-004	0.0000	46.9074
Total	**0.0213**	**0.0142**	**0.1558**	**5.2000e-004**	**0.0588**	**3.6000e-004**	**0.0591**	**0.0156**	**3.3000e-004**	**0.0160**	**0.0000**	**46.8826**	**46.8826**	**9.9000e-004**	**0.0000**	**46.9074**

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	1.8215					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1004	0.7924	1.1414	1.8300e-003		0.0388	0.0388		0.0385	0.0385	0.0000	158.5868	158.5868	0.0227	0.0000	159.1546
Total	**1.9219**	**0.7924**	**1.1414**	**1.8300e-003**		**0.0388**	**0.0388**		**0.0385**	**0.0385**	**0.0000**	**158.5868**	**158.5868**	**0.0227**	**0.0000**	**159.1546**

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	0.0213	0.0142	0.1558	5.2000e-004	0.0588	3.6000e-004	0.0591	0.0156	3.3000e-004	0.0160	0.0000	46.8826	46.8826	9.9000e-004	0.0000	46.9074
Total	**0.0213**	**0.0142**	**0.1558**	**5.2000e-004**	**0.0588**	**3.6000e-004**	**0.0591**	**0.0156**	**3.3000e-004**	**0.0160**	**0.0000**	**46.8826**	**46.8826**	**9.9000e-004**	**0.0000**	**46.9074**

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1751					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0700e-003	0.0710	0.1096	1.8000e-004		3.2400e-003	3.2400e-003		3.2200e-003	3.2200e-003	0.0000	15.2488	15.2488	2.1300e-003	0.0000	15.3019
Total	**0.1842**	**0.0710**	**0.1096**	**1.8000e-004**		**3.2400e-003**	**3.2400e-003**		**3.2200e-003**	**3.2200e-003**	**0.0000**	**15.2488**	**15.2488**	**2.1300e-003**	**0.0000**	**15.3019**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9200e-003	1.2300e-003	0.0138	5.0000e-005	5.6500e-003	3.0000e-005	5.6900e-003	1.5000e-003	3.0000e-005	1.5300e-003	0.0000	4.3367	4.3367	9.0000e-005	0.0000	4.3389
Total	**1.9200e-003**	**1.2300e-003**	**0.0138**	**5.0000e-005**	**5.6500e-003**	**3.0000e-005**	**5.6900e-003**	**1.5000e-003**	**3.0000e-005**	**1.5300e-003**	**0.0000**	**4.3367**	**4.3367**	**9.0000e-005**	**0.0000**	**4.3389**

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	0.1751					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0700e-003	0.0710	0.1096	1.8000e-004		3.2400e-003	3.2400e-003		3.2200e-003	3.2200e-003	0.0000	15.2487	15.2487	2.1300e-003	0.0000	15.3019
Total	**0.1842**	**0.0710**	**0.1096**	**1.8000e-004**		**3.2400e-003**	**3.2400e-003**		**3.2200e-003**	**3.2200e-003**	**0.0000**	**15.2487**	**15.2487**	**2.1300e-003**	**0.0000**	**15.3019**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9200e-003	1.2300e-003	0.0138	5.0000e-005	5.6500e-003	3.0000e-005	5.6900e-003	1.5000e-003	3.0000e-005	1.5300e-003	0.0000	4.3367	4.3367	9.0000e-005	0.0000	4.3389
Total	**1.9200e-003**	**1.2300e-003**	**0.0138**	**5.0000e-005**	**5.6500e-003**	**3.0000e-005**	**5.6900e-003**	**1.5000e-003**	**3.0000e-005**	**1.5300e-003**	**0.0000**	**4.3367**	**4.3367**	**9.0000e-005**	**0.0000**	**4.3389**

3.7 Building - Exterior - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0657	0.5506	0.4261	7.4000e-004		0.0292	0.0292		0.0274	0.0274	0.0000	61.8256	61.8256	0.0170	0.0000	62.2517
Total	**0.0657**	**0.5506**	**0.4261**	**7.4000e-004**		**0.0292**	**0.0292**		**0.0274**	**0.0274**	**0.0000**	**61.8256**	**61.8256**	**0.0170**	**0.0000**	**62.2517**

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	5.5600e-003	0.1896	0.0413	5.5000e-004	0.0335	5.9000e-004	0.0341	8.5700e-003	5.7000e-004	9.1400e-003	0.0000	53.3969	53.3969	2.4200e-003	0.0000	53.4575
Vendor	6.8900e-003	0.2171	0.0578	5.7000e-004	0.0139	4.8000e-004	0.0144	4.0200e-003	4.6000e-004	4.4800e-003	0.0000	54.7200	54.7200	2.3800e-003	0.0000	54.7796
Worker	0.0284	0.0197	0.2111	6.7000e-004	0.0732	4.6000e-004	0.0737	0.0195	4.2000e-004	0.0199	0.0000	60.5988	60.5988	1.3800e-003	0.0000	60.6333
Total	**0.0409**	**0.4264**	**0.3103**	**1.7900e-003**	**0.1206**	**1.5300e-003**	**0.1221**	**0.0321**	**1.4500e-003**	**0.0335**	**0.0000**	**168.7157**	**168.7157**	**6.1800e-003**	**0.0000**	**168.8703**

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	0.0657	0.5506	0.4261	7.4000e-004		0.0292	0.0292		0.0274	0.0274	0.0000	61.8256	61.8256	0.0170	0.0000	62.2516

Total	**0.0657**	**0.5506**	**0.4261**	**7.4000e-004**		**0.0292**	**0.0292**		**0.0274**	**0.0274**	**0.0000**	**61.8256**	**61.8256**	**0.0170**	**0.0000**	**62.2516**

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	5.5600e-003	0.1896	0.0413	5.5000e-004	0.0335	5.9000e-004	0.0341	8.5700e-003	5.7000e-004	9.1400e-003	0.0000	53.3969	53.3969	2.4200e-003	0.0000	53.4575
Vendor	6.8900e-003	0.2171	0.0578	5.7000e-004	0.0139	4.8000e-004	0.0144	4.0200e-003	4.6000e-004	4.4800e-003	0.0000	54.7200	54.7200	2.3800e-003	0.0000	54.7796
Worker	0.0284	0.0197	0.2111	6.7000e-004	0.0732	4.6000e-004	0.0737	0.0195	4.2000e-004	0.0199	0.0000	60.5988	60.5988	1.3800e-003	0.0000	60.6333
Total	**0.0409**	**0.4264**	**0.3103**	**1.7900e-003**	**0.1206**	**1.5300e-003**	**0.1221**	**0.0321**	**1.4500e-003**	**0.0335**	**0.0000**	**168.7157**	**168.7157**	**6.1800e-003**	**0.0000**	**168.8703**

3.7 Building - Exterior - 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	0.1410	1.1786	0.9956	1.7600e-003		0.0597	0.0597		0.0559	0.0559	0.0000	147.4400	147.4400	0.0403	0.0000	148.4464
Total	**0.1410**	**1.1786**	**0.9956**	**1.7600e-003**		**0.0597**	**0.0597**		**0.0559**	**0.0559**	**0.0000**	**147.4400**	**147.4400**	**0.0403**	**0.0000**	**148.4464**

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	0.0125	0.4153	0.0969	1.3000e-003	0.0377	1.2100e-003	0.0389	0.0101	1.1600e-003	0.0113	0.0000	125.6144	125.6144	5.6500e-003	0.0000	125.7556
Vendor	0.0153	0.4893	0.1298	1.3500e-003	0.0331	1.0000e-003	0.0341	9.5800e-003	9.5000e-004	0.0105	0.0000	129.2377	129.2377	5.4300e-003	0.0000	129.3734
Worker	0.0633	0.0421	0.4628	1.5400e-003	0.1746	1.0700e-003	0.1756	0.0464	9.9000e-004	0.0474	0.0000	139.2559	139.2559	2.9500e-003	0.0000	139.3296
Total	**0.0911**	**0.9467**	**0.6894**	**4.1900e-003**	**0.2454**	**3.2800e-003**	**0.2487**	**0.0661**	**3.1000e-003**	**0.0692**	**0.0000**	**394.1080**	**394.1080**	**0.0140**	**0.0000**	**394.4586**

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	0.1410	1.1786	0.9956	1.7600e-003		0.0597	0.0597		0.0559	0.0559	0.0000	147.4398	147.4398	0.0403	0.0000	148.4462
Total	**0.1410**	**1.1786**	**0.9956**	**1.7600e-003**		**0.0597**	**0.0597**		**0.0559**	**0.0559**	**0.0000**	**147.4398**	**147.4398**	**0.0403**	**0.0000**	**148.4462**

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	0.0125	0.4153	0.0969	1.3000e-003	0.0377	1.2100e-003	0.0389	0.0101	1.1600e-003	0.0113	0.0000	125.6144	125.6144	5.6500e-003	0.0000	125.7556
Vendor	0.0153	0.4893	0.1298	1.3500e-003	0.0331	1.0000e-003	0.0341	9.5800e-003	9.5000e-004	0.0105	0.0000	129.2377	129.2377	5.4300e-003	0.0000	129.3734
Worker	0.0633	0.0421	0.4628	1.5400e-003	0.1746	1.0700e-003	0.1756	0.0464	9.9000e-004	0.0474	0.0000	139.2559	139.2559	2.9500e-003	0.0000	139.3296
Total	**0.0911**	**0.9467**	**0.6894**	**4.1900e-003**	**0.2454**	**3.2800e-003**	**0.2487**	**0.0661**	**3.1000e-003**	**0.0692**	**0.0000**	**394.1080**	**394.1080**	**0.0140**	**0.0000**	**394.4586**

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	0.3424	1.2848	3.9909	0.0143	1.3629	0.0111	1.3740	0.3648	0.0104	0.3752	0.0000	1,308.5807	1,308.5807	0.0419	0.0000	1,309.6274
Unmitigated	0.3424	1.2848	3.9909	0.0143	1.3629	0.0111	1.3740	0.3648	0.0104	0.3752	0.0000	1,308.5807	1,308.5807	0.0419	0.0000	1,309.6274

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	861.30	1,020.80	748.20	2,004,574	2,004,574
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	780.39	174.11	74.09	1,416,838	1,416,838
Strip Mall	172.90	164.01	79.72	243,816	243,816
Total	1,814.59	1,358.91	902.01	3,665,228	3,665,228

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.612822	0.036208	0.182365	0.105071	0.013933	0.005011	0.012748	0.021514	0.002168	0.001529	0.005280	0.000629	0.000720
Enclosed Parking with Elevator	0.612822	0.036208	0.182365	0.105071	0.013933	0.005011	0.012748	0.021514	0.002168	0.001529	0.005280	0.000629	0.000720
General Office Building	0.612822	0.036208	0.182365	0.105071	0.013933	0.005011	0.012748	0.021514	0.002168	0.001529	0.005280	0.000629	0.000720
Strip Mall	0.612822	0.036208	0.182365	0.105071	0.013933	0.005011	0.012748	0.021514	0.002168	0.001529	0.005280	0.000629	0.000720

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable 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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	518.0862	518.0862	0.0518	0.0107	522.5757

NaturalGas Mitigated	0.0245	0.2154	0.1331	1.3400e-003		0.0169	0.0169		0.0169	0.0169	0.0000	242.5284	242.5284	4.6500e-003	4.4500e-003	243.9696
NaturalGas Unmitigated	0.0245	0.2154	0.1331	1.3400e-003		0.0169	0.0169		0.0169	0.0169	0.0000	242.5284	242.5284	4.6500e-003	4.4500e-003	243.9696

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	2.50544e+006	0.0135	0.1155	0.0491	7.4000e-004		9.3300e-003	9.3300e-003		9.3300e-003	9.3300e-003	0.0000	133.6999	133.6999	2.5600e-003	2.4500e-003	134.4944
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
General Office Building	2.02135e+006	0.0109	0.0991	0.0832	5.9000e-004		7.5300e-003	7.5300e-003		7.5300e-003	7.5300e-003	0.0000	107.8670	107.8670	2.0700e-003	1.9800e-003	108.5080
Strip Mall	18019.1	1.0000e-004	8.8000e-004	7.4000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.9616	0.9616	2.0000e-005	2.0000e-005	0.9673
Total		**0.0245**	**0.2154**	**0.1331**	**1.3400e-003**		**0.0169**	**0.0169**		**0.0169**	**0.0169**	**0.0000**	**242.5284**	**242.5284**	**4.6500e-003**	**4.4500e-003**	**243.9696**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	2.50544e+006	0.0135	0.1155	0.0491	7.4000e-004		9.3300e-003	9.3300e-003		9.3300e-003	9.3300e-003	0.0000	133.6999	133.6999	2.5600e-003	2.4500e-003	134.4944
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
General Office Building	2.02135e+006	0.0109	0.0991	0.0832	5.9000e-004		7.5300e-003	7.5300e-003		7.5300e-003	7.5300e-003	0.0000	107.8670	107.8670	2.0700e-003	1.9800e-003	108.5080
Strip Mall	18019.1	1.0000e-004	8.8000e-004	7.4000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.9616	0.9616	2.0000e-005	2.0000e-005	0.9673

Total		**0.0245**	**0.2154**	**0.1331**	**1.3400e-003**		**0.0169**	**0.0169**		**0.0169**	**0.0169**	**0.0000**	**242.5284**	**242.5284**	**4.6500e-003**	**4.4500e-003**	**243.9696**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	1.19722e+006	157.4847	0.0158	3.2600e-003	158.8493
Enclosed Parking with Elevator	458440	60.3040	6.0300e-003	1.2500e-003	60.8265
General Office Building	2.20163e+006	289.6064	0.0290	5.9900e-003	292.1160
Strip Mall	81276.1	10.6912	1.0700e-003	2.2000e-004	10.7838
Total		**518.0862**	**0.0518**	**0.0107**	**522.5757**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	2.2595	0.0349	2.1623	1.8000e-004		0.0127	0.0127		0.0127	0.0127	0.0000	15.1107	15.1107	3.6300e-003	2.1000e-004	15.2646
Unmitigated	2.2595	0.0349	2.1623	1.8000e-004		0.0127	0.0127		0.0127	0.0127	0.0000	15.1107	15.1107	3.6300e-003	2.1000e-004	15.2646

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	0.3153					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.8778					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.1700e-003	0.0100	4.2600e-003	6.0000e-005		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	11.5851	11.5851	2.2000e-004	2.1000e-004	11.6539
Landscaping	0.0653	0.0249	2.1580	1.1000e-004		0.0119	0.0119		0.0119	0.0119	0.0000	3.5256	3.5256	3.4000e-003	0.0000	3.6107
Total	**2.2595**	**0.0349**	**2.1623**	**1.7000e-004**		**0.0128**	**0.0128**		**0.0128**	**0.0128**	**0.0000**	**15.1107**	**15.1107**	**3.6200e-003**	**2.1000e-004**	**15.2646**

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	0.3153					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.8778					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.1700e-003	0.0100	4.2600e-003	6.0000e-005		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	11.5851	11.5851	2.2000e-004	2.1000e-004	11.6539
Landscaping	0.0653	0.0249	2.1580	1.1000e-004		0.0119	0.0119		0.0119	0.0119	0.0000	3.5256	3.5256	3.4000e-003	0.0000	3.6107
Total	**2.2595**	**0.0349**	**2.1623**	**1.7000e-004**		**0.0128**	**0.0128**		**0.0128**	**0.0128**	**0.0000**	**15.1107**	**15.1107**	**3.6200e-003**	**2.1000e-004**	**15.2646**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	55.9551	0.0546	0.0327	67.0668
Unmitigated	55.9551	0.0546	0.0327	67.0668

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	18.8947 / 11.9119	25.6178	0.0249	0.0149	30.6893
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	21.9466 / 13.4511	29.5785	0.0289	0.0173	35.4677
Strip Mall	0.562951 / 0.345035	0.7587	7.4000e-004	4.4000e-004	0.9098
Total		**55.9551**	**0.0546**	**0.0327**	**67.0668**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	18.8947 / 11.9119	25.6178	0.0249	0.0149	30.6893
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	21.9466 / 13.4511	29.5785	0.0289	0.0173	35.4677
Strip Mall	0.562951 / 0.345035	0.7587	7.4000e-004	4.4000e-004	0.9098
Total		**55.9551**	**0.0546**	**0.0327**	**67.0668**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	52.0103	3.0737	0.0000	128.8534
Unmitigated	52.0103	3.0737	0.0000	128.8534

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	133.4	27.0790	1.6003	0.0000	67.0871
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	114.84	23.3115	1.3777	0.0000	57.7532
Strip Mall	7.98	1.6199	0.0957	0.0000	4.0132
Total		**52.0103**	**3.0737**	**0.0000**	**128.8534**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	133.4	27.0790	1.6003	0.0000	67.0871
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	114.84	23.3115	1.3777	0.0000	57.7532
Strip Mall	7.98	1.6199	0.0957	0.0000	4.0132
Total		**52.0103**	**3.0737**	**0.0000**	**128.8534**

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	650	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 (600 - 750 HP)	0.0267	0.0745	0.0680	1.3000e-004		3.9200e-003	3.9200e-003		3.9200e-003	3.9200e-003	0.0000	12.3759	12.3759	1.7400e-003	0.0000	12.4193
Total	**0.0267**	**0.0745**	**0.0680**	**1.3000e-004**		**3.9200e-003**	**3.9200e-003**		**3.9200e-003**	**3.9200e-003**	**0.0000**	**12.3759**	**12.3759**	**1.7400e-003**	**0.0000**	**12.4193**

11.0 Vegetation

The Carlysle, San Jose - Existing

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Strip Mall	9.00	1000sqft	0.21	9,000.00	0
Parking Lot	0.46	Acre	0.46	20,037.60	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Existing land uses

Construction Phase - Existing use - no construction

Off-road Equipment - Existing use - no construction

Grading - Existing use - no construction

Demolition -

Trips and VMT -

Energy Use - historical energy use

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	PhaseEndDate	1/18/2021	1/4/2021
tblConstructionPhase	PhaseStartDate	1/16/2021	1/4/2021
tblEnergyUse	LightingElect	0.88	0.35
tblEnergyUse	LightingElect	6.02	5.25
tblEnergyUse	T24E	3.55	2.76
tblEnergyUse	T24NG	2.92	2.37
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	0.00	5.00

2.0 Emissions Summary

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	0.0416	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-004	1.7000e-004	0.0000	0.0000	1.80E-04
Energy	1.2000e-004	1.0500e-003	8.8000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	31.1671	31.1671	1.3800e-003	3.0000e-004	31.2915
Mobile	0.0691	0.2440	0.6882	2.2600e-003	0.2092	1.8200e-003	0.2110	0.0560	1.6900e-003	0.0577	0.0000	207.6269	207.6269	7.1900e-003	0.0000	207.8066
Waste						0.0000	0.0000		0.0000	0.0000	1.9183	0.0000	1.9183	0.1134	0.0000	4.7524
Water						0.0000	0.0000		0.0000	0.0000	0.2115	1.4654	1.6769	0.0218	5.3000e-004	2.3786
Total	**0.1108**	**0.2451**	**0.6892**	**2.2700e-003**	**0.2092**	**1.9000e-003**	**0.2111**	**0.0560**	**1.7700e-003**	**0.0578**	**2.1298**	**240.2596**	**242.3893**	**0.1437**	**8.3000e-004**	**246.2293**

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	0.0416	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-004	1.7000e-004	0.0000	0.0000	1.8000e-004
Energy	1.2000e-004	1.0500e-003	8.8000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	31.1671	31.1671	1.3800e-003	3.0000e-004	31.2915
Mobile	0.0691	0.2440	0.6882	2.2600e-003	0.2092	1.8200e-003	0.2110	0.0560	1.6900e-003	0.0577	0.0000	207.6269	207.6269	7.1900e-003	0.0000	207.8066
Waste						0.0000	0.0000		0.0000	0.0000	1.9183	0.0000	1.9183	0.1134	0.0000	4.7524
Water						0.0000	0.0000		0.0000	0.0000	0.2115	1.4654	1.6769	0.0218	5.3000e-004	2.3786
Total	**0.1108**	**0.2451**	**0.6892**	**2.2700e-003**	**0.2092**	**1.9000e-003**	**0.2111**	**0.0560**	**1.7700e-003**	**0.0578**	**2.1298**	**240.2596**	**242.3893**	**0.1437**	**8.3000e-004**	**246.2293**

	ROG	NOx	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**

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	0.0691	0.2440	0.6882	2.2600e-003	0.2092	1.8200e-003	0.2110	0.0560	1.6900e-003	0.0577	0.0000	207.6269	207.6269	7.1900e-003	0.0000	207.8066
Unmitigated	0.0691	0.2440	0.6882	2.2600e-003	0.2092	1.8200e-003	0.2110	0.0560	1.6900e-003	0.0577	0.0000	207.6269	207.6269	7.1900e-003	0.0000	207.8066

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Strip Mall	398.88	378.36	183.87	562,471	562,471
Total	398.88	378.36	183.87	562,471	562,471

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
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.612822	0.036208	0.182365	0.105071	0.013933	0.005011	0.012748	0.021514	0.002168	0.001529	0.005280	0.000629	0.000720
Strip Mall	0.612822	0.036208	0.182365	0.105071	0.013933	0.005011	0.012748	0.021514	0.002168	0.001529	0.005280	0.000629	0.000720

5.0 Energy Detail

Historical Energy Use: Y

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	30.0288	30.0288	1.3600e-003	2.8000e-004	30.1465
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	30.0288	30.0288	1.3600e-003	2.8000e-004	30.1465
NaturalGas Mitigated	1.2000e-004	1.0500e-003	8.8000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1383	1.1383	2.0000e-005	2.0000e-005	1.1450
NaturalGas Unmitigated	1.2000e-004	1.0500e-003	8.8000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1383	1.1383	2.0000e-005	2.0000e-005	1.1450

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					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	21330	1.2000e-004	1.0500e-003	8.8000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1383	1.1383	2.0000e-005	2.0000e-005	1.1450
Total		**1.2000e-004**	**1.0500e-003**	**8.8000e-004**	**1.0000e-005**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**	**0.0000**	**1.1383**	**1.1383**	**2.0000e-005**	**2.0000e-005**	**1.1450**

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					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Strip Mall	21330	1.2000e-004	1.0500e-003	8.8000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1383	1.1383	2.0000e-005	2.0000e-005	1.1450
Total		**1.2000e-004**	**1.0500e-003**	**8.8000e-004**	**1.0000e-005**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**	**0.0000**	**1.1383**	**1.1383**	**2.0000e-005**	**2.0000e-005**	**1.1450**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	7013.16	2.0402	9.0000e-005	2.0000e-005	2.0482
Strip Mall	96210	27.9886	1.2700e-003	2.6000e-004	28.0983
Total		**30.0288**	**1.3600e-003**	**2.8000e-004**	**30.1465**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	7013.16	2.0402	9.0000e-005	2.0000e-005	2.0482
Strip Mall	96210	27.9886	1.2700e-003	2.6000e-004	28.0983
Total		**30.0288**	**1.3600e-003**	**2.8000e-004**	**30.1465**

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	0.0416	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-004	1.7000e-004	0.0000	0.0000	1.8000e-004
Unmitigated	0.0416	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-004	1.7000e-004	0.0000	0.0000	1.8000e-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	5.1100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0364					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-004	1.7000e-004	0.0000	0.0000	1.8000e-004
Total	**0.0416**	**0.0000**	**9.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.7000e-004**	**1.7000e-004**	**0.0000**	**0.0000**	**1.8000e-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	5.1100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0364					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-004	1.7000e-004	0.0000	0.0000	1.8000e-004
Total	**0.0416**	**0.0000**	**9.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.7000e-004**	**1.7000e-004**	**0.0000**	**0.0000**	**1.8000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1.6769	0.0218	5.3000e-004	2.3786
Unmitigated	1.6769	0.0218	5.3000e-004	2.3786

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e

Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.666653 / 0.408594	1.6769	0.0218	5.3000e-004	2.3786
Total		**1.6769**	**0.0218**	**5.3000e-004**	**2.3786**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.666653 / 0.408594	1.6769	0.0218	5.3000e-004	2.3786
Total		**1.6769**	**0.0218**	**5.3000e-004**	**2.3786**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1.9183	0.1134	0.0000	4.7524

Unmitigated	1.9183	0.1134	0.0000	4.7524

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	9.45	1.9183	0.1134	0.0000	4.7524
Total		**1.9183**	**0.1134**	**0.0000**	**4.7524**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	9.45	1.9183	0.1134	0.0000	4.7524
Total		**1.9183**	**0.1134**	**0.0000**	**4.7524**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

The Carlysle, San Jose - Construction - Santa Clara County, Annual

The Carlysle, San Jose - Construction

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	123.48	1000sqft	0.00	123,479.00	0
Enclosed Parking with Elevator	330.00	Space	0.00	78,232.00	0
Apartments High Rise	290.00	Dwelling Unit	0.67	348,435.00	829
Strip Mall	7.60	1000sqft	0.00	7,603.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 Rate Co2 Intensity= 290

Land Use - Provided land uses, amenities uses in res sf

Construction Phase - Provided construction schedule

Off-road Equipment - Provided construction equip & hours

Off-road Equipment - Provided construction equip & hours

Off-road Equipment - Provided construction equip & hours

Off-road Equipment - Provided construction equip & hours

Off-road Equipment - Provided construction equip & hours

Off-road Equipment - Provided construction equip & hours

Trips and VMT - 1 mile nearby TAC, pavement demo 320 tons = 64 one-way trips, 40 + 64 = 104, building ext = 2400 cement truck round trips

Demolition - existing building demo = 8,800sf

Grading - grading = 12,500cy export

Vehicle Trips - With reductions, res = 2.97, 3.52, 2.58, Office = 6.32, 1.41, 0.60, retail = 22.75, 21.58, 10.49

Woodstoves - All wood no gas

Water And Wastewater - WTP treatment 100% aerobic

Energy Mitigation - SJCE 100% carbor free renewable energy

Stationary Sources - Emergency Generators and Fire Pumps - 1 emergency diesel generator, 500kW, 650hp, 50hrs/year

Construction Off-road Equipment Mitigation - BMPs, Tier 4 final mitigation, temporary line power, electric cranes, electric/propane aerial lifts & forklifts

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
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	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
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
tblConstructionPhase	NumDays	10.00	5.00
tblConstructionPhase	NumDays	2.00	20.00
tblConstructionPhase	NumDays	100.00	280.00
tblConstructionPhase	NumDays	5.00	450.00
tblConstructionPhase	NumDays	100.00	220.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	43.50	92.80
tblFireplaces	NumberWood	49.30	0.00
tblGrading	MaterialExported	0.00	12,500.00
tblLandUse	LandUseSquareFeet	123,480.00	123,479.00
tblLandUse	LandUseSquareFeet	132,000.00	78,232.00
tblLandUse	LandUseSquareFeet	290,000.00	348,435.00
tblLandUse	LandUseSquareFeet	7,600.00	7,603.00
tblLandUse	LotAcreage	2.83	0.00
tblLandUse	LotAcreage	2.97	0.00
tblLandUse	LotAcreage	4.68	0.67
tblLandUse	LotAcreage	0.17	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	1.00	10.00
tblOffRoadEquipment	UsageHours	6.00	10.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	1.00	7.50
tblOffRoadEquipment	UsageHours	6.00	7.50
tblOffRoadEquipment	UsageHours	4.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.90
tblOffRoadEquipment	UsageHours	6.00	10.00
tblOffRoadEquipment	UsageHours	4.00	12.00
tblOffRoadEquipment	UsageHours	6.00	10.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	650.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00

tblTripsAndVMT	HaulingTripNumber	40.00	104.00
tblTripsAndVMT	HaulingTripNumber	0.00	4,800.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblVehicleTrips	ST_TR	4.98	3.52
tblVehicleTrips	ST_TR	2.46	1.41
tblVehicleTrips	ST_TR	42.04	21.58
tblVehicleTrips	SU_TR	3.65	2.58
tblVehicleTrips	SU_TR	1.05	0.60
tblVehicleTrips	SU_TR	20.43	10.49
tblVehicleTrips	WD_TR	4.20	2.97
tblVehicleTrips	WD_TR	11.03	6.32
tblVehicleTrips	WD_TR	44.32	22.75
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
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	AnaerobicandFacultativeLagoonsPercent	2.21	0.00

tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	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					
2021	1.4344	2.5933	2.3499	4.5800e-003	0.1069	0.0976	0.2044	0.0441	0.0941	0.1382	0.0000	405.1224	405.1224	0.0594	0.0000	406.6073
2022	2.1228	2.6650	2.5961	4.9000e-003	0.0359	0.1044	0.1403	9.7600e-003	0.1003	0.1100	0.0000	427.9128	427.9128	0.0722	0.0000	429.7179
2023	0.1848	0.0712	0.1131	1.8000e-004	5.3000e-004	3.2500e-003	3.7800e-003	1.4000e-004	3.2200e-003	3.3600e-003	0.0000	15.7683	15.7683	2.1400e-003	0.0000	15.8220
Maximum	**2.1228**	**2.6650**	**2.5961**	**4.9000e-003**	**0.1069**	**0.1044**	**0.2044**	**0.0441**	**0.1003**	**0.1382**	**0.0000**	**427.9128**	**427.9128**	**0.0722**	**0.0000**	**429.7179**

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					
2021	1.2474	0.9504	1.8909	4.5800e-003	0.0731	4.28E-03	0.0773	0.0195	4.2200e-003	0.0237	0.0000	328.1622	328.1622	0.0345	0.0000	329.0249

2022	1.8935	0.8555	1.5534	4.9000e-003	0.0359	3.37E-03	0.0393	9.76E-03	3.3300e-003	0.0131	0.0000	268.9943	268.9943	0.0208	0.0000	269.5145
2023	0.1770	5.6200e-003	0.0798	1.8000e-004	5.3000e-004	1.70E-04	7.0000e-004	1.4000e-004	1.7000e-004	3.1000e-004	0.0000	11.1581	11.1581	6.5000e-004	0.0000	11.1745
Maximum	**1.8935**	**0.9504**	**1.8909**	**4.9000e-003**	**0.0731**	**4.2800e-003**	**0.0773**	**0.0195**	**4.2200e-003**	**0.0237**	**0.0000**	**328.1622**	**328.1622**	**0.0345**	**0.0000**	**329.0249**

	ROG	NOx	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	**11.33**	**66.01**	**30.34**	**0.00**	**23.60**	**96.19**	**66.34**	**45.61**	**96.09**	**85.25**	**0.00**	**28.33**	**28.33**	**58.15**	**0.00**	**28.45**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-4-2021**	**4-3-2021**	0.4858	0.1738
2	**4-4-2021**	**7-3-2021**	0.6633	0.4183
3	**7-4-2021**	**10-3-2021**	1.0045	0.6499
4	**10-4-2021**	**1-3-2022**	1.8433	0.9547
5	**1-4-2022**	**4-3-2022**	1.6533	0.8923
6	**4-4-2022**	**7-3-2022**	1.4521	0.7778
7	**7-4-2022**	**10-3-2022**	0.9683	0.5902
8	**10-4-2022**	**1-3-2023**	0.6881	0.4803
9	**1-4-2023**	**4-3-2023**	0.2268	0.1618
		Highest	1.8433	0.9547

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/Site Preperation	Demolition	1/4/2021	1/8/2021	5	5	
2	Shoring/Grading/Excavation	Grading	1/11/2021	2/5/2021	5	20	
3	Below Slab Utilities	Trenching	2/8/2021	2/19/2021	5	10	
4	Foundation/Structure	Building Construction	2/22/2021	3/18/2022	5	280	
5	Architectural Coating	Architectural Coating	5/17/2021	2/3/2023	5	450	
6	Building - Exterior	Building Construction	10/4/2021	8/5/2022	5	220	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 705,581; Residential Outdoor: 235,194; Non-Residential Indoor: 196,623; Non-Residential Outdoor: 65,541; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition/Site Preperation	Concrete/Industrial Saws	1	10.00	81	0.73
Demolition/Site Preperation	Excavators	1	10.00	158	0.38
Demolition/Site Preperation	Rubber Tired Dozers	1	10.00	247	0.40
Demolition/Site Preperation	Tractors/Loaders/Backhoes	2	10.00	97	0.37
Shoring/Grading/Excavation	Bore/Drill Rigs	1	6.00	221	0.50
Shoring/Grading/Excavation	Concrete/Industrial Saws	0	0.00	81	0.73
Shoring/Grading/Excavation	Excavators	1	7.50	158	0.38
Shoring/Grading/Excavation	Graders	0	0.00	187	0.41
Shoring/Grading/Excavation	Rubber Tired Dozers	1	7.50	247	0.40
Shoring/Grading/Excavation	Tractors/Loaders/Backhoes	3	7.50	97	0.37
Below Slab Utilities	Concrete/Industrial Saws	0	0.00	81	0.73
Below Slab Utilities	Rubber Tired Dozers	0	0.00	247	0.40
Below Slab Utilities	Tractors/Loaders/Backhoes	2	12.00	97	0.37
Foundation/Structure	Cranes	0	0.00	231	0.29
Foundation/Structure	Forklifts	0	0.00	89	0.20
Foundation/Structure	Pumps	2	4.30	84	0.74
Foundation/Structure	Tractors/Loaders/Backhoes	2	0.90	97	0.37
Architectural Coating	Aerial Lifts	4	5.00	63	0.31
Architectural Coating	Air Compressors	2	10.00	78	0.48
Building - Exterior	Cement and Mortar Mixers	0	0.00	9	0.56
Building - Exterior	Cranes	1	12.00	231	0.29
Building - Exterior	Forklifts	4	10.00	89	0.20

Building - Exterior	Pavers	0	0.00	130	0.42
Building - Exterior	Rollers	0	0.00	80	0.38
Building - Exterior	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Building - Exterior	Welders	4	5.00	46	0.45

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/Site Preperation	5	13.00	0.00	104.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Shoring/Grading/Excavation	6	15.00	0.00	1,563.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Below Slab Utilities	2	5.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Foundation/Structure	4	284.00	65.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	6	57.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Building - Exterior	9	284.00	65.00	4,800.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Alternative Fuel for Construction Equipment

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition/Site Preperation - 2021

Unmitigated Construction On-Site

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

Fugitive Dust					4.3300e-003	0.0000	4.3300e-003	6.6000e-004	0.0000	6.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.3600e-003	0.0624	0.0485	8.0000e-005		3.2300e-003	3.2300e-003		3.0100e-003	3.0100e-003	0.0000	7.1498	7.1498	1.8700e-003	0.0000	7.1964
Total	**6.3600e-003**	**0.0624**	**0.0485**	**8.0000e-005**	**4.3300e-003**	**3.2300e-003**	**7.5600e-003**	**6.6000e-004**	**3.0100e-003**	**3.6700e-003**	**0.0000**	**7.1498**	**7.1498**	**1.8700e-003**	**0.0000**	**7.1964**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.1000e-004	5.1600e-003	8.4000e-004	1.0000e-005	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.6683	0.6683	7.0000e-005	0.0000	0.6700
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	1.0000e-005	1.9000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0255	0.0255	0.0000	0.0000	0.0256
Total	**1.4000e-004**	**5.1700e-003**	**1.0300e-003**	**1.0000e-005**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.6938**	**0.6938**	**7.0000e-005**	**0.0000**	**0.6955**

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					1.9500e-003	0.0000	1.9500e-003	1.5000e-004	0.0000	1.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6000e-004	4.1500e-003	0.0509	8.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	7.1498	7.1498	1.8700e-003	0.0000	7.1964
Total	**9.6000e-004**	**4.1500e-003**	**0.0509**	**8.0000e-005**	**1.9500e-003**	**1.3000e-004**	**2.0800e-003**	**1.5000e-004**	**1.3000e-004**	**2.8000e-004**	**0.0000**	**7.1498**	**7.1498**	**1.8700e-003**	**0.0000**	**7.1964**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.1000e-004	5.1600e-003	8.4000e-004	1.0000e-005	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.6683	0.6683	7.0000e-005	0.0000	0.6700
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	1.0000e-005	1.9000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0255	0.0255	0.0000	0.0000	0.0256
Total	**1.4000e-004**	**5.1700e-003**	**1.0300e-003**	**1.0000e-005**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.6938**	**0.6938**	**7.0000e-005**	**0.0000**	**0.6955**

3.3 Shoring/Grading/Excavation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0572	0.0000	0.0572	0.0311	0.0000	0.0311	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0192	0.1990	0.1477	2.9000e-004		9.8000e-003	9.8000e-003		9.0200e-003	9.0200e-003	0.0000	25.1735	25.1735	8.1400e-003	0.0000	25.3770
Total	**0.0192**	**0.1990**	**0.1477**	**2.9000e-004**	**0.0572**	**9.8000e-003**	**0.0670**	**0.0311**	**9.0200e-003**	**0.0402**	**0.0000**	**25.1735**	**25.1735**	**8.1400e-003**	**0.0000**	**25.3770**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5900e-003	0.0775	0.0127	1.0000e-004	6.8000e-004	7.0000e-005	7.4000e-004	1.9000e-004	6.0000e-005	2.5000e-004	0.0000	10.0433	10.0433	1.0300e-003	0.0000	10.0689
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-004	7.0000e-005	8.9000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1178	0.1178	0.0000	0.0000	0.1180
Total	**1.7400e-003**	**0.0776**	**0.0136**	**1.0000e-004**	**7.9000e-004**	**7.0000e-005**	**8.5000e-004**	**2.2000e-004**	**6.0000e-005**	**2.8000e-004**	**0.0000**	**10.1611**	**10.1611**	**1.0300e-003**	**0.0000**	**10.1869**

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					0.0257	0.0000	0.0257	7.0100e-003	0.0000	7.0100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.5200e-003	0.0153	0.1707	2.9000e-004		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	25.1735	25.1735	8.1400e-003	0.0000	25.3770
Total	**3.5200e-003**	**0.0153**	**0.1707**	**2.9000e-004**	**0.0257**	**4.7000e-004**	**0.0262**	**7.0100e-003**	**4.7000e-004**	**7.4800e-003**	**0.0000**	**25.1735**	**25.1735**	**8.1400e-003**	**0.0000**	**25.3770**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5900e-003	0.0775	0.0127	1.0000e-004	6.8000e-004	7.0000e-005	7.4000e-004	1.9000e-004	6.0000e-005	2.5000e-004	0.0000	10.0433	10.0433	1.0300e-003	0.0000	10.0689

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-004	7.0000e-005	8.9000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1178	0.1178	0.0000	0.0000	0.1180
Total	**1.7400e-003**	**0.0776**	**0.0136**	**1.0000e-004**	**7.9000e-004**	**7.0000e-005**	**8.5000e-004**	**2.2000e-004**	**6.0000e-005**	**2.8000e-004**	**0.0000**	**10.1611**	**10.1611**	**1.0300e-003**	**0.0000**	**10.1869**

3.4 Below Slab Utilities - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.8100e-003	0.0284	0.0339	5.0000e-005		1.6800e-003	1.6800e-003		1.5400e-003	1.5400e-003	0.0000	4.0946	4.0946	1.3200e-003	0.0000	4.1277
Total	**2.8100e-003**	**0.0284**	**0.0339**	**5.0000e-005**		**1.6800e-003**	**1.6800e-003**		**1.5400e-003**	**1.5400e-003**	**0.0000**	**4.0946**	**4.0946**	**1.3200e-003**	**0.0000**	**4.1277**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	1.0000e-005	1.5000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0196	0.0196	0.0000	0.0000	0.0197
Total	**3.0000e-005**	**1.0000e-005**	**1.5000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0196**	**0.0196**	**0.0000**	**0.0000**	**0.0197**

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	5.7000e-004	2.4700e-003	0.0351	5.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	4.0946	4.0946	1.3200e-003	0.0000	4.1277
Total	**5.7000e-004**	**2.4700e-003**	**0.0351**	**5.0000e-005**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**	**0.0000**	**4.0946**	**4.0946**	**1.3200e-003**	**0.0000**	**4.1277**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	1.0000e-005	1.5000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0196	0.0196	0.0000	0.0000	0.0197
Total	**3.0000e-005**	**1.0000e-005**	**1.5000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0196**	**0.0196**	**0.0000**	**0.0000**	**0.0197**

3.5 Foundation/Structure - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0508	0.4362	0.5096	8.7000e-004		0.0243	0.0243		0.0241	0.0241	0.0000	75.2645	75.2645	5.9600e-003	0.0000	75.4136
Total	**0.0508**	**0.4362**	**0.5096**	**8.7000e-004**		**0.0243**	**0.0243**		**0.0241**	**0.0241**	**0.0000**	**75.2645**	**75.2645**	**5.9600e-003**	**0.0000**	**75.4136**

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	0.0123	0.4649	0.1252	6.1000e-004	6.7600e-003	3.9000e-004	7.1500e-003	1.9700e-003	3.7000e-004	2.3400e-003	0.0000	58.1434	58.1434	5.3900e-003	0.0000	58.2782
Worker	0.0323	0.0143	0.1888	2.8000e-004	0.0238	3.2000e-004	0.0241	6.3500e-003	2.9000e-004	6.6500e-003	0.0000	25.0998	25.0998	9.9000e-004	0.0000	25.1244
Total	**0.0447**	**0.4792**	**0.3140**	**8.9000e-004**	**0.0305**	**7.1000e-004**	**0.0312**	**8.3200e-003**	**6.6000e-004**	**8.9900e-003**	**0.0000**	**83.2431**	**83.2431**	**6.3800e-003**	**0.0000**	**83.4026**

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	8.9200e-003	0.0386	0.5499	8.7000e-004		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003	0.0000	75.2644	75.2644	5.9600e-003	0.0000	75.4135

Total	**8.9200e-003**	**0.0386**	**0.5499**	**8.7000e-004**		**1.1900e-003**	**1.1900e-003**		**1.1900e-003**	**1.1900e-003**	**0.0000**	**75.2644**	**75.2644**	**5.9600e-003**	**0.0000**	**75.4135**

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	0.0123	0.4649	0.1252	6.1000e-004	6.7600e-003	3.9000e-004	7.1500e-003	1.9700e-003	3.7000e-004	2.3400e-003	0.0000	58.1434	58.1434	5.3900e-003	0.0000	58.2782
Worker	0.0323	0.0143	0.1888	2.8000e-004	0.0238	3.2000e-004	0.0241	6.3500e-003	2.9000e-004	6.6500e-003	0.0000	25.0998	25.0998	9.9000e-004	0.0000	25.1244
Total	**0.0447**	**0.4792**	**0.3140**	**8.9000e-004**	**0.0305**	**7.1000e-004**	**0.0312**	**8.3200e-003**	**6.6000e-004**	**8.9900e-003**	**0.0000**	**83.2431**	**83.2431**	**6.3800e-003**	**0.0000**	**83.4026**

3.5 Foundation/Structure - 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	0.0114	0.0981	0.1242	2.1000e-004		5.1600e-003	5.1600e-003		5.1200e-003	5.1200e-003	0.0000	18.3999	18.3999	1.4000e-003	0.0000	18.4349
Total	**0.0114**	**0.0981**	**0.1242**	**2.1000e-004**		**5.1600e-003**	**5.1600e-003**		**5.1200e-003**	**5.1200e-003**	**0.0000**	**18.3999**	**18.3999**	**1.4000e-003**	**0.0000**	**18.4349**

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	2.7900e-003	0.1100	0.0285	1.5000e-004	1.6500e-003	8.0000e-005	1.7300e-003	4.8000e-004	8.0000e-005	5.6000e-004	0.0000	14.0842	14.0842	1.2400e-003	0.0000	14.1152
Worker	7.2500e-003	3.0900e-003	0.0418	7.0000e-005	5.8100e-003	8.0000e-005	5.8800e-003	1.5500e-003	7.0000e-005	1.6200e-003	0.0000	5.9166	5.9166	2.1000e-004	0.0000	5.9219
Total	**0.0100**	**0.1130**	**0.0704**	**2.2000e-004**	**7.4600e-003**	**1.6000e-004**	**7.6100e-003**	**2.0300e-003**	**1.5000e-004**	**2.1800e-003**	**0.0000**	**20.0008**	**20.0008**	**1.4500e-003**	**0.0000**	**20.0371**

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	2.1800e-003	9.4400e-003	0.1344	2.1000e-004		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004	0.0000	18.3998	18.3998	1.4000e-003	0.0000	18.4348
Total	**2.1800e-003**	**9.4400e-003**	**0.1344**	**2.1000e-004**		**2.9000e-004**	**2.9000e-004**		**2.9000e-004**	**2.9000e-004**	**0.0000**	**18.3998**	**18.3998**	**1.4000e-003**	**0.0000**	**18.4348**

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	2.7900e-003	0.1100	0.0285	1.5000e-004	1.6500e-003	8.0000e-005	1.7300e-003	4.8000e-004	8.0000e-005	5.6000e-004	0.0000	14.0842	14.0842	1.2400e-003	0.0000	14.1152
Worker	7.2500e-003	3.0900e-003	0.0418	7.0000e-005	5.8100e-003	8.0000e-005	5.8800e-003	1.5500e-003	7.0000e-005	1.6200e-003	0.0000	5.9166	5.9166	2.1000e-004	0.0000	5.9219
Total	**0.0100**	**0.1130**	**0.0704**	**2.2000e-004**	**7.4600e-003**	**1.6000e-004**	**7.6100e-003**	**2.0300e-003**	**1.5000e-004**	**2.1800e-003**	**0.0000**	**20.0008**	**20.0008**	**1.4500e-003**	**0.0000**	**20.0371**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.1560					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0679	0.5438	0.7255	1.1600e-003		0.0282	0.0282		0.0281	0.0281	0.0000	100.6418	100.6418	0.0147	0.0000	101.0083
Total	**1.2239**	**0.5438**	**0.7255**	**1.1600e-003**		**0.0282**	**0.0282**		**0.0281**	**0.0281**	**0.0000**	**100.6418**	**100.6418**	**0.0147**	**0.0000**	**101.0083**

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	4.7600e-003	2.1000e-003	0.0278	4.0000e-005	3.5000e-003	5.0000e-005	3.5400e-003	9.4000e-004	4.0000e-005	9.8000e-004	0.0000	3.6943	3.6943	1.5000e-004	0.0000	3.6979
Total	**4.7600e-003**	**2.1000e-003**	**0.0278**	**4.0000e-005**	**3.5000e-003**	**5.0000e-005**	**3.5400e-003**	**9.4000e-004**	**4.0000e-005**	**9.8000e-004**	**0.0000**	**3.6943**	**3.6943**	**1.5000e-004**	**0.0000**	**3.6979**

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	1.1560					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.1700e-003	0.0354	0.5039	1.1600e-003		1.0900e-003	1.0900e-003		1.0900e-003	1.0900e-003	0.0000	70.2144	70.2144	4.8200e-003	0.0000	70.3349
Total	**1.1641**	**0.0354**	**0.5039**	**1.1600e-003**		**1.0900e-003**	**1.0900e-003**		**1.0900e-003**	**1.0900e-003**	**0.0000**	**70.2144**	**70.2144**	**4.8200e-003**	**0.0000**	**70.3349**

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	4.7600e-003	2.1000e-003	0.0278	4.0000e-005	3.5000e-003	5.0000e-005	3.5400e-003	9.4000e-004	4.0000e-005	9.8000e-004	0.0000	3.6943	3.6943	1.5000e-004	0.0000	3.6979
Total	**4.7600e-003**	**2.1000e-003**	**0.0278**	**4.0000e-005**	**3.5000e-003**	**5.0000e-005**	**3.5400e-003**	**9.4000e-004**	**4.0000e-005**	**9.8000e-004**	**0.0000**	**3.6943**	**3.6943**	**1.5000e-004**	**0.0000**	**3.6979**

3.6 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	1.8215					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1004	0.7924	1.1414	1.8300e-003		0.0388	0.0388		0.0385	0.0385	0.0000	158.5870	158.5870	0.0227	0.0000	159.1548
Total	**1.9219**	**0.7924**	**1.1414**	**1.8300e-003**		**0.0388**	**0.0388**		**0.0385**	**0.0385**	**0.0000**	**158.5870**	**158.5870**	**0.0227**	**0.0000**	**159.1548**

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	6.8800e-003	2.9300e-003	0.0397	6.0000e-005	5.5100e-003	7.0000e-005	5.5800e-003	1.4700e-003	7.0000e-005	1.5400e-003	0.0000	5.6135	5.6135	2.0000e-004	0.0000	5.6186
Total	**6.8800e-003**	**2.9300e-003**	**0.0397**	**6.0000e-005**	**5.5100e-003**	**7.0000e-005**	**5.5800e-003**	**1.4700e-003**	**7.0000e-005**	**1.5400e-003**	**0.0000**	**5.6135**	**5.6135**	**2.0000e-004**	**0.0000**	**5.6186**

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	1.8215					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0129	0.0558	0.7940	1.8300e-003		1.7200e-003	1.7200e-003		1.7200e-003	1.7200e-003	0.0000	110.6409	110.6409	7.2000e-003	0.0000	110.8210
Total	**1.8344**	**0.0558**	**0.7940**	**1.8300e-003**		**1.7200e-003**	**1.7200e-003**		**1.7200e-003**	**1.7200e-003**	**0.0000**	**110.6409**	**110.6409**	**7.2000e-003**	**0.0000**	**110.8210**

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	6.8800e-003	2.9300e-003	0.0397	6.0000e-005	5.5100e-003	7.0000e-005	5.5800e-003	1.4700e-003	7.0000e-005	1.5400e-003	0.0000	5.6135	5.6135	2.0000e-004	0.0000	5.6186
Total	**6.8800e-003**	**2.9300e-003**	**0.0397**	**6.0000e-005**	**5.5100e-003**	**7.0000e-005**	**5.5800e-003**	**1.4700e-003**	**7.0000e-005**	**1.5400e-003**	**0.0000**	**5.6135**	**5.6135**	**2.0000e-004**	**0.0000**	**5.6186**

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1751					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0700e-003	0.0710	0.1096	1.8000e-004		3.2400e-003	3.2400e-003		3.2200e-003	3.2200e-003	0.0000	15.2488	15.2488	2.1300e-003	0.0000	15.3019

Total	**0.1842**	**0.0710**	**0.1096**	**1.8000e-004**		**3.2400e-003**	**3.2400e-003**		**3.2200e-003**	**3.2200e-003**	**0.0000**	**15.2488**	**15.2488**	**2.1300e-003**	**0.0000**	**15.3019**

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	6.1000e-004	2.5000e-004	3.4600e-003	1.0000e-005	5.3000e-004	1.0000e-005	5.4000e-004	1.4000e-004	1.0000e-005	1.5000e-004	0.0000	0.5196	0.5196	2.0000e-005	0.0000	0.5200
Total	**6.1000e-004**	**2.5000e-004**	**3.4600e-003**	**1.0000e-005**	**5.3000e-004**	**1.0000e-005**	**5.4000e-004**	**1.4000e-004**	**1.0000e-005**	**1.5000e-004**	**0.0000**	**0.5196**	**0.5196**	**2.0000e-005**	**0.0000**	**0.5200**

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	0.1751					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2400e-003	5.3700e-003	0.0764	1.8000e-004		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	10.6385	10.6385	6.4000e-004	0.0000	10.6545
Total	**0.1764**	**5.3700e-003**	**0.0764**	**1.8000e-004**		**1.7000e-004**	**1.7000e-004**		**1.7000e-004**	**1.7000e-004**	**0.0000**	**10.6385**	**10.6385**	**6.4000e-004**	**0.0000**	**10.6545**

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	6.1000e-004	2.5000e-004	3.4600e-003	1.0000e-005	5.3000e-004	1.0000e-005	5.4000e-004	1.4000e-004	1.0000e-005	1.5000e-004	0.0000	0.5196	0.5196	2.0000e-005	0.0000	0.5200
Total	**6.1000e-004**	**2.5000e-004**	**3.4600e-003**	**1.0000e-005**	**5.3000e-004**	**1.0000e-005**	**5.4000e-004**	**1.4000e-004**	**1.0000e-005**	**1.5000e-004**	**0.0000**	**0.5196**	**0.5196**	**2.0000e-005**	**0.0000**	**0.5200**

3.7 Building - Exterior - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0657	0.5506	0.4261	7.4000e-004		0.0292	0.0292		0.0274	0.0274	0.0000	61.8256	61.8256	0.0170	0.0000	62.2517
Total	**0.0657**	**0.5506**	**0.4261**	**7.4000e-004**		**0.0292**	**0.0292**		**0.0274**	**0.0274**	**0.0000**	**61.8256**	**61.8256**	**0.0170**	**0.0000**	**62.2517**

Unmitigated Construction Off-Site

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

Hauling	1.4500e-003	0.0704	0.0115	9.0000e-005	1.6900e-003	6.0000e-005	1.7500e-003	4.3000e-004	6.0000e-005	4.9000e-004	0.0000	9.1128	9.1128	9.3000e-004	0.0000	9.1360
Vendor	3.5600e-003	0.1343	0.0362	1.7000e-004	1.9500e-003	1.1000e-004	2.0600e-003	5.7000e-004	1.1000e-004	6.8000e-004	0.0000	16.7970	16.7970	1.5600e-003	0.0000	16.8359
Worker	9.3400e-003	4.1300e-003	0.0545	8.0000e-005	6.8600e-003	9.0000e-005	6.9500e-003	1.8400e-003	8.0000e-005	1.9200e-003	0.0000	7.2510	7.2510	2.9000e-004	0.0000	7.2582
Total	**0.0144**	**0.2088**	**0.1022**	**3.4000e-004**	**0.0105**	**2.6000e-004**	**0.0108**	**2.8400e-003**	**2.5000e-004**	**3.0900e-003**	**0.0000**	**33.1608**	**33.1608**	**2.7800e-003**	**0.0000**	**33.2301**

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	3.5600e-003	0.0816	0.1216	7.4000e-004		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	15.2929	15.2929	1.9900e-003	0.0000	15.3427
Total	**3.5600e-003**	**0.0816**	**0.1216**	**7.4000e-004**		**2.4000e-004**	**2.4000e-004**		**2.4000e-004**	**2.4000e-004**	**0.0000**	**15.2929**	**15.2929**	**1.9900e-003**	**0.0000**	**15.3427**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.4500e-003	0.0704	0.0115	9.0000e-005	1.6900e-003	6.0000e-005	1.7500e-003	4.3000e-004	6.0000e-005	4.9000e-004	0.0000	9.1128	9.1128	9.3000e-004	0.0000	9.1360
Vendor	3.5600e-003	0.1343	0.0362	1.7000e-004	1.9500e-003	1.1000e-004	2.0600e-003	5.7000e-004	1.1000e-004	6.8000e-004	0.0000	16.7970	16.7970	1.5600e-003	0.0000	16.8359
Worker	9.3400e-003	4.1300e-003	0.0545	8.0000e-005	6.8600e-003	9.0000e-005	6.9500e-003	1.8400e-003	8.0000e-005	1.9200e-003	0.0000	7.2510	7.2510	2.9000e-004	0.0000	7.2582

Total	**0.0144**	**0.2088**	**0.1022**	**3.4000e-004**	**0.0105**	**2.6000e-004**	**0.0108**	**2.8400e-003**	**2.5000e-004**	**3.0900e-003**	**0.0000**	**33.1608**	**33.1608**	**2.7800e-003**	**0.0000**	**33.2301**

3.7 Building - Exterior - 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	0.1410	1.1786	0.9956	1.7600e-003		0.0597	0.0597		0.0559	0.0559	0.0000	147.4400	147.4400	0.0403	0.0000	148.4464
Total	**0.1410**	**1.1786**	**0.9956**	**1.7600e-003**		**0.0597**	**0.0597**		**0.0559**	**0.0559**	**0.0000**	**147.4400**	**147.4400**	**0.0403**	**0.0000**	**148.4464**

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	3.2400e-003	0.1613	0.0267	2.2000e-004	1.9200e-003	1.2000e-004	2.0400e-003	5.2000e-004	1.2000e-004	6.3000e-004	0.0000	21.5059	21.5059	2.0900e-003	0.0000	21.5582
Vendor	7.8700e-003	0.3099	0.0804	4.1000e-004	4.6500e-003	2.3000e-004	4.8900e-003	1.3600e-003	2.2000e-004	1.5800e-003	0.0000	39.6918	39.6918	3.4900e-003	0.0000	39.7791
Worker	0.0204	8.7100e-003	0.1178	1.9000e-004	0.0164	2.2000e-004	0.0166	4.3800e-003	2.0000e-004	4.5700e-003	0.0000	16.6740	16.6740	6.0000e-004	0.0000	16.6890
Total	**0.0316**	**0.4798**	**0.2249**	**8.2000e-004**	**0.0229**	**5.7000e-004**	**0.0235**	**6.2600e-003**	**5.4000e-004**	**6.7800e-003**	**0.0000**	**77.8716**	**77.8716**	**6.1800e-003**	**0.0000**	**78.0263**

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	8.4900e-003	0.1945	0.2900	1.7600e-003		5.7000e-004	5.7000e-004		5.7000e-004	5.7000e-004	0.0000	36.4677	36.4677	4.3600e-003	0.0000	36.5768
Total	**8.4900e-003**	**0.1945**	**0.2900**	**1.7600e-003**		**5.7000e-004**	**5.7000e-004**		**5.7000e-004**	**5.7000e-004**	**0.0000**	**36.4677**	**36.4677**	**4.3600e-003**	**0.0000**	**36.5768**

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	3.2400e-003	0.1613	0.0267	2.2000e-004	1.9200e-003	1.2000e-004	2.0400e-003	5.2000e-004	1.2000e-004	6.3000e-004	0.0000	21.5059	21.5059	2.0900e-003	0.0000	21.5582
Vendor	7.8700e-003	0.3099	0.0804	4.1000e-004	4.6500e-003	2.3000e-004	4.8900e-003	1.3600e-003	2.2000e-004	1.5800e-003	0.0000	39.6918	39.6918	3.4900e-003	0.0000	39.7791
Worker	0.0204	8.7100e-003	0.1178	1.9000e-004	0.0164	2.2000e-004	0.0166	4.3800e-003	2.0000e-004	4.5700e-003	0.0000	16.6740	16.6740	6.0000e-004	0.0000	16.6890
Total	**0.0316**	**0.4798**	**0.2249**	**8.2000e-004**	**0.0229**	**5.7000e-004**	**0.0235**	**6.2600e-003**	**5.4000e-004**	**6.7800e-003**	**0.0000**	**77.8716**	**77.8716**	**6.1800e-003**	**0.0000**	**78.0263**

The Carlysle, San Jose - Santa Clara County, Annual

The Carlysle, San Jose- 2030

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	123.48	1000sqft	0.00	123,479.00	0
Enclosed Parking with Elevator	330.00	Space	0.00	78,232.00	0
Apartments High Rise	290.00	Dwelling Unit	0.67	348,435.00	829
Strip Mall	7.60	1000sqft	0.00	7,603.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 Rate Co2 Intensity= 290

Land Use - Provided land uses, amenities uses in res sf

Construction Phase - Provided construction schedule

Off-road Equipment - Provided construction equip & hours

Off-road Equipment - Provided construction equip & hours

Off-road Equipment - Provided construction equip & hours

Off-road Equipment - Provided construction equip & hours

Off-road Equipment - Provided construction equip & hours

Off-road Equipment - Provided construction equip & hours

Trips and VMT - pavement demo 320 tons = 64 one-way trips, 40 + 64 = 104, building ext = 2400 cement truck round trips

Demolition - existing building demo = 8,800sf

Grading - grading = 12,500cy export

Vehicle Trips - With reductions, res = 2.97, 3.52, 2.58, Office = 6.32, 1.41, 0.60, retail = 22.75, 21.58, 10.49

Woodstoves - All wood no gas

Water And Wastewater - WTP treatment 100% aerobic

Energy Mitigation - SJCE 100% carbor free renewable energy

Stationary Sources - Emergency Generators and Fire Pumps - 1 emergency diesel generator, 500kW, 650hp, 50hrs/year

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	5.00
tblConstructionPhase	NumDays	2.00	20.00
tblConstructionPhase	NumDays	100.00	280.00
tblConstructionPhase	NumDays	5.00	450.00
tblConstructionPhase	NumDays	100.00	220.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	43.50	92.80
tblFireplaces	NumberWood	49.30	0.00
tblGrading	MaterialExported	0.00	12,500.00
tblLandUse	LandUseSquareFeet	123,480.00	123,479.00
tblLandUse	LandUseSquareFeet	132,000.00	78,232.00
tblLandUse	LandUseSquareFeet	290,000.00	348,435.00
tblLandUse	LandUseSquareFeet	7,600.00	7,603.00
tblLandUse	LotAcreage	2.83	0.00
tblLandUse	LotAcreage	2.97	0.00
tblLandUse	LotAcreage	4.68	0.67
tblLandUse	LotAcreage	0.17	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	1.00	10.00
tblOffRoadEquipment	UsageHours	6.00	10.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	1.00	7.50
tblOffRoadEquipment	UsageHours	6.00	7.50
tblOffRoadEquipment	UsageHours	4.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.90
tblOffRoadEquipment	UsageHours	6.00	10.00
tblOffRoadEquipment	UsageHours	4.00	12.00
tblOffRoadEquipment	UsageHours	6.00	10.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	650.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	40.00	104.00
tblTripsAndVMT	HaulingTripNumber	0.00	4,800.00
tblVehicleTrips	ST_TR	4.98	3.52
tblVehicleTrips	ST_TR	2.46	1.41
tblVehicleTrips	ST_TR	42.04	21.58

tblVehicleTrips	SU_TR	3.65	2.58
tblVehicleTrips	SU_TR	1.05	0.60
tblVehicleTrips	SU_TR	20.43	10.49
tblVehicleTrips	WD_TR	4.20	2.97
tblVehicleTrips	WD_TR	11.03	6.32
tblVehicleTrips	WD_TR	44.32	22.75
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
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	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.2589	0.0348	2.1561	1.8000e-004		0.0128	0.0128		0.0128	0.0128	0.0000	15.1107	15.1107	3.5900e-003	2.1000e-004	15.2638

Energy	0.0245	0.2154	0.1331	1.3400e-003		0.0169	0.0169		0.0169	0.0169	0.0000	760.6146	760.6146	0.0565	0.0152	766.5454
Mobile	0.2405	1.0374	2.7465	0.0118	1.3626	7.9200e-003	1.3705	0.3647	7.3600e-003	0.3720	0.0000	1,085.3828	1,085.3828	0.0313	0.0000	1,086.1657
Stationary	0.0267	0.0745	0.0680	1.3000e-004		3.9200e-003	3.9200e-003		3.9200e-003	3.9200e-003	0.0000	12.3759	12.3759	1.7400e-003	0.0000	12.4193
Waste						0.0000	0.0000		0.0000	0.0000	52.0103	0.0000	52.0103	3.0737	0.0000	128.8534
Water						0.0000	0.0000		0.0000	0.0000	14.6489	41.3062	55.9551	0.0546	0.0327	67.0668
Total	**2.5505**	**1.3621**	**5.1037**	**0.0134**	**1.3626**	**0.0415**	**1.4041**	**0.3647**	**0.0410**	**0.4056**	**66.6592**	**1,914.7902**	**1,981.4494**	**3.2214**	**0.0481**	**2,076.3143**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.2589	0.0348	2.1561	1.8000e-004		0.0128	0.0128		0.0128	0.0128	0.0000	15.1107	15.1107	3.5900e-003	2.1000e-004	15.2638
Energy	0.0245	0.2154	0.1331	1.3400e-003		0.0169	0.0169		0.0169	0.0169	0.0000	242.5284	242.5284	4.6500e-003	4.4500e-003	243.9696
Mobile	0.2405	1.0374	2.7465	0.0118	1.3626	7.9200e-003	1.3705	0.3647	7.3600e-003	0.3720	0.0000	1,085.3828	1,085.3828	0.0313	0.0000	1,086.1657
Stationary	0.0267	0.0745	0.0680	1.3000e-004		3.9200e-003	3.9200e-003		3.9200e-003	3.9200e-003	0.0000	12.3759	12.3759	1.7400e-003	0.0000	12.4193
Waste						0.0000	0.0000		0.0000	0.0000	52.0103	0.0000	52.0103	3.0737	0.0000	128.8534
Water						0.0000	0.0000		0.0000	0.0000	14.6489	41.3062	55.9551	0.0546	0.0327	67.0668
Total	**2.5505**	**1.3621**	**5.1037**	**0.0134**	**1.3626**	**0.0415**	**1.4041**	**0.3647**	**0.0410**	**0.4056**	**66.6592**	**1,396.7040**	**1,463.3632**	**3.1696**	**0.0374**	**1,553.7386**

	ROG	NOx	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**	**27.06**	**26.15**	**1.61**	**22.29**	**25.17**

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	0.2405	1.0374	2.7465	0.0118	1.3626	7.9200e-003	1.3705	0.3647	7.3600e-003	0.3720	0.0000	1,085.3828	1,085.3828	0.0313	0.0000	1,086.1657
Unmitigated	0.2405	1.0374	2.7465	0.0118	1.3626	7.9200e-003	1.3705	0.3647	7.3600e-003	0.3720	0.0000	1,085.3828	1,085.3828	0.0313	0.0000	1,086.1657

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	861.30	1,020.80	748.20	2,004,574	2,004,574
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	780.39	174.11	74.09	1,416,838	1,416,838
Strip Mall	172.90	164.01	79.72	243,816	243,816
Total	1,814.59	1,358.91	902.01	3,665,228	3,665,228

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH

Apartments High Rise	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Enclosed Parking with Elevator	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
General Office Building	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Strip Mall	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable 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	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	518.0862	518.0862	0.0518	0.0107	522.5757
NaturalGas Mitigated	0.0245	0.2154	0.1331	1.3400e-003		0.0169	0.0169		0.0169	0.0169	0.0000	242.5284	242.5284	4.6500e-003	4.4500e-003	243.9696
NaturalGas Unmitigated	0.0245	0.2154	0.1331	1.3400e-003		0.0169	0.0169		0.0169	0.0169	0.0000	242.5284	242.5284	4.6500e-003	4.4500e-003	243.9696

5.2 Energy by Land Use - NaturalGas

Unmitigated

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

Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	2.50544e+006	0.0135	0.1155	0.0491	7.4000e-004		9.3300e-003	9.3300e-003		9.3300e-003	9.3300e-003	0.0000	133.6999	133.6999	2.5600e-003	2.4500e-003	134.4944
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
General Office Building	2.02135e+006	0.0109	0.0991	0.0832	5.9000e-004		7.5300e-003	7.5300e-003		7.5300e-003	7.5300e-003	0.0000	107.8670	107.8670	2.0700e-003	1.9800e-003	108.5080
Strip Mall	18019.1	1.0000e-004	8.8000e-004	7.4000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.9616	0.9616	2.0000e-005	2.0000e-005	0.9673
Total		**0.0245**	**0.2154**	**0.1331**	**1.3400e-003**		**0.0169**	**0.0169**		**0.0169**	**0.0169**	**0.0000**	**242.5284**	**242.5284**	**4.6500e-003**	**4.4500e-003**	**243.9696**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	2.50544e+006	0.0135	0.1155	0.0491	7.4000e-004		9.3300e-003	9.3300e-003		9.3300e-003	9.3300e-003	0.0000	133.6999	133.6999	2.5600e-003	2.4500e-003	134.4944
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
General Office Building	2.02135e+006	0.0109	0.0991	0.0832	5.9000e-004		7.5300e-003	7.5300e-003		7.5300e-003	7.5300e-003	0.0000	107.8670	107.8670	2.0700e-003	1.9800e-003	108.5080
Strip Mall	18019.1	1.0000e-004	8.8000e-004	7.4000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.9616	0.9616	2.0000e-005	2.0000e-005	0.9673
Total		**0.0245**	**0.2154**	**0.1331**	**1.3400e-003**		**0.0169**	**0.0169**		**0.0169**	**0.0169**	**0.0000**	**242.5284**	**242.5284**	**4.6500e-003**	**4.4500e-003**	**243.9696**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			

Apartments High Rise	1.19722e+006	157.4847	0.0158	3.2600e-003	158.8493
Enclosed Parking with Elevator	458440	60.3040	6.0300e-003	1.2500e-003	60.8265
General Office Building	2.20163e+006	289.6064	0.0290	5.9900e-003	292.1160
Strip Mall	81276.1	10.6912	1.0700e-003	2.2000e-004	10.7838
Total		**518.0862**	**0.0518**	**0.0107**	**522.5757**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	2.2589	0.0348	2.1561	1.8000e-004		0.0128	0.0128		0.0128	0.0128	0.0000	15.1107	15.1107	3.5900e-003	2.1000e-004	15.2638
Unmitigated	2.2589	0.0348	2.1561	1.8000e-004		0.0128	0.0128		0.0128	0.0128	0.0000	15.1107	15.1107	3.5900e-003	2.1000e-004	15.2638

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	0.3153					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.8778					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.1700e-003	0.0100	4.2600e-003	6.0000e-005		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	11.5851	11.5851	2.2000e-004	2.1000e-004	11.6539
Landscaping	0.0646	0.0248	2.1518	1.1000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	3.5256	3.5256	3.3700e-003	0.0000	3.6099
Total	**2.2589**	**0.0348**	**2.1561**	**1.7000e-004**		**0.0128**	**0.0128**		**0.0128**	**0.0128**	**0.0000**	**15.1107**	**15.1107**	**3.5900e-003**	**2.1000e-004**	**15.2638**

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	0.3153					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.8778					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.1700e-003	0.0100	4.2600e-003	6.0000e-005		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	11.5851	11.5851	2.2000e-004	2.1000e-004	11.6539	
Landscaping	0.0646	0.0248	2.1518	1.1000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	3.5256	3.5256	3.3700e-003	0.0000	3.6099	
Total	**2.2589**	**0.0348**	**2.1561**	**1.7000e-004**		**0.0128**	**0.0128**		**0.0128**	**0.0128**	**0.0000**	**15.1107**	**15.1107**	**3.5900e-003**	**2.1000e-004**	**15.2638**	

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	55.9551	0.0546	0.0327	67.0668
Unmitigated	55.9551	0.0546	0.0327	67.0668

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	18.8947 / 11.9119	25.6178	0.0249	0.0149	30.6893

Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	21.9466 / 13.4511	29.5785	0.0289	0.0173	35.4677
Strip Mall	0.562951 / 0.345035	0.7587	7.4000e-004	4.4000e-004	0.9098
Total		**55.9551**	**0.0546**	**0.0327**	**67.0668**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	18.8947 / 11.9119	25.6178	0.0249	0.0149	30.6893
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	21.9466 / 13.4511	29.5785	0.0289	0.0173	35.4677
Strip Mall	0.562951 / 0.345035	0.7587	7.4000e-004	4.4000e-004	0.9098
Total		**55.9551**	**0.0546**	**0.0327**	**67.0668**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e

	MT/yr			
Mitigated	52.0103	3.0737	0.0000	128.8534
Unmitigated	52.0103	3.0737	0.0000	128.8534

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	133.4	27.0790	1.6003	0.0000	67.0871
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	114.84	23.3115	1.3777	0.0000	57.7532
Strip Mall	7.98	1.6199	0.0957	0.0000	4.0132
Total		**52.0103**	**3.0737**	**0.0000**	**128.8534**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	133.4	27.0790	1.6003	0.0000	67.0871
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000

General Office Building	114.84	23.3115	1.3777	0.0000	57.7532
Strip Mall	7.98	1.6199	0.0957	0.0000	4.0132
Total		**52.0103**	**3.0737**	**0.0000**	**128.8534**

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	650	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 (600 - 750 HP)	0.0267	0.0745	0.0680	1.3000e-004		3.9200e-003	3.9200e-003		3.9200e-003	3.9200e-003	0.0000	12.3759	12.3759	1.7400e-003	0.0000	12.4193
Total	**0.0267**	**0.0745**	**0.0680**	**1.3000e-004**		**3.9200e-003**	**3.9200e-003**		**3.9200e-003**	**3.9200e-003**	**0.0000**	**12.3759**	**12.3759**	**1.7400e-003**	**0.0000**	**12.4193**

11.0 Vegetation

The Carlysle, San Jose - Existing 2030

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Strip Mall	9.00	1000sqft	0.21	9,000.00	0
Parking Lot	0.46	Acre	0.46	20,037.60	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Existing land uses

Construction Phase - Existing use - no construction

Off-road Equipment - Existing use - no construction

Grading - Existing use - no construction

Demolition -

Trips and VMT -

Energy Use - historical energy use

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	PhaseEndDate	1/18/2021	1/4/2021
tblConstructionPhase	PhaseStartDate	1/16/2021	1/4/2021
tblEnergyUse	LightingElect	0.88	0.35
tblEnergyUse	LightingElect	6.02	5.25
tblEnergyUse	T24E	3.55	2.76
tblEnergyUse	T24NG	2.92	2.37
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	0.00	5.00

2.0 Emissions Summary

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	0.0416	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-004	1.7000e-004	0.0000	0.0000	1.8000e-004
Energy	1.2000e-004	1.0500e-003	8.8000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	31.1671	31.1671	1.3800e-003	3.0000e-004	31.2915
Mobile	0.0480	0.2033	0.4700	1.8800e-003	0.2091	1.3100e-003	0.2104	0.0560	1.2100e-003	0.0572	0.0000	172.7181	172.7181	5.3400e-003	0.0000	172.8517
Waste						0.0000	0.0000		0.0000	0.0000	1.9183	0.0000	1.9183	0.1134	0.0000	4.7524
Water						0.0000	0.0000		0.0000	0.0000	0.2115	1.4654	1.6769	0.0218	5.3000e-004	2.3786
Total	**0.0897**	**0.2043**	**0.4709**	**1.8900e-003**	**0.2091**	**1.3900e-003**	**0.2105**	**0.0560**	**1.2900e-003**	**0.0573**	**2.1298**	**205.3508**	**207.4805**	**0.1419**	**8.3000e-004**	**211.2744**

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	0.0416	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-004	1.7000e-004	0.0000	0.0000	1.8000e-004
Energy	1.2000e-004	1.0500e-003	8.8000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	31.1671	31.1671	1.3800e-003	3.0000e-004	31.2915
Mobile	0.0480	0.2033	0.4700	1.8800e-003	0.2091	1.3100e-003	0.2104	0.0560	1.2100e-003	0.0572	0.0000	172.7181	172.7181	5.3400e-003	0.0000	172.8517
Waste						0.0000	0.0000		0.0000	0.0000	1.9183	0.0000	1.9183	0.1134	0.0000	4.7524
Water						0.0000	0.0000		0.0000	0.0000	0.2115	1.4654	1.6769	0.0218	5.3000e-004	2.3786
Total	**0.0897**	**0.2043**	**0.4709**	**1.8900e-003**	**0.2091**	**1.3900e-003**	**0.2105**	**0.0560**	**1.2900e-003**	**0.0573**	**2.1298**	**205.3508**	**207.4805**	**0.1419**	**8.3000e-004**	**211.2744**

	ROG	NOx	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**

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	0.0480	0.2033	0.4700	1.8800e-003	0.2091	1.3100e-003	0.2104	0.0560	1.2100e-003	0.0572	0.0000	172.7181	172.7181	5.3400e-003	0.0000	172.8517
Unmitigated	0.0480	0.2033	0.4700	1.8800e-003	0.2091	1.3100e-003	0.2104	0.0560	1.2100e-003	0.0572	0.0000	172.7181	172.7181	5.3400e-003	0.0000	172.8517

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Strip Mall	398.88	378.36	183.87	562,471	562,471
Total	398.88	378.36	183.87	562,471	562,471

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
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Strip Mall	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651

5.0 Energy Detail

Historical Energy Use: Y

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	30.0288	30.0288	1.3600e-003	2.8000e-004	30.1465
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	30.0288	30.0288	1.3600e-003	2.8000e-004	30.1465
NaturalGas Mitigated	1.2000e-004	1.0500e-003	8.8000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1383	1.1383	2.0000e-005	2.0000e-005	1.1450
NaturalGas Unmitigated	1.2000e-004	1.0500e-003	8.8000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1383	1.1383	2.0000e-005	2.0000e-005	1.1450

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					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	21330	1.2000e-004	1.0500e-003	8.8000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1383	1.1383	2.0000e-005	2.0000e-005	1.1450
Total		**1.2000e-004**	**1.0500e-003**	**8.8000e-004**	**1.0000e-005**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**	**0.0000**	**1.1383**	**1.1383**	**2.0000e-005**	**2.0000e-005**	**1.1450**

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					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Strip Mall	21330	1.2000e-004	1.0500e-003	8.8000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1383	1.1383	2.0000e-005	2.0000e-005	1.1450
Total		**1.2000e-004**	**1.0500e-003**	**8.8000e-004**	**1.0000e-005**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**	**0.0000**	**1.1383**	**1.1383**	**2.0000e-005**	**2.0000e-005**	**1.1450**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	7013.16	2.0402	9.0000e-005	2.0000e-005	2.0482
Strip Mall	96210	27.9886	1.2700e-003	2.6000e-004	28.0983
Total		**30.0288**	**1.3600e-003**	**2.8000e-004**	**30.1465**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	7013.16	2.0402	9.0000e-005	2.0000e-005	2.0482
Strip Mall	96210	27.9886	1.2700e-003	2.6000e-004	28.0983
Total		**30.0288**	**1.3600e-003**	**2.8000e-004**	**30.1465**

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	0.0416	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-004	1.7000e-004	0.0000	0.0000	1.8000e-004
Unmitigated	0.0416	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-004	1.7000e-004	0.0000	0.0000	1.8000e-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	5.1100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0364					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-004	1.7000e-004	0.0000	0.0000	1.8000e-004
Total	**0.0416**	**0.0000**	**9.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.7000e-004**	**1.7000e-004**	**0.0000**	**0.0000**	**1.8000e-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	5.1100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0364					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	9.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.7000e-004	1.7000e-004	0.0000	0.0000	1.8000e-004
Total	**0.0416**	**0.0000**	**9.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.7000e-004**	**1.7000e-004**	**0.0000**	**0.0000**	**1.8000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1.6769	0.0218	5.3000e-004	2.3786
Unmitigated	1.6769	0.0218	5.3000e-004	2.3786

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e

Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.666653 / 0.408594	1.6769	0.0218	5.3000e-004	2.3786
Total		**1.6769**	**0.0218**	**5.3000e-004**	**2.3786**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.666653 / 0.408594	1.6769	0.0218	5.3000e-004	2.3786
Total		**1.6769**	**0.0218**	**5.3000e-004**	**2.3786**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1.9183	0.1134	0.0000	4.7524

Unmitigated	1.9183	0.1134	0.0000	4.7524

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	9.45	1.9183	0.1134	0.0000	4.7524
Total		**1.9183**	**0.1134**	**0.0000**	**4.7524**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	9.45	1.9183	0.1134	0.0000	4.7524
Total		**1.9183**	**0.1134**	**0.0000**	**4.7524**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Attachment 3: Health Risk Calculations for Construction and Operation

Construction Calculations

The Carlysle, San Jose, CA

DPM Construction Emissions and Modeling Emission Rates

Construction Year	Activity	DPM (ton/year)	Source Type	No. Sources	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Emissions per Point Source (g/s)
2021	Construction	0.0976	Point	112	195.2	0.04457	5.62E-05	5.01E-05
2022-2023*	Construction	0.1077	Point	112	215.3	0.04916	6.19E-03	5.53E-05
Total		***0.2053***			***410.5***	***0.0937***	***0.0118***	

* Includes 2023 (two months of construction)

Emissions assumed to be evenly distributed over each construction areas

hr/day =	12	(7am - 7pm)
days/yr =	365	
hours/year =	4380	

The Carlysle, San Jose, CA

PM2.5 Fugitive Dust Construction Emissions for Modeling

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)	DPM Emission Rate $g/s/m^2$
2021	Construction	CON_FUG	0.0441	88.2	0.02014	2.54E-03	2728.477	9.30E-07
2022-2023*	Construction	CON_FUG	0.0099	19.8	0.00452	5.70E-04	2728.477	2.09E-07
Total			***0.0540***	***108.0***	***0.0247***	***0.0031***		

* Includes 2023 (two months of construction)

Emissions assumed to be evenly distributed over each construction areas

hr/day =	12	(7am - 7pm)
days/yr =	365	
hours/year =	4380	

DPM Construction Emissions and Modeling Emission Rates - With Mitigation

Construction Year	Activity	DPM (ton/year)	Source Type	No. Sources	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Emissions per Point Source (g/s)
2021	Construction	0.0043	Point	112	8.6	0.00195	2.46E-04	2.20E-06
2022-2023*	Construction	0.0035	Point	112	7.1	0.00162	2.04E-04	1.82E-06
Total		***0.0078***			***15.6***	***0.0036***	***0.0004***	

* Includes 2023 (two months of construction)

Emissions assumed to be evenly distributed over each construction areas

hr/day =	12	(7am - 7pm)
days/yr =	365	
hours/year =	4380	

PM2.5 Fugitive Dust Construction Emissions for Modeling - With Mitigation

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)	DPM Emission Rate $g/s/m^2$
2021	Construction	CON_FUG	0.0195	39.0	0.00890	1.12E-03	2728.477	4.11E-07
2022-2023*	Construction	CON_FUG	0.0099	19.8	0.00452	5.70E-04	2728.477	2.09E-07
Total			***0.0294***	***58.8***	***0.0134***	***0.0017***		

* Includes 2023 (two months of construction)

Emissions assumed to be evenly distributed over each construction areas

hr/day =	12	(7am - 7pm)
days/yr =	365	
hours/year =	4380	

The Carlysle, San Jose, CA - Construction Health Impact Summary

Maximum Impacts at MEI Location - Without Mitigation

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM ($\mu g/m^3$)	Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million): Infant/Child	Cancer Risk (per million): Adult	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2021	0.4338	0.1618	77.15	1.25	0.09	0.60
2022-2023*	0.4785	0.0364	78.59	1.37	0.10	0.51
Total	-	-	**155.7**	**2.6**	-	-
Maximum	0.4785	0.1618	**-**	**-**	**0.10**	**0.60**

* Includes 2023 (two months of construction)

Maximum Impacts at MEI Location - With Mitigation

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM ($\mu g/m^3$)	Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million): Infant/Child	Cancer Risk (per million): Adult	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2021	0.0190	0.0715	3.38	0.05	0.004	0.09
2022-2023*	0.0157	0.0364	2.59	0.05	0.003	0.05
Total	-	-	**6.0**	**0.1**	-	-
Maximum	0.0190	0.0715	**-**	**-**	**0.004**	**0.09**

- Tier 4 Interim Mitigation

* Includes 2023 (two months of construction)

The Carlysle, San Jose, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction Impacts at Off-Site MEI Location - 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				Maximum	
							Modeled					
Exposure Year	Exposure Duration (years)	Age	DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age Sensitivity Factor	Infant/Child Cancer Risk (per million)	DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age Sensitivity Factor	Adult Cancer Risk (per million)	Fugitive PM2.5	Total PM2.5
0	0.25	-0.25 - 0*	2021	0.4338	10	5.90	2021	0.4338	-	-		
1	1	0 - 1	2021	0.4338	10	71.25	2021	0.4338	1	1.25	0.1618	0.5956
2	1	1 - 2	2022-2023**	0.4785	10	78.59	2022-2023**	0.4785	1	1.37	0.0364	0.5149
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00		
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00		
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00		
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00		
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00		
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00		
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00		
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00		
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00		
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00		
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00		
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00		
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00		
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00		
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00		
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00		
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00		
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00		
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00		
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00		
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00		
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00		
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00		
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00		
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00		
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00		
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00		
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00		
Total Increased Cancer Risk						**155.7**				**2.62**		

* Third trimester of pregnancy

** Includes 2023 (two months of construction)

The Carlysle, San Jose, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction Impacts at Off-Site MEI Location - 10.7 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				Maximum	
							Modeled					
Exposure	Exposure Duration		DPM Conc (ug/m3)		Age Sensitivity	Infant/Child Cancer Risk	DPM Conc (ug/m3)		Age Sensitivity	Adult Cancer Risk	Fugitive	Total
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	PM2.5	PM2.5
0	0.25	-0.25 - 0*	2021	0.3049	10	4.15	2021	0.3049	-	-		
1	1	0 - 1	2021	0.3049	10	50.07	2021	0.3049	1	0.88	0.0774	0.3823
2	1	1 - 2	2022-2023**	0.3363	10	55.23	2022-2023**	0.3363	1	0.97	0.0174	0.3537
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00		
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00		
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00		
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00		
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00		
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00		
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00		
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00		
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00		
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00		
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00		
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00		
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00		
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00		
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00		
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00		
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00		
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00		
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00		
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00		
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00		
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00		
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00		
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00		
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00		
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00		
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00		
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00		
Total Increased Cancer Risk						**109.4**				**1.84**		

* Third trimester of pregnancy

** Includes 2023 (two months of construction)

The Carlysle, San Jose, CA - Construction Impacts - With Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 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				Maximum	
							Modeled					
Exposure	Exposure Duration		DPM Conc (ug/m3)		Age Sensitivity	Infant/Child Cancer Risk	DPM Conc (ug/m3)		Age Sensitivity	Adult Cancer Risk	Fugitive	Total
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	PM2.5	PM2.5
0	0.25	-0.25 - 0*	2021	0.0190	10	0.26	2021	0.0190	-	-		
1	1	0 - 1	2021	0.0190	10	3.12	2021	0.0190	1	0.05	0.0715	0.0905
2	1	1 - 2	2022-2023**	0.0157	10	2.59	2022-2023**	0.0157	1	0.05	0.0364	0.0521
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00		
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00		
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00		
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00		
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00		
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00		
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00		
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00		
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00		
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00		
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00		
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00		
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00		
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00		
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00		
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00		
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00		
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00		
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00		
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00		
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00		
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00		
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00		
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00		
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00		
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00		
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00		
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00		
Total Increased Cancer Risk						**6.0**				**0.10**		

* Third trimester of pregnancy

** Includes 2023 (two months of construction)

Operational Calculations

The Carlysle, San Jose, CA

Standby Emergency Generator Impacts

Off-site Sensitive Receptors (7.6 meter receptor heights)

DPM Emission Rates		
	DPM Emissions per Generator	
	Max Daily	Annual
Source Type	(lb/day)	(lb/year)
500kW 650 hp Generator	0.021	7.84
CalEEMod DPM Emissions	0.00392	tons/year

Modeling Information		
Model	AERMOD	
Source	Diesel Generator Engine	
Source Type	Point	
Meteorological Data	2013-2017 San Jose Airport Meterological Data	
Point Source Stack Parameters		
Generator Engine Size (hp)	650	
Stack Height (ft)**	12.00	near ground level release
Stack Diameter (ft)**	0.60	
Exhaust Gas Flowrate (CFM)***	2070.15	
Stack Exit Velocity (ft/sec)***	122.08	
Exhaust Temperature (˚F)***	1229.00	
Emissions Rate (lb/hr)	0.000895	

* AERMOD default

**BAAQMD default generator parameters

**Generator spec sheet parameters

The Carlysle, San Jose, CA - Cancer Risks from Project Operation
Project Emergency Generator
Impacts at Off-Site Receptors-7.6 meter receptor height
Impact at Project MEI (28-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 $(mg/kg\text{-}day)^{-1}$
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

	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)
0	0.25	-0.25 - 0*	2020	0.0000	10	0.00
1	1	0 - 1	2020	0.0000	10	0.00
2	1	1 - 2	2021	0.0000	10	0.00
3	1	2 - 3	2022	0.0035	3	0.09
4	1	3 - 4	2023	0.0035	3	0.09
5	1	4 - 5	2024	0.0035	3	0.09
6	1	5 - 6	2025	0.0035	3	0.09
7	1	6 - 7	2026	0.0035	3	0.09
8	1	7 - 8	2027	0.0035	3	0.09
9	1	8 - 9	2028	0.0035	3	0.09
10	1	9 - 10	2029	0.0035	3	0.09
11	1	10 - 11	2030	0.0035	3	0.09
12	1	11 - 12	2031	0.0035	3	0.09
13	1	12 - 13	2032	0.0035	3	0.09
14	1	13 - 14	2033	0.0035	3	0.09
15	1	14 - 15	2034	0.0035	3	0.09
16	1	15 - 16	2035	0.0035	3	0.09
17	1	16-17	2036	0.0035	1	0.01
18	1	17-18	2037	0.0035	1	0.01
19	1	18-19	2038	0.0035	1	0.01
20	1	19-20	2039	0.0035	1	0.01
21	1	20-21	2040	0.0035	1	0.01
22	1	21-22	2041	0.0035	1	0.01
23	1	22-23	2042	0.0035	1	0.01
24	1	23-24	2043	0.0035	1	0.01
25	1	24-25	2044	0.0035	1	0.01
26	1	25-26	2045	0.0035	1	0.01
27	1	26-27	2046	0.0035	1	0.01
28	1	27-28	2047	0.0035	1	0.01
29	1	28-29	2048	0.0035	1	0.01
30	1	29-30	2049	0.0035	1	0.01
Total Increased Cancer Risk						**1.4**

* Third trimester of pregnancy

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

County specific tables containing estimates of risk and hazard impacts from roadways in the Bay Area.

INSTRUCTIONS:

Input the site-specific characteristics of your project by using the drop down menu in the "Search Parameter" box. We recommend that this analysis be used for roadways with 10,000 AADT and above.

• County: Select the County where the project is located. The calculator is only applicable for projects within the nine Bay Area counties.

• Roadway Direction: Select the orientation that best matches the roadway. If the roadway orientation is neither clearly north-south nor east-west, use the highest values predicted from either orientation.

• Side of the Roadway: Identify on which side of the roadway the project is located.

• Distance from Roadway: Enter the distance in feet from the nearest edge of the roadway to the project site. The calculator estimates values for distances greater than 10 feet and less than 1000 feet. For distances greater than 1000 feet, the user can choose to extrapolate values using a distribution curve or apply 1000 feet values for greater distances.

• Annual Average Daily Traffic (ADT): Enter the annual average daily traffic on the roadway. These data may be collected from the city or the county (if the area is unincorporated).

When the user has completed the data entries, the screening level PM2.5 annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways and the District refers the user to the Highway Screening Analysis Tool at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara
Roadway Direction	North-South
Side of the Roadway	East
Distance from Roadway	200 feet
	MEI
Annual Average Daily Traffic (ADT)	1,813

Results

Santa Clara County

NORTH-SOUTH DIRECTIONAL ROADWAY

PM2.5 annual average

0.012 ($\mu g/m^3$)

Cancer Risk

0.52 (per million)

Almaden Blvd

Project Trips from traffic report

Data for Santa Clara County based on meteorological data collected from San Jose Airport in 1997

Adjusted for 2015 OEHHA and EMFAC2014 for 2018	Adjusted for Expsoure Duration (Years)
0.35 (per million)	**0.16** (per million)

Note that EMFAC2014 predicts DSL PM2.5 aggragate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehciles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust. 0.451
2. Roadways were modeled using ~~CALINE4~~ Cal3qhcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

Attachment 4: Community Risk Screening and Health Risk Calculations

S.R. 87 Emissions and Health Risk Calculations

```
          File Name:   20-021 The Carlysle Santa Clara (SF) - 2023 - Annual.EF
CT-EMFAC2017 Version:  1.0.2.27401
            Run Date:  3/2/2020 11:21:25 AM
                Area:  Santa Clara (SF)
       Analysis Year:  2023
              Season:  Annual

=========================================================================

Vehicle Category        VMT Fraction          Diesel VMT Fraction     Gas VMT Fraction
                        Across Category       Within Category         Within Category
         Truck 1              0.027                 0.487                   0.513
         Truck 2              0.010                 0.938                   0.047
       Non-Truck              0.963                 0.014                   0.958

=========================================================================

             Road Type:              Freeway
    Silt Loading Factor:                CARB        0.015 g/m2
Precipitation Correction:               CARB        P = 64 days     N = 365 days

=========================================================================

Fleet Average Running Exhaust Emission Factors (grams/veh-mile)

       Pollutant Name        15 mph          30 mph          60 mph          65 mph          70 mph          75 mph
                PM2.5      0.004165        0.001809        0.001486        0.001692        0.001803        0.001803
                  TOG      0.087220        0.037064        0.026651        0.029948        0.032335        0.032378
           Diesel PM       0.000669        0.000395        0.000513        0.000577        0.000577        0.000577

Fleet Average Fuel Consum

            Fuel Type        15 mph          30 mph          60 mph          65 mph          70 mph          75 mph
             Gasoline      0.051024        0.032208        0.032202        0.033167        0.033167        0.033167
               Diesel      0.003651        0.002422        0.002168        0.002317        0.002317        0.002317

=========================================================================

Fleet Average Running Loss Emission Factors (grams/veh-hour)

       Pollutant Name   Emission Factor
                  TOG          1.402717

=========================================================================

Fleet Average Tire Wear Factors (grams/veh-mile)

       Pollutant Name   Emission Factor
                PM2.5          0.002067

=========================================================================

Fleet Average Brake Wear Factors (grams/veh-mile)

       Pollutant Name   Emission Factor
                PM2.5          0.016805

=========================================================================

Fleet Average Road Dust Factors (grams/veh-mile)

       Pollutant Name   Emission Factor
                PM2.5          0.007019

============================END==========================================
```

Carlsyle Project, San Jose
Project Operation - State Route 87
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = 2023

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
NB-SR87_DPM	Northbound SR-87	N	3	657.0	0.41	16.97	55.7	3.4	variable	66,465
SB-SR87_DPM	Southbound SR-87	S	3	657.0	0.41	16.97	55.7	3.4	variable	66,465
									Total	132,930

Emission Factors

Speed Category	1	2	3	4
Travel Speed (mph)	65	60	30	15
Emissions per Vehicle (g/VMT)	0.00058	0.000513	0.000395	0.000669

Emisson Factors from CT-EMFAC2017

Analysis Year = ***2023***

Vehicle Type	2018 Caltrans Vehicles (veh/day)	2023 Vehicles (veh/day)
Truck 1 (MDT)	3,363	3,531
Truck 2 (HDT)	1,321	1,387
Non-Truck	121,916	128,012
Total	**126,600**	**132,930**

Increase From 2018 1.05
Vehicles/Direction **66,465**
Avg Vehicles/Hour/Direction 2,769

Traffic Data Year = ***2018***

Caltrans Truck AADT (2018)	AADT Total	Total Truck	Trucks by Axle 2	3	4	5
Rte 87, A San Jose, Jct. Rte. 280	126,600	4,684	3,363	609	159	553
			71.80%	13.00%	3.40%	11.80%
Percent of Total Vehicles		3.70%	2.66%	0.48%	0.13%	0.44%

Traffic Increase per Year (%) = *1.00%*

2023 Hourly Traffic Volumes and DPM Emissions - NB-SR87_DPM

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	3.91%	2599	1.70E-04	9	6.50%	4319	3.28E-04	17	5.58%	3707	2.16E-04
2	2.59%	1720	1.13E-04	10	7.36%	4892	3.20E-04	18	3.28%	2179	1.27E-04
3	2.88%	1911	1.25E-04	11	6.33%	4204	2.75E-04	19	2.36%	1567	1.03E-04
4	3.34%	2217	1.45E-04	12	6.84%	4548	2.98E-04	20	0.92%	612	4.00E-05
5	2.19%	1452	9.50E-05	13	6.15%	4090	2.68E-04	21	2.99%	1987	1.30E-04
6	3.39%	2255	1.48E-04	14	6.15%	4090	2.68E-04	22	4.14%	2752	1.80E-04
7	5.98%	3975	2.60E-04	15	5.23%	3478	2.28E-04	23	2.47%	1643	1.08E-04
8	4.66%	3096	2.35E-04	16	3.91%	2599	1.70E-04	24	0.86%	573	3.75E-05
								Total		66,465	

2023 Hourly Traffic Volumes Per Direction and DPM Emissions - SB-SR87_DPM

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	3.91%	2599	1.70E-04	9	6.50%	4319	2.51E-04	17	5.58%	3707	1.66E-04
2	2.59%	1720	1.13E-04	10	7.36%	4892	3.20E-04	18	3.28%	2179	9.76E-05
3	2.88%	1911	1.25E-04	11	6.33%	4204	2.75E-04	19	2.36%	1567	1.03E-04
4	3.34%	2217	1.45E-04	12	6.84%	4548	2.98E-04	20	0.92%	612	4.00E-05
5	2.19%	1452	9.50E-05	13	6.15%	4090	2.68E-04	21	2.99%	1987	1.30E-04
6	3.39%	2255	1.48E-04	14	6.15%	4090	2.68E-04	22	4.14%	2752	1.80E-04
7	5.98%	3975	2.60E-04	15	5.23%	3478	2.28E-04	23	2.47%	1643	1.08E-04
8	4.66%	3096	1.80E-04	16	3.91%	2599	1.70E-04	24	0.86%	573	3.75E-05
								Total		66,465	

Carlsyle Project, San Jose
Project Operation - State Route 87
PM2.5 Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2023

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
NB-SR87_PM25	Northbound SR-87	N	3	657	0.41	16.97	56	1.3	variable	66,465
SB-SR87_PM25	Southbound SR-87	S	3	657	0.41	16.97	56	1.3	variable	66,465
									Total	132,930

Emission Factors - PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	65	60	30	15
Emissions per Vehicle (g/VMT)	0.001692	0.00149	0.001809	0.004165

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and PM2.5 Emissions - NB-SR87_PM25

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	765	1.47E-04	9	7.11%	4727	2.23E-03	17	7.38%	4908	8.27E-04
2	0.42%	277	5.32E-05	10	4.39%	2920	5.60E-04	18	8.17%	5431	9.15E-04
3	0.41%	271	5.20E-05	11	4.66%	3100	5.95E-04	19	5.70%	3786	7.26E-04
4	0.26%	175	3.36E-05	12	5.89%	3914	7.51E-04	20	4.27%	2841	5.45E-04
5	0.50%	333	6.38E-05	13	6.15%	4089	7.85E-04	21	3.26%	2166	4.16E-04
6	0.90%	601	1.15E-04	14	6.04%	4012	7.70E-04	22	3.30%	2192	4.21E-04
7	3.79%	2521	4.84E-04	15	7.01%	4661	8.94E-04	23	2.46%	1635	3.14E-04
8	7.76%	5159	2.44E-03	16	7.14%	4742	9.10E-04	24	1.86%	1239	2.38E-04
								Total		66,465	

2023 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - SB-SR87_PM25

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	765	1.47E-04	9	7.11%	4727	7.96E-04	17	7.38%	4908	1.01E-03
2	0.42%	277	5.32E-05	10	4.39%	2920	5.60E-04	18	8.17%	5431	1.11E-03
3	0.41%	271	5.20E-05	11	4.66%	3100	5.95E-04	19	5.70%	3786	7.26E-04
4	0.26%	175	3.36E-05	12	5.89%	3914	7.51E-04	20	4.27%	2841	5.45E-04
5	0.50%	333	6.38E-05	13	6.15%	4089	7.85E-04	21	3.26%	2166	4.16E-04
6	0.90%	601	1.15E-04	14	6.04%	4012	7.70E-04	22	3.30%	2192	4.21E-04
7	3.79%	2521	4.84E-04	15	7.01%	4661	8.94E-04	23	2.46%	1635	3.14E-04
8	7.76%	5159	8.69E-04	16	7.14%	4742	9.10E-04	24	1.86%	1239	2.38E-04
								Total		66,465	

Carlsyle Project, San Jose
Project Operation - State Route 87
TOG Exhaust Modeling - Roadway Links, Traffic Volumes, and TOG Exhaust Emissions
Year = 2023

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
NB-SR87_TEXH	Northbound SR-87	N	3	657	0.41	16.97	56	1.3	variable	66,465
SB-SR87_TEXH	Southbound SR-87	S	3	657	0.41	16.97	56	1.3	variable	66,465
									Total	132,930

Emission Factors - TOG Exhaust

Speed Category	1	2	3	4
Travel Speed (mph)	65	60	30	15
Emissions per Vehicle (g/VMT)	0.02995	0.02665	0.03706	0.08722

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and TOG Exhaust Emissions - NB-SR87_TEXH

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	765	2.60E-03	9	7.11%	4728	4.68E-02	17	7.39%	4909	1.48E-02
2	0.42%	279	9.46E-04	10	4.39%	2919	9.91E-03	18	8.17%	5430	1.64E-02
3	0.41%	272	9.23E-04	11	4.67%	3102	1.05E-02	19	5.70%	3785	1.29E-02
4	0.27%	177	6.02E-04	12	5.89%	3916	1.33E-02	20	4.27%	2840	9.65E-03
5	0.50%	332	1.13E-03	13	6.15%	4087	1.39E-02	21	3.26%	2166	7.36E-03
6	0.91%	602	2.05E-03	14	6.03%	4011	1.36E-02	22	3.30%	2194	7.45E-03
7	3.79%	2522	8.56E-03	15	7.01%	4658	1.58E-02	23	2.46%	1633	5.54E-03
8	7.76%	5159	5.10E-02	16	7.13%	4742	1.61E-02	24	1.86%	1238	4.21E-03
								Total		66,465	

2023 Hourly Traffic Volumes Per Direction and TOG Exhaust Emissions - SB-SR87_TEXH

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	765	2.60E-03	9	7.11%	4728	1.43E-02	17	7.39%	4909	2.06E-02
2	0.42%	279	9.46E-04	10	4.39%	2919	9.91E-03	18	8.17%	5430	2.28E-02
3	0.41%	272	9.23E-04	11	4.67%	3102	1.05E-02	19	5.70%	3785	1.29E-02
4	0.27%	177	6.02E-04	12	5.89%	3916	1.33E-02	20	4.27%	2840	9.65E-03
5	0.50%	332	1.13E-03	13	6.15%	4087	1.39E-02	21	3.26%	2166	7.36E-03
6	0.91%	602	2.05E-03	14	6.03%	4011	1.36E-02	22	3.30%	2194	7.45E-03
7	3.79%	2522	8.56E-03	15	7.01%	4658	1.58E-02	23	2.46%	1633	5.54E-03
8	7.76%	5159	1.56E-02	16	7.13%	4742	1.61E-02	24	1.86%	1238	4.21E-03
								Total		66,465	

Carlsyle Project, San Jose
Project Operation - State Route 87
TOG Evaporative Emissions Modeling - Roadway Links, Traffic Volumes, and TOG Evaporative Emissions
Year = 2023

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
NB-SR87_TEVAP	Northbound SR-87	N	3	657	0.41	16.97	56	1.3	variable	66,465
SB-SR87_TEVAP	Southbound SR-87	S	3	657	0.41	16.97	56	1.3	variable	66,465
									Total	132,930

Emission Factors - PM2.5 - Evaporative TOG

Speed Category	1	2	3	4
Travel Speed (mph)	65	60	30	15
Emissions per Vehicle per Hour (g/hour)	1.40272	1.40272	1.40272	1.40272
Emissions per Vehicle per Mile (g/VMT)	0.02158	0.02158	0.02158	0.02158

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and TOG Evaporative Emissions - NB-SR87_TEVAP

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	765	1.87E-03	9	7.11%	4728	1.16E-02	17	7.39%	4909	1.20E-02
2	0.42%	279	6.82E-04	10	4.39%	2919	7.14E-03	18	8.17%	5430	1.33E-02
3	0.41%	272	6.65E-04	11	4.67%	3102	7.59E-03	19	5.70%	3785	9.26E-03
4	0.27%	177	4.34E-04	12	5.89%	3916	9.58E-03	20	4.27%	2840	6.95E-03
5	0.50%	332	8.12E-04	13	6.15%	4087	1.00E-02	21	3.26%	2166	5.30E-03
6	0.91%	602	1.47E-03	14	6.03%	4011	9.81E-03	22	3.30%	2194	5.37E-03
7	3.79%	2522	6.17E-03	15	7.01%	4658	1.14E-02	23	2.46%	1633	4.00E-03
8	7.76%	5159	1.26E-02	16	7.13%	4742	1.16E-02	24	1.86%	1238	3.03E-03
								Total		66,465	

2023 Hourly Traffic Volumes Per Direction and TOG Evaporative Emissions - SB-SR87_TEVAP

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	765	1.87E-03	9	7.11%	4728	1.16E-02	17	7.39%	4909	1.20E-02
2	0.42%	279	6.82E-04	10	4.39%	2919	7.14E-03	18	8.17%	5430	1.33E-02
3	0.41%	272	6.65E-04	11	4.67%	3102	7.59E-03	19	5.70%	3785	9.26E-03
4	0.27%	177	4.34E-04	12	5.89%	3916	9.58E-03	20	4.27%	2840	6.95E-03
5	0.50%	332	8.12E-04	13	6.15%	4087	1.00E-02	21	3.26%	2166	5.30E-03
6	0.91%	602	1.47E-03	14	6.03%	4011	9.81E-03	22	3.30%	2194	5.37E-03
7	3.79%	2522	6.17E-03	15	7.01%	4658	1.14E-02	23	2.46%	1633	4.00E-03
8	7.76%	5159	1.26E-02	16	7.13%	4742	1.16E-02	24	1.86%	1238	3.03E-03
								Total		66,465	

Carlsyle Project, San Jose
Project Operation - State Route 87
Fugitive Road PM2.5 Modeling - Roadway Links, Traffic Volumes, and Fugitive Road PM2.5 Emissions
Year = 2023

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
NB-SR87_FUG	Northbound SR-87	N	3	657	0.41	16.97	56	1.3	variable	66,465
SB-SR87_FUG	Southbound SR-87	S	3	657	0.41	16.97	56	1.3	variable	66,465
									Total	132,930

Emission Factors - Fugitive PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	65	60	30	15.0
Tire Wear - Emissions per Vehicle (g/VMT)	0.00207	0.00207	0.00207	0.00207
Brake Wear - Emissions per Vehicle (g/VMT)	0.01681	0.01681	0.01681	0.01681
Road Dust - Emissions per Vehicle (g/VMT)	0.00702	0.00702	0.00702	0.00702
Total Fugitive PM2.5 - Emissions per Vehicle (g/VMT)	0.02589	0.02589	0.02589	0.02589

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and Fugitive PM2.5 Emissions - NB-SR87_FUG

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	765	2.25E-03	9	7.11%	4728	1.39E-02	17	7.39%	4909	1.44E-02
2	0.42%	279	8.18E-04	10	4.39%	2919	8.57E-03	18	8.17%	5430	1.59E-02
3	0.41%	272	7.98E-04	11	4.67%	3102	9.11E-03	19	5.70%	3785	1.11E-02
4	0.27%	177	5.20E-04	12	5.89%	3916	1.15E-02	20	4.27%	2840	8.34E-03
5	0.50%	332	9.74E-04	13	6.15%	4087	1.20E-02	21	3.26%	2166	6.36E-03
6	0.91%	602	1.77E-03	14	6.03%	4011	1.18E-02	22	3.30%	2194	6.44E-03
7	3.79%	2522	7.40E-03	15	7.01%	4658	1.37E-02	23	2.46%	1633	4.79E-03
8	7.76%	5159	1.51E-02	16	7.13%	4742	1.39E-02	24	1.86%	1238	3.64E-03
								Total		66,465	

2023 Hourly Traffic Volumes Per Direction and Fugitive PM2.5 Emissions - SB-SR87_FUG

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	765	2.25E-03	9	7.11%	4728	1.39E-02	17	7.39%	4909	1.44E-02
2	0.42%	279	8.18E-04	10	4.39%	2919	8.57E-03	18	8.17%	5430	1.59E-02
3	0.41%	272	7.98E-04	11	4.67%	3102	9.11E-03	19	5.70%	3785	1.11E-02
4	0.27%	177	5.20E-04	12	5.89%	3916	1.15E-02	20	4.27%	2840	8.34E-03
5	0.50%	332	9.74E-04	13	6.15%	4087	1.20E-02	21	3.26%	2166	6.36E-03
6	0.91%	602	1.77E-03	14	6.03%	4011	1.18E-02	22	3.30%	2194	6.44E-03
7	3.79%	2522	7.40E-03	15	7.01%	4658	1.37E-02	23	2.46%	1633	4.79E-03
8	7.76%	5159	1.51E-02	16	7.13%	4742	1.39E-02	24	1.86%	1238	3.64E-03
								Total		66,465	

Carlsyle Project, San Jose - State Route 87 Traffic - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations
Impact at Construction MEI Receptor Height = 7.6 meters

Emissions Year	2023
Receptor Information	**Construction MEI**
Number of Receptors	1
Receptor Height =	Construction MEI - 3rd Floor (7.6 meters)
Receptor distances =	at contruction MEI receptor location
Meteorological Conditions	
San Jose Airport Met Data	2013-2017
Land Use Classification	urban
Wind speed =	variable
Wind direction =	variable

MEI Maximum Concentrations

Meteorological Data Years	Concentration (µg/m^3)		
	DPM	Exhaust TOG	Evaporative TOG
2013-2017	0.00566	0.3840	0.2555

Meteorological Data Years	PM2.5 Concentrations (µg/m^3)		
	Total PM2.5	Road Dust PM2.5	Vehicle PM2.5
2013-2017	0.3274	0.3064	0.0210

Carlsyle Project, San Jose - State Route 87 Traffic - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations
On-Site 10th Floor Residential Receptors (42.1 meter receptor heights)

Emissions Year	2023
Receptor Information	
Number of Receptors	58
Receptor Height =	10th Floor - 42.1 meters above ground level
Receptor distances =	6 meter spacing in project residential areas
Meteorological Conditions	
BAAQMD San Jose Airport Data	2013-2017
Land Use Classification	urban
Wind speed =	variable
Wind direction =	variable

MEI Maximum Concentrations

Meteorological Data Years	Concentration (µg/m^3)		
	DPM	Exhaust TOG	Evaporative TOG
2013-2017	0.00070	0.0422	0.0253

Meteorological Data Years	PM2.5 Concentrations (µg/m^3)		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013-2017	0.0326	0.0303	0.0023

Carlsyle Project, San Jose - State Route 87 Traffic - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations
On-Site 11th Floor Residential Receptors (43.5 meter receptor heights)

Emissions Year	2023
Receptor Information	
Number of Receptors	58
Receptor Height =	11th Floor - 43.5 meters above ground level
Receptor distances =	6 meter spacing in project residential areas
Meteorological Conditions	
BAAQMD San Jose Airport Data	2013-2017
Land Use Classification	urban
Wind speed =	variable
Wind direction =	variable

MEI Maximum Concentrations

Meteorological Data Years	Concentration (µg/m^3)		
	DPM	Exhaust TOG	Evaporative TOG
2013-2017	0.00066	0.0401	0.0239

Meteorological Data Years	PM2.5 Concentrations (µg/m^3)		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013-2017	0.0309	0.0287	0.0022

Carlsyle Project, San Jose - State Route 87 Traffic - Maximum Cancer Risks
Impact at Construction MEI Receptor Height = 7.6 meters
30-Year Residential Exposure

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

Values

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

	Infant/Child			Adult
Age -->	3rd Trimester	0 - <2	2 - <16	16 - 30
Parameter				
ASF	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
ED =	0.25	2	14	14
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates

Road Traffic Cancer Risk by Year - Maximum Impact Receptor Location

				Maximum - Exposure Information				Cancer Risk (per million)			
					Annual TAC Conc (ug/m3)						
Exposure Year	Year	Exposure Duration (years)	Age	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	Total
0	2022	0.25	-0.25 - 0*	10	0.0057	0.3840	0.2555	0.077	0.030	0.001	0.11
1	2022	1	1	10	0.0057	0.3840	0.2555	0.93	0.360	0.014	1.30
2	2023	1	2	10	0.0057	0.3840	0.2555	0.93	0.360	0.014	1.30
3	2024	1	3	3	0.0057	0.3840	0.2555	0.15	0.057	0.002	0.21
4	2025	1	4	3	0.0057	0.3840	0.2555	0.15	0.057	0.002	0.21
5	2026	1	5	3	0.0057	0.3840	0.2555	0.15	0.057	0.002	0.21
6	2027	1	6	3	0.0057	0.3840	0.2555	0.15	0.057	0.002	0.21
7	2028	1	7	3	0.0057	0.3840	0.2555	0.15	0.057	0.002	0.21
8	2029	1	8	3	0.0057	0.3840	0.2555	0.15	0.057	0.002	0.21
9	2030	1	9	3	0.0057	0.3840	0.2555	0.15	0.057	0.002	0.21
10	2031	1	10	3	0.0057	0.3840	0.2555	0.15	0.057	0.002	0.21
11	2032	1	11	3	0.0057	0.3840	0.2555	0.15	0.057	0.002	0.21
12	2033	1	12	3	0.0057	0.3840	0.2555	0.15	0.057	0.002	0.21
13	2034	1	13	3	0.0057	0.3840	0.2555	0.15	0.057	0.002	0.21
14	2035	1	14	3	0.0057	0.3840	0.2555	0.15	0.057	0.002	0.21
15	2036	1	15	3	0.0057	0.3840	0.2555	0.15	0.057	0.002	0.21
16	2037	1	16	3	0.0057	0.3840	0.2555	0.15	0.057	0.002	0.21
17	2038	1	17	1	0.0057	0.3840	0.2555	0.02	0.0063	0.000	0.023
18	2039	1	18	1	0.0057	0.3840	0.2555	0.02	0.006	0.000	0.023
19	2040	1	19	1	0.0057	0.3840	0.2555	0.02	0.006	0.000	0.023
20	2041	1	20	1	0.0057	0.3840	0.2555	0.02	0.006	0.000	0.023
21	2042	1	21	1	0.0057	0.3840	0.2555	0.02	0.006	0.000	0.023
22	2043	1	22	1	0.0057	0.3840	0.2555	0.02	0.006	0.000	0.023
23	2044	1	23	1	0.0057	0.3840	0.2555	0.02	0.006	0.000	0.023
24	2045	1	24	1	0.0057	0.3840	0.2555	0.02	0.006	0.000	0.023
25	2046	1	25	1	0.0057	0.3840	0.2555	0.02	0.006	0.000	0.023
26	2047	1	26	1	0.0057	0.3840	0.2555	0.02	0.006	0.000	0.023
27	2048	1	27	1	0.0057	0.3840	0.2555	0.02	0.006	0.000	0.023
28	2049	1	28	1	0.0057	0.3840	0.2555	0.02	0.006	0.000	0.023
29	2050	1	29	1	0.0057	0.3840	0.2555	0.02	0.006	0.000	0.023
30	2051	1	30	1	0.0057	0.3840	0.2555	0.02	0.006	0.000	0.023
Total Increased Cancer Risk			**Total**					4.21	1.632	0.064	**5.91**

* Third trimester of pregnancy

Carlsyle Project, San Jose - State Route 87 Traffic - Maximum Cancer Risks
On-Site 10th Floor Residential Receptors (42.1 meter receptor heights)
30-Year Residential Exposure

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

Values

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

	Infant/Child			Adult
Age -->	3rd Trimester	0 - <2	2 - <16	16 - 30
Parameter				
ASF	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
ED =	0.25	2	14	14
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates

Road Traffic Cancer Risk by Year - Maximum Impact Receptor Location

				Maximum - Exposure Information				Cancer Risk (per million)			
					Annual TAC Conc (ug/m3)						
Exposure Year	Year	Exposure Duration (years)	Age	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	Total
0	2023	0.25	-0.25 - 0*	10	0.0007	0.0422	0.0253	0.010	0.003	0.000	0.01
1	2023	1	1	10	0.0007	0.0422	0.0253	0.11	0.040	0.001	0.16
2	2024	1	2	10	0.0007	0.0422	0.0253	0.11	0.040	0.001	0.16
3	2025	1	3	3	0.0007	0.0422	0.0253	0.02	0.006	0.000	0.02
4	2026	1	4	3	0.0007	0.0422	0.0253	0.02	0.006	0.000	0.02
5	2027	1	5	3	0.0007	0.0422	0.0253	0.02	0.006	0.000	0.02
6	2028	1	6	3	0.0007	0.0422	0.0253	0.02	0.006	0.000	0.02
7	2029	1	7	3	0.0007	0.0422	0.0253	0.02	0.006	0.000	0.02
8	2030	1	8	3	0.0007	0.0422	0.0253	0.02	0.006	0.000	0.02
9	2031	1	9	3	0.0007	0.0422	0.0253	0.02	0.006	0.000	0.02
10	2032	1	10	3	0.0007	0.0422	0.0253	0.02	0.006	0.000	0.02
11	2033	1	11	3	0.0007	0.0422	0.0253	0.02	0.006	0.000	0.02
12	2034	1	12	3	0.0007	0.0422	0.0253	0.02	0.006	0.000	0.02
13	2035	1	13	3	0.0007	0.0422	0.0253	0.02	0.006	0.000	0.02
14	2036	1	14	3	0.0007	0.0422	0.0253	0.02	0.006	0.000	0.02
15	2037	1	15	3	0.0007	0.0422	0.0253	0.02	0.006	0.000	0.02
16	2038	1	16	3	0.0007	0.0422	0.0253	0.02	0.006	0.000	0.02
17	2039	1	17	1	0.0007	0.0422	0.0253	0.00	0.0007	0.000	0.003
18	2040	1	18	1	0.0007	0.0422	0.0253	0.00	0.001	0.000	0.003
19	2041	1	19	1	0.0007	0.0422	0.0253	0.00	0.001	0.000	0.003
20	2042	1	20	1	0.0007	0.0422	0.0253	0.00	0.001	0.000	0.003
21	2043	1	21	1	0.0007	0.0422	0.0253	0.00	0.001	0.000	0.003
22	2044	1	22	1	0.0007	0.0422	0.0253	0.00	0.001	0.000	0.003
23	2045	1	23	1	0.0007	0.0422	0.0253	0.00	0.001	0.000	0.003
24	2046	1	24	1	0.0007	0.0422	0.0253	0.00	0.001	0.000	0.003
25	2047	1	25	1	0.0007	0.0422	0.0253	0.00	0.001	0.000	0.003
26	2048	1	26	1	0.0007	0.0422	0.0253	0.00	0.001	0.000	0.003
27	2049	1	27	1	0.0007	0.0422	0.0253	0.00	0.001	0.000	0.003
28	2050	1	28	1	0.0007	0.0422	0.0253	0.00	0.001	0.000	0.003
29	2051	1	29	1	0.0007	0.0422	0.0253	0.00	0.001	0.000	0.003
30	2052	1	30	1	0.0007	0.0422	0.0253	0.00	0.001	0.000	0.003
Total Increased Cancer Risk			**Total**					0.52	0.179	0.006	**0.71**

* Third trimester of pregnancy

Carlsyle Project, San Jose - State Route 87 Traffic - Maximum Cancer Risks
On-Site 11th Floor Residential Receptors (43.5 meter receptor heights)
30-Year Residential Exposure

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

Values

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

	Infant/Child			Adult
Age -->	3rd Trimester	0 - <2	2 - <16	16 - 30
Parameter				
ASF	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
ED =	0.25	2	14	14
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates

Road Traffic Cancer Risk by Year - Maximum Impact Receptor Location

				Maximum - Exposure Information				Cancer Risk (per million)			
					Annual TAC Conc (ug/m3)						
Exposure Year	Year	Exposure Duration (years)	Age	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	Total
0	2023	0.25	-0.25 - 0*	10	0.0007	0.0401	0.0239	0.009	0.003	0.000	0.01
1	2023	1	1	10	0.0007	0.0401	0.0239	0.11	0.038	0.001	0.15
2	2024	1	2	10	0.0007	0.0401	0.0239	0.11	0.038	0.001	0.15
3	2025	1	3	3	0.0007	0.0401	0.0239	0.02	0.006	0.000	0.02
4	2026	1	4	3	0.0007	0.0401	0.0239	0.02	0.006	0.000	0.02
5	2027	1	5	3	0.0007	0.0401	0.0239	0.02	0.006	0.000	0.02
6	2028	1	6	3	0.0007	0.0401	0.0239	0.02	0.006	0.000	0.02
7	2029	1	7	3	0.0007	0.0401	0.0239	0.02	0.006	0.000	0.02
8	2030	1	8	3	0.0007	0.0401	0.0239	0.02	0.006	0.000	0.02
9	2031	1	9	3	0.0007	0.0401	0.0239	0.02	0.006	0.000	0.02
10	2032	1	10	3	0.0007	0.0401	0.0239	0.02	0.006	0.000	0.02
11	2033	1	11	3	0.0007	0.0401	0.0239	0.02	0.006	0.000	0.02
12	2034	1	12	3	0.0007	0.0401	0.0239	0.02	0.006	0.000	0.02
13	2035	1	13	3	0.0007	0.0401	0.0239	0.02	0.006	0.000	0.02
14	2036	1	14	3	0.0007	0.0401	0.0239	0.02	0.006	0.000	0.02
15	2037	1	15	3	0.0007	0.0401	0.0239	0.02	0.006	0.000	0.02
16	2038	1	16	3	0.0007	0.0401	0.0239	0.02	0.006	0.000	0.02
17	2039	1	17	1	0.0007	0.0401	0.0239	0.00	0.0007	0.000	0.003
18	2040	1	18	1	0.0007	0.0401	0.0239	0.00	0.001	0.000	0.003
19	2041	1	19	1	0.0007	0.0401	0.0239	0.00	0.001	0.000	0.003
20	2042	1	20	1	0.0007	0.0401	0.0239	0.00	0.001	0.000	0.003
21	2043	1	21	1	0.0007	0.0401	0.0239	0.00	0.001	0.000	0.003
22	2044	1	22	1	0.0007	0.0401	0.0239	0.00	0.001	0.000	0.003
23	2045	1	23	1	0.0007	0.0401	0.0239	0.00	0.001	0.000	0.003
24	2046	1	24	1	0.0007	0.0401	0.0239	0.00	0.001	0.000	0.003
25	2047	1	25	1	0.0007	0.0401	0.0239	0.00	0.001	0.000	0.003
26	2048	1	26	1	0.0007	0.0401	0.0239	0.00	0.001	0.000	0.003
27	2049	1	27	1	0.0007	0.0401	0.0239	0.00	0.001	0.000	0.003
28	2050	1	28	1	0.0007	0.0401	0.0239	0.00	0.001	0.000	0.003
29	2051	1	29	1	0.0007	0.0401	0.0239	0.00	0.001	0.000	0.003
30	2052	1	30	1	0.0007	0.0401	0.0239	0.00	0.001	0.000	0.003
Total Increased Cancer Risk			**Total**					0.49	0.170	0.006	**0.67**

* Third trimester of pregnancy

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

County specific tables containing estimates of risk and hazard impacts from roadways in the Bay Area.

INSTRUCTIONS:

Input the site-specific characteristics of your project by using the drop down menu in the "Search Parameter" box. We recommend that this analysis be used for roadways with 10,000 AADT and above.

• County: Select the County where the project is located. The calculator is only applicable for projects within the nine Bay Area counties.

• Roadway Direction: Select the orientation that best matches the roadway. If the roadway orientation is neither clearly north-south nor east-west, use the highest values predicted from either orientation.

• Side of the Roadway: Identify on which side of the roadway the project is located.

• Distance from Roadway: Enter the distance in feet from the nearest edge of the roadway to the project site. The calculator estimates values for distances greater than 10 feet and less than 1000 feet. For distances greater than 1000 feet, the user can choose to extrapolate values using a distribution curve or apply 1000 feet values for greater distances.

• Annual Average Daily Traffic (ADT): Enter the annual average daily traffic on the roadway. These data may be collected from the city or the county (if the area is unincorporated).

When the user has completed the data entries, the screening level PM2.5 annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways and the District refers the user to the Highway Screening Analysis Tool at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara
Roadway Direction	East-West
Side of the Roadway	North
Distance from Roadway	360 feet
	MEI
Annual Average Daily Traffic (ADT)	23,170

Results

Santa Clara County

EAST-WEST DIRECTIONAL ROADWAY

PM2.5 annual average

0.067 ($\mu g/m^3$)

Cancer Risk

3.54 (per million)

W Santa Clara St

Background + Project volumes from traffic data
Data for Santa Clara County based on meteorological data collected from San Jose Airport in 1997

Adjusted for 2015 OEHHA and EMFAC2014 for 2018

2.43
(per million)

Note that EMFAC2014 predicts DSL PM2.5 aggragate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehciles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using ~~CALINE4~~ Cal3qhcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

County specific tables containing estimates of risk and hazard impacts from roadways in the Bay Area.

INSTRUCTIONS:

Input the site-specific characteristics of your project by using the drop down menu in the "Search Parameter" box. We recommend that this analysis be used for roadways with 10,000 AADT and above.

• County: Select the County where the project is located. The calculator is only applicable for projects within the nine Bay Area counties.

• Roadway Direction: Select the orientation that best matches the roadway. If the roadway orientation is neither clearly north-south nor east-west, use the highest values predicted from either orientation.

• Side of the Roadway: Identify on which side of the roadway the project is located.

• Distance from Roadway: Enter the distance in feet from the nearest edge of the roadway to the project site. The calculator estimates values for distances greater than 10 feet and less than 1000 feet. For distances greater than 1000 feet, the user can choose to extrapolate values using a distribution curve or apply 1000 feet values for greater distances.

• Annual Average Daily Traffic (ADT): Enter the annual average daily traffic on the roadway. These data may be collected from the city or the county (if the area is unincorporated).

When the user has completed the data entries, the screening level PM2.5 annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways and the District refers the user to the Highway Screening Analysis Tool at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara
Roadway Direction	East-West
Side of the Roadway	South
Distance from Roadway	820 feet
	MEI
Annual Average Daily Traffic (ADT)	25,000

Results

Santa Clara County

EAST-WEST DIRECTIONAL ROADWAY

PM2.5 annual average

0.046 ($\mu g/m^3$)

Cancer Risk

1.83 (per million)

W Julian St

Area Traffic Data
Data for Santa Clara County based on meteorological data collected from San Jose Airport in 1997

Adjusted for 2015 OEHHA and EMFAC2014 for 2018

1.26
(per million)

Note that EMFAC2014 predicts DSL PM2.5 aggragate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehciles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using ~~CALINE4~~ Cal3qhcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

County specific tables containing estimates of risk and hazard impacts from roadways in the Bay Area.

INSTRUCTIONS:

Input the site-specific characteristics of your project by using the drop down menu in the "Search Parameter" box. We recommend that this analysis be used for roadways with 10,000 AADT and above.

• County: Select the County where the project is located. The calculator is only applicable for projects within the nine Bay Area counties.

• Roadway Direction: Select the orientation that best matches the roadway. If the roadway orientation is neither clearly north-south nor east-west, use the highest values predicted from either orientation.

• Side of the Roadway: Identify on which side of the roadway the project is located.

• Distance from Roadway: Enter the distance in feet from the nearest edge of the roadway to the project site. The calculator estimates values for distances greater than 10 feet and less than 1000 feet. For distances greater than 1000 feet, the user can choose to extrapolate values using a distribution curve or apply 1000 feet values for greater distances.

• Annual Average Daily Traffic (ADT): Enter the annual average daily traffic on the roadway. These data may be collected from the city or the county (if the area is unincorporated).

When the user has completed the data entries, the screening level PM2.5 annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways and the District refers the user to the Highway Screening Analysis Tool at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara
Roadway Direction	East-West
Side of the Roadway	North
Distance from Roadway	440 feet
Annual Average Daily Traffic (ADT)	23,170

Results

Santa Clara County

EAST-WEST DIRECTIONAL ROADWAY

PM2.5 annual average

0.059 ($\mu g/m^3$)

Cancer Risk

3.15 (per million)

W Santa Clara St

Background + Project volumes from traffic data
Data for Santa Clara County based on meteorological data collected from San Jose Airport in 1997

Adjusted for 2015 OEHHA and EMFAC2014 for 2018

2.16
(per million)

Note that EMFAC2014 predicts DSL PM2.5 aggragate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehciles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using ~~CALINE4~~ Cal3qhcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

County specific tables containing estimates of risk and hazard impacts from roadways in the Bay Area.

INSTRUCTIONS:

Input the site-specific characteristics of your project by using the drop down menu in the "Search Parameter" box. We recommend that this analysis be used for roadways with 10,000 AADT and above.

• County: Select the County where the project is located. The calculator is only applicable for projects within the nine Bay Area counties.

• Roadway Direction: Select the orientation that best matches the roadway. If the roadway orientation is neither clearly north-south nor east-west, use the highest values predicted from either orientation.

• Side of the Roadway: Identify on which side of the roadway the project is located.

• Distance from Roadway: Enter the distance in feet from the nearest edge of the roadway to the project site. The calculator estimates values for distances greater than 10 feet and less than 1000 feet. For distances greater than 1000 feet, the user can choose to extrapolate values using a distribution curve or apply 1000 feet values for greater distances.

• Annual Average Daily Traffic (ADT): Enter the annual average daily traffic on the roadway. These data may be collected from the city or the county (if the area is unincorporated).

When the user has completed the data entries, the screening level PM2.5 annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways and the District refers the user to the Highway Screening Analysis Tool at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara
Roadway Direction	East-West
Side of the Roadway	South
Distance from Roadway	630 feet
Annual Average Daily Traffic (ADT)	25,000

Results

Santa Clara County

EAST-WEST DIRECTIONAL ROADWAY

PM2.5 annual average

0.059 ($\mu g/m^3$)

Cancer Risk

2.37 (per million)

W Julian St

Area Traffic Data

Data for Santa Clara County based on meteorological data collected from San Jose Airport in 1997

Adjusted for 2015 OEHHA and EMFAC2014 for 2018

1.63

(per million)

Note that EMFAC2014 predicts DSL PM2.5 aggragate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehciles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using ~~CALINE4~~ Cal3qhcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

Bay Area Air Quality Management District

Risk & Hazard Stationary Source Inquiry Form

This form is required when users request stationary source data from BAAQMD

This form is to be used with the BAAQMD's Google Earth stationary source screening tables.

Click here for guidance on coducting risk & hazard screening, including roadways & freeways, refer to the District's Risk & Hazard Analysis flow chart.

Click here for District's Recommended Methods for Screening and Modeling Local Risks and Hazards document.

Table A: Requester Contact Information

Date of Request	**2/3/2020**
Contact Name	Casey Divine
Affiliation	Illingworth & Rodkin, Inc.
Phone	707-794-0400 x103
Email	cdivine@illingworthrodkin.com
Project Name	The Carlysle
Address	51 Notre Dame Ave
City	San Jose
County	Santa Clara
Type (residential, commercial, mixed use, industrial, etc.)	MU
Project Size (# of units or building square feet)	290 du, 8ksf retail, 124ksf office
Comments:	

For Air District assistance, the following steps must be completed:

1. Complete all the contact and project information requested in Table A. Incomplete forms will not be processed. Please include a project site map.

2. Download and install the free program Google Earth, **http://www.google.com/earth/download/ge/,** and then download the county specific Google Earth stationary source application files from the District's website, **http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.** The small points on the map represent stationary sources permitted by the District (Map A on right). These permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc. Click on a point to view the source's Information Table, including the name, location, and preliminary estimated cancer risk, hazard index, and PM2.5 concentration.

3. Find the project site in Google Earth by inputting the site's address in the Google Earth search box.

4. Identify stationary sources within at least a 1000ft radius of project site. Verify that the location of the source on the map matches with the source's address in the Information Table, by using the Google Earth address search box to confirm the source's address location. Please report any mapping errors to the District.

5. List the stationary source information in Table B only.

6. Note that a small percentage of the stationary sources have Health Risk Screening Assessment (HRSA) data INSTEAD of screening level data. These sources will be noted by an asterisk next to the Plant Name (Map B or right). If HRSA values are presented, these values have already been modeled and cannot be adjusted further.

7. Email this completed form to District staff. District staff will provide the most recent risk, hazard, and PM2.5 data that are available for the source(s). If this information or data are not available, source emissions data will be provided. Staff will respond to inquiries within three weeks.

Note that a public records request received for the same stationary source information will cancel the processing of your SSIF request.

Submit forms, maps, and questions to Areana Flores at 415-749-4616, or aflores@baaqmd.gov

Table B: Google Earth data

Construction MEI

Distance from Receptor (feet) or MEI[1]	Plant No.	Facility Name	Address	Cancer Risk[2]	Hazard Risk[2]	$PM_{2.5}$[2]	Source No.[3]	Type of Source[4]	Fuel Code[5]	Status/Comments	Distance Adjustment Multiplier	Adjusted Cancer Risk Estimate	Adjusted Hazard Risk	Adjusted PM2.5
715	14687	CenturyLink Communications, LLC	55 Almaden Boulevard	1.437	0.002	0.002		Generators		2018 dataset	0.07	0.1	0.0001	0.0001
715	14713	Verizon Business - SNJECA	55 So Almaden	1.378	0.004	0.002		Generators		2018 dataset	0.07	0.1	0.0003	0.0001
1000	17788	City Heights At Pellier Park	175 W Saint James St	5.251	0.001	0.007		Generators		2018 dataset	0.04	0.2	0.00004	0.0003
145	22398	225 West Santa Clara LLC c/o Harvest Properties	225 W Santa Clara St	4.968	0.008	0.006		Generators		2018 dataset	0.58	2.9	0.005	0.003
815	22415	Essex OSM Reit LLC	1 So Market Street	3.62	0.001	0.005		Generators		2018 dataset	0.06	0.2	0.0001	0.0003
130	22757	Centerra Apartments	77 N Almaden Avenue	0.163	0	0		Generators		2018 dataset	0.58	0.1	0	0
480	23291	KBS 111 Ten Almaden LLC	10 Almaden Boulevard	3.572	0.006	0.005		Generators		2018 dataset	0.12	0.4	0.001	0.001
540	23395	KBSIII Almaden Financial Plaza, LLC	1 Almaden Boulevard	4.592	0.007	0.006		Generators		2018 dataset	0.10	0.5	0.001	0.001
On Site	23706	AXIS HOA	38 N Almaden Blvd	2.356	0.005	0.003		Generators		2018 dataset	1.00	2.4	0.01	0.003

Footnotes:

1. Maximally exposed individual

Project Site

Distance from Receptor (feet) or MEI[1]	FACID (Plant No.)	Distance Adjustment Multiplier	Adjusted Cancer Risk Estimate	Adjusted Hazard Risk	Adjusted PM2.5
745	14687	0.07	0.1	0.0001	0.0001
745	14713	0.07	0.1	0.0003	0.0001
820	17788	0.06	0.3	0.0001	0.0004
200	22398	0.41	2.0	0.003	0.002
850	22415	0.05	0.2	0.0001	0.0003
80	22757	0.85	0.1	0	0
550	23291	0.10	0.4	0.001	0.001
540	23395	0.10	0.5	0.001	0.001
60	23706	1.00	2.4	0.005	0.003

2. These Cancer Risk, Hazard Index, and PM2.5 columns represent the values in the Google Earth Plant Information Table.
3. Each plant may have multiple permits and sources.
4. Permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc.
5. Fuel codes: 98 = diesel, 189 = Natural Gas.
6. If a Health Risk Screening Assessment (HRSA) was completed for the source, the application number will be listed here.
7. The date that the HRSA was completed.
8. Engineer who completed the HRSA. For District purposes only.
9. All HRSA completed before 1/5/2010 need to be multiplied by an age sensitivity factor of 1.7.
10. The HRSA "Chronic Health" number represents the Hazard Index.
11. Further information about common sources:
    a. Sources that only include diesel internal combustion engines can be adjusted using the BAAQMD's Diesel Multiplier worksheet.
    b. The risk from natural gas boilers used for space heating when <25 MM BTU/hr would have an estimated cancer risk of one in a million or less, and a chronic hazard index of
    c. BAAQMD Reg 11 Rule 16 required that all co-residential (sharing a wall, floor, ceiling or is in the same building as a residential unit) dry cleaners cease use of perc on July 1, 2010. Therefore, there is no cancer risk, hazard or PM2.5 concentrations from co-residential dry cleaning businesses in the BAAQMD.
    d. Non co-residential dry cleaners must phase out use of perc by Jan. 1, 2023. Therefore, the risk from these dry cleaners does not need to be factored in over a 70-year period, but instead
    e. Gas stations can be adjusted using BAAQMD's Gas Station Distance Mulitplier worksheet.
    f. Unless otherwise noted, exempt sources are considered insignificant. See BAAQMD Reg 2 Rule 1 for a list of exempt sources.
    g. This spray booth is considered to be insignificant.

Date last updated:
03/13/2018