Appendix A

Air Quality Assessment

1495 S. WINCHESTER BOULEVARD AIR QUALITY AND GREENHOUSE GAS ASSESSMENT

San José, California

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Introduction

The purpose of this report is to address air quality impacts associated with a new mixed-use building located at 1495 S. Winchester Boulevard in San José, California. The air quality impacts would be associated with demolition of the existing uses at the site, construction of the new building and infrastructure, and operation of the project. Air pollutant emissions associated with construction and operation of the project were predicted using models. In addition, the potential construction health risk impact to nearby sensitive receptors and the impact of existing toxic air contaminant (TAC) sources affecting the proposed residences were evaluated. This analysis addresses those issues following the guidance provided by the Bay Area Air Quality Management District (BAAQMD).[1]

Project Description

The project site is currently occupied by Pacific Interlock Pavingstone for retail sales of hardscape materials. The project proposes to demolish the existing 1,300 square-foot (sf) building and construct a four-story mixed-use building with 46 multi-family dwelling units and 4,966-sf of retail land uses. The project includes 68[2] on-site parking spaces on the ground floor and two basement levels.

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 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

[1] Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017.
[2] The updated project now proposes 72 parking stalls. This small increase does not make a measurable difference in the level of emissions and does not affect the analysis.

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

TACs are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer) and include, but are not limited to, the criteria air pollutants. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter [DPM] near a freeway). 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. The most recent Office of Environmental Health Hazard Assessment (OEHHA) risk assessment guidelines were published in February of 2015.[3] See *Attachment 1* for a detailed description of the community risk modeling methodology used in this assessment.

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. For cancer risk assessments, children are the most sensitive receptors, since they are more susceptible to cancer causing TACs. Residential locations are assumed to include infants and small children. The closest sensitive receptors to the project site are residences in apartments adjacent to the western site boundary. There are additional residences east and west of the site at farther distances. There is also daycare adjacent to the northwest of the project site. The project would include sensitive receptors.

Regulatory Agencies

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

[3] 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.

recently published California Environmental Quality Act (CEQA) Air Quality Guidelines that are used in this assessment to evaluate air quality impacts of projects.

Regulatory Setting

Federal Regulations

The United States Environmental Protection Agency (EPA) sets nationwide emission standards for mobile sources, which include on-road (highway) motor vehicles such trucks, buses, and automobiles, and non-road (off-road) vehicles and equipment used in construction, agricultural, industrial, and mining activities (such as bulldozers and loaders). The EPA also sets nationwide fuel standards. California also has the ability to set motor vehicle emission standards and standards for fuel used in California, as long as they are the same or more stringent than the federal standards.

In the past decade the EPA has established a number of emission standards for on- and non-road heavy-duty diesel engines used in trucks and other equipment. This was done in part because diesel engines are a significant source of NO_X and particulate matter (PM_{10} and $PM_{2.5}$) and because the EPA has identified DPM as a probable carcinogen. Implementation of the heavy-duty diesel on-road vehicle standards and the non-road diesel engine standards are estimated to reduce particulate matter and NO_X emissions from diesel engines up to 95 percent in 2030 when the heavy-duty vehicle fleet is completely replaced with newer heavy-duty vehicles that comply with these emission standards.[4]

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

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

State Regulations

To address the issue of diesel emissions in the state, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.[5] In addition to requiring more stringent emission standards for new on-road and off-road mobile sources and stationary diesel-fueled engines to reduce particulate matter emissions by 90 percent, a significant component of the plan involves application of emission control strategies to existing diesel

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

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

vehicles and equipment. Many of the measures of the Diesel Risk Reduction Plan have been approved and adopted, including the federal on-road and non-road diesel engine emission standards for new engines, as well as adoption of regulations for low sulfur fuel in California.

CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy duty diesel trucks that represent the bulk of DPM emissions from California highways. CARB regulations require on-road diesel trucks to be retrofitted with particulate matter controls or replaced to meet 2010 or later engine standards that have much lower DPM and $PM_{2.5}$ emissions. This regulation will substantially reduce these emissions between 2013 and 2023. While new trucks and buses will meet strict federal standards, this measure is intended to accelerate the rate at which the fleet either turns over so there are more cleaner vehicles on the road or is retrofitted to meet similar standards. With this regulation, older, more polluting trucks would be removed from the roads sooner.

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

Bay Area Air Quality Management District (BAAQMD)

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

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

The BAAQMD California Environmental Quality Act (*CEQA) Air Quality Guidelines*[6] were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process consistent with CEQA requirements including thresholds

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

of significance, mitigation measures, and background air quality information. They also include assessment methodologies for air toxics, odors, and greenhouse gas emissions.

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:

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-11.1 Require completion of air quality modeling for sensitive land uses such as new residential developments that are located near sources of pollution such as freeways and industrial uses. Require new residential development projects and projects categorized as sensitive receptors to incorporate effective mitigation into project designs or be located an adequate distance from sources of toxic air contaminants (TACs) to avoid significant risks to health and safety.

MS-11.4 Encourage the installation of appropriate air filtration at existing schools, residences, and other sensitive receptor uses adversely affected by pollution sources.

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.

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 that were used in this analysis are summarized in Table 1.

Table 1. 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	54	10
NO_x	54	54	10
PM_{10}	82 (Exhaust)	82	15
$PM_{2.5}$	54 (Exhaust)	54	10
CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
Health Risks and Hazards	**Single Sources Within 1,000-foot Zone of Influence**	**Combined Sources (Cumulative from all sources within 1,000-foot zone of influence)**	
Excess Cancer Risk	>10.0 per one million	>100 per one million	
Hazard Index	>1.0	>10.0	
Incremental annual $PM_{2.5}$	>0.3 $\mu g/m^3$	>0.8 $\mu g/m^3$	
Greenhouse Gas Emissions			
Land Use Projects – direct and indirect emissions	Compliance with a Qualified GHG Reduction Strategy OR 1,100 metric tons annually or 4.6 metric tons per capita (for 2020) 660 metric tons annually or 2.6 metric tons per capita (for 2030) *		

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.

*BAAQMD does not have a recommended post-2020 GHG threshold.

Impacts and Mitigation Measures

Impact: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable State or federal ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

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 NOx), PM_{10}, and $PM_{2.5}$ and apply to both construction period and operational period impacts.

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 is included as *Attachment 2*.

Construction period emissions

CalEEMod provided annual emissions for 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. A construction build-out scenario, including equipment list and schedule, was based on CalEEMod defaults for a project of this type and size.

The proposed project land uses were input into CalEEMod, which included: 46 dwelling units entered as "Apartment Mid Rise," 4,966-sf entered as "Strip Mall", and 68 spaces as "Enclosed Parking with Elevator." In addition, 1,300-sf of existing building demolition, 14,120 cubic yards (cy) of export for the grading phase, and 34 one-way pavement hauling truck trips during demolition was entered into the model.

The construction schedule assumed that the project would be built out over a period of approximately 12 months, beginning in January 2020. Based on the provided construction schedule and equipment usage assumptions, there were an estimated 246 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, NOx, PM_{10} exhaust, and $PM_{2.5}$ exhaust during construction of the project. As indicated in Table 2, predicted the construction period emissions would not exceed the BAAQMD significance thresholds.

Table 2. Construction Period Emissions

Scenario	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Total construction emissions (tons)	0.6 tons	2.2 tons	0.1 tons	0.1 tons
Average daily emissions (pounds)[1]	4.6 lbs./day	17.9 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

Notes: [1]Assumes 246 workdays.

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

to reduce these emissions. *Mitigation Measure AQ-1 would implement BAAQMD-recommended best management practices*.

Operational Period Emissions

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

Land Uses

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

Model Year

Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates utilized by CalEEMod. The earliest the project could possibly be constructed and begin operating would be late 2021. Emissions associated with build-out later than 2021 would be lower.

Trip Generation Rates

CalEEMod allows the user to enter specific vehicle trip generation rates, which were input to the model using the daily trip generation rate provided in the project trip generation table,[7] including a 15-percent reduction for housing and retail mixed-use for the residential and retail land uses. 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. The default trip lengths and trip types specified by CalEEMod were used.

Energy

CalEEMod defaults for energy use were used, which include the 2016 Title 24 Building Standards. Indirect emissions from electricity were computed in CalEEMod. The model has a default rate of 641.3 pounds of CO_2 per megawatt of electricity produced, which is based on PG&E's 2008 emissions rate. The rate was adjusted to account for PG&E's projected 2020 CO_2 intensity rate. This 2020 rate is based, in part, on the requirement of a renewable energy portfolio standard of 33 percent by the year 2020. The derived 2020 rate for PG&E was estimated at 290 pounds of CO_2 per megawatt of electricity delivered.[8]

[7] Hexagon Transportation Consultants, Inc., "1495 S. Winchester Boulevard Mixed-Use Development", June 2018.
[8] Pacific Gas & Electric, 2015. *Greenhouse Gas Emission Factors: Guidance for PG&E Customers*. November.

Other Inputs

Wood-burning stoves and fireplaces are not allowed in new developments in the Bay Area; however, it was assumed that residential units could contain gas-powered fireplaces. Default model assumptions for emissions associated with solid waste generation and water/wastewater use were applied to the project. Water/wastewater use were changed to 100% aerobic conditions to represent wastewater treatment plant conditions.

Existing Uses

A CalEEMod model run was developed to computed emissions from use of the existing building as if it was operating in 2021. Inputs for this modeling scenario included 1,300-sf of "Strip Mall" and 12,000 sf of "Parking Lot" to represent the existing commercial uses, and along with the trip rate generation rates used in the traffic study, all inputs were applied to the modeling in the same manner described for the proposed project.

As shown in Table 3, operational emissions would not exceed the BAAQMD significance thresholds. This would be considered a *less-than-significant* impact.

Table 3. Operational Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
2021 Project Operational Emissions (*tons/year*)	0.3 tons	0.4 tons	0.3 tons	0.1 tons
2021 Existing Use Emissions (*tons/year*)	<0.1 tons	<0.1 tons	<0.1 tons	<0.1 tons
Net Annual Emissions (*tons/year*)	0.3 tons	0.3 tons	0.3 tons	0.1 tons
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Threshold?	*No*	*No*	*No*	*No*
Net Annual Emissions (*lbs/day*)	1.5 lbs.	1.9 lbs.	1.4 lbs.	0.4 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.

Mitigation Measure AQ-1: **Include basic measures to control dust and exhaust during construction along with special measures to reduce equipment exhaust.**

During any construction period ground disturbance, the applicant shall ensure that the project contractor implements measures to control dust and on-site equipment exhaust:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

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

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

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

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

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

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

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

9. Require that the project develop a plan demonstrating that the off-road equipment used on-site to construct the project would achieve a fleet-wide average 75 percent reduction in particulate matter exhaust emissions or more. One feasible plan to achieve this reduction would include the following:

    a. 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 3 engines with CARB-certified Level 3 Diesel Particulate Filters[9] or equivalent. The use of equipment meeting U.S. EPA Tier 4 standards for particulate matter would also meet this requirement. Alternatively, the use of equipment that includes electric or alternatively-fueled equipment (i.e., non-diesel) would meet this requirement.

Effectiveness of Mitigation Measure AQ-1

Implementation of Mitigation Measure AQ-1 is considered to reduce fugitive dust emissions by over 60 percent and reduce on-site diesel exhaust emissions by over 85 percent.

[9] See http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm

Impact: Expose sensitive receptors to substantial pollutant concentrations?

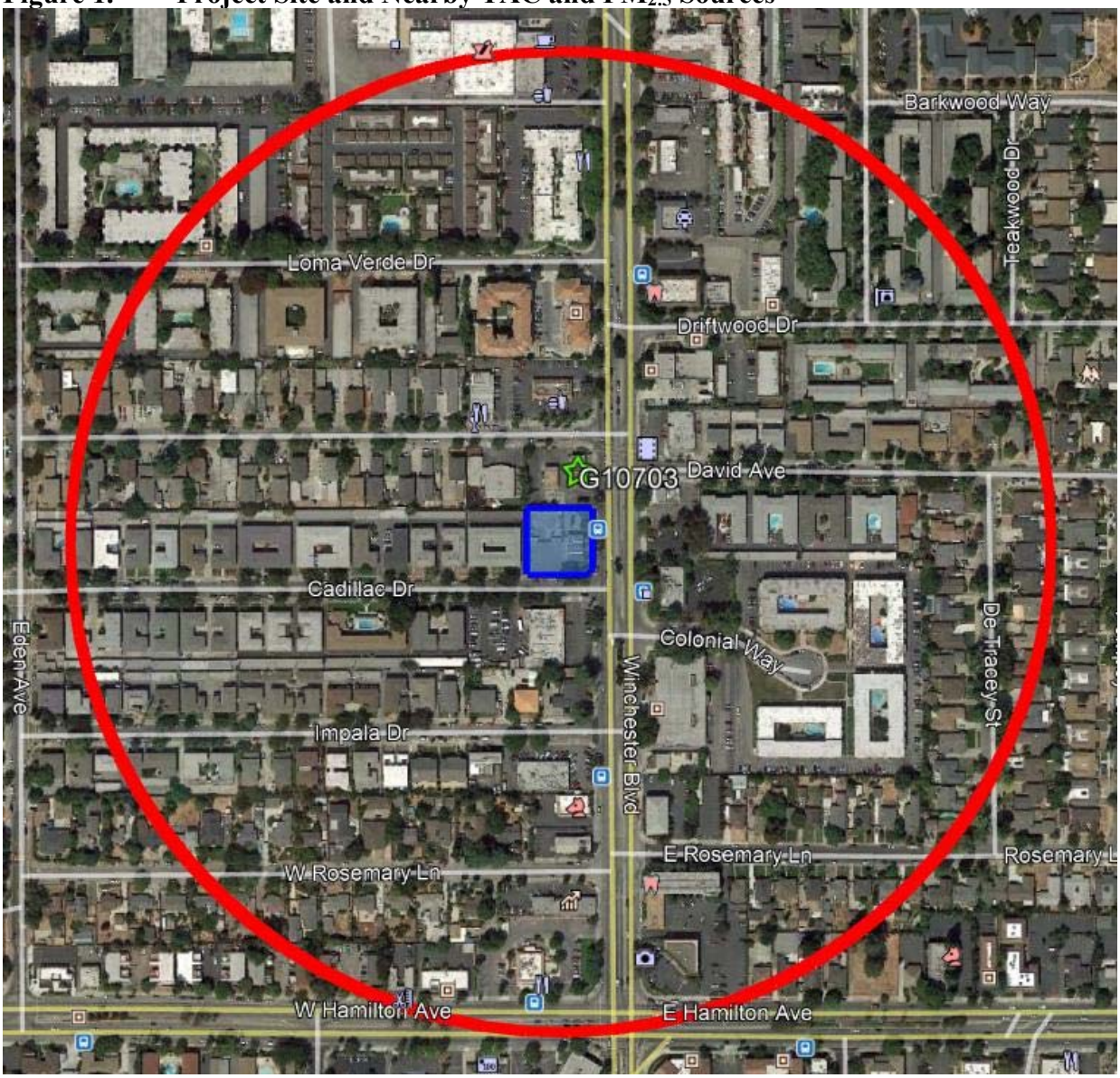
Project impacts related to increased community risk can occur either by introducing a new source of TAC and air pollutant emissions or introducing new sensitive receptor, such as a residential use, in proximity to an existing source of TACs. The project would introduce new residents that are sensitive receptors. There are several sources of TACs and localized air pollutants in the vicinity of the project. The impacts of these sources upon the project were assessed. Temporary project construction activity would generate dust and equipment exhaust on a temporary basis that could affect nearby sensitive receptors. A construction health risk assessment was prepared to address construction impacts caused by the project. Operation of the project is not expected to be a source of TAC or localized air pollutant emissions, as the project would not generate substantial truck traffic or include stationary sources of emissions, such as generators.

Community risk impacts are addressed by increased predicting lifetime 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*.

Operational Community Risk Impacts

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. These sources can include freeways or highways, busy surface streets, and stationary sources identified by BAAQMD. Traffic on high volume roadways is a source of TAC emissions that may adversely affect sensitive receptors in close proximity to the roadway. A review of the project area indicates that traffic on S. Winchester Boulevard and Hamilton Avenue 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 one source with the potential to affect the project site. Figure 1 shows the sources affecting the project site. Community risk impacts from these sources upon the project are reported in Table 4. Details of the screening, modeling, and community risk calculations are included in *Attachment 3.*

Figure 1. Project Site and Nearby TAC and $PM_{2.5}$ Sources



Local Roadway: S. Winchester Boulevard and Hamilton Avenue

For local roadways, BAAQMD has provided the *Roadway Screening Analysis Calculator* to assess whether roadways with traffic volumes of over 10,000 vehicles per day may have a potentially significant effect on a proposed project. Note this is a screening model and more refined modeling could be conducted if potentially significant impacts are identified. Two adjustments were made to the cancer risk predictions made by this calculator: (1) adjustment for latest vehicle emissions rates and (2) adjustment of cancer risk to reflect new OEHHA guidance (see *Attachment 1*).

The calculator uses EMFAC2011 emission rates for the year 2014. In addition, a new 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.[10]

There were two local roadways with high traffic volumes near the project site which included S. Winchester Boulevard and Hamilton Avenue. The average daily traffic (ADT) on these streets were estimated based on the peak hour turning movement counts for the background plus project scenario included in the project's traffic analysis. The AM and PM peak-hour volumes were averaged and then multiplied by 10 to estimate the ADT. Using the *BAAQMD Roadway Screening Analysis Calculator* for Santa Clara County, S. Winchester Boulevard was evaluated as a north-south directional roadway with the project site approximately 22 feet west of the roadway edge and Hamilton Avenue was evaluated as an east-west directional roadway with the project site approximately 940 feet north of the roadway. The cancer risk and annual average $PM_{2.5}$ estimated from these roadways at the nearest project site sensitive receptors on the second level above ground are reported in Table 4. Note that BAAQMD has found that non-cancer hazards from all local roadways would be below a Hazard Index of 0.03.

Screening of Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using *BAAQMD's Stationary Source Risk & Hazard Analysis Tool.* This mapping tool uses Google Earth and identified the location of one stationary source (a gas station) and its estimated risk and hazard impacts. A Stationary Source Information Form (SSIF) containing the identified sources was prepared and submitted to BAAQMD. They provided updated risk levels, emissions and adjustments to account for new OEHHA guidance.[11] The risk values were then adjusted with the appropriate distance multiplier values provided by BAAQMD. However, the cancer risk did not pass the screening threshold, so emissions information was requested to be used in refined modeling. Emissions data for the stationary source was not available at the time of this study. Therefore, emissions for this source were computed based on annual throughput expected for the facility and the latest gasoline dispensing facility emissions factors.

Stationary source #G10703 is a gas station. The emissions from this gas station were computed based on an assumed projected annual throughput of gasoline (i.e., 5 million gallons – typical for a high-volume gas station of this size). Emissions of benzene, toluene, and xylenes which are TACs were computed based on the most recent emission factors developed by CARB.[12] The emission factors are based on annual gasoline throughput and account for emissions from fuel storage tank loading and pressure driven (breathing) losses, motor vehicle refueling, spillage while refueling, and minor emissions from vapor permeation through gasoline dispensing hoses. The fueling emission factors take into account the effects of vehicles equipped with onboard refueling vapor recovery (ORVR) systems. ORVR systems were phased in beginning with 1998 model year passenger vehicles, and are now installed on all passenger, light-duty, and medium-duty vehicles

[10] Correspondence with Alison Kirk, BAAQMD, November 23, 2015.
[11] Correspondence with Alison Kirk, BAAQMD, June 19, 2018.
[12] CARB. 2013. *Revised Emissions Factors for Gasoline Marketing Operations at California Gasoline Dispensing Facilities*. December 23, 2013.

manufactured since the 2006 model year. Emissions of benzene, toluene, and xylene which are TACs were computed assuming that benzene, toluene, and xylene make up 0.3%, 8.0%, and 2.4% of gasoline vapor, respectively.[13]

The average daily emissions of each TAC were input to the BAAQMD's *Risk and Hazards Screening Calculator* to compute project risk impacts in terms of lifetime cancer risk and non-cancer hazards. The calculator predicts the near source risk levels, and after adjustments to account for new OEHHA guidance, is then entered into BAAQMD's *Gasoline Station Distance Multiplier Tool*. The closest sensitive receptors to gas station #G10703 would be the residents on the second level of the project site located approximately 20 feet south of gas station #G10703. The cancer risk at the closest receptor location was found to be 6.5 in a million, which would be below the BAAQMD's threshold. The non-cancer risk (HI) due to the emissions from the gasoline dispensing facility would be 0.03. Gas station #G10703 emissions calculations are included in *Attachment 3* and shown in Table 4.

Cumulative Community Risk at Project Site

Community risk impacts from single and combined sources upon the project site are reported in Table 4. As shown in Tables 4, the single TAC sources from Hamilton Avenue and Plant #G10703 and the combined TAC sources within 1,000 feet of the project site would not exceed the BAAQMD single and cumulative risk thresholds. However, the cancer risk and annual $PM_{2.5}$ concentration from S. Winchester Boulevard would exceed the BAAQMD thresholds. This is a *significant* impact. *Implementation of Mitigation Measure AQ-2 would reduce this impact to a level of less-than-significant.*

Table 4. Community Risk Impact to New Project Residences

Source	Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
S. Winchester Blvd (north-south) at 22 ft west, 25,135 ADT	**10.4**	**0.31**	<0.03
Hamilton Ave (east-west) at 940 ft north, 24,125 ADT	1.3	0.03	<0.03
Plant #G10703 (Gas Station) at 20 ft south	6.5	--	0.03
Cumulative Total	*18.2*	*0.34*	*<0.09*
BAAQMD Single-Source Threshold	***>10.0***	***>0.3***	***>1.0***
Significant?	***Yes***	***Yes***	*No*
BAAQMD Cumulative Source Threshold	***>100***	***>0.8***	***>10.0***
Significant?	*No*	*No*	*No*

Mitigation Measure AQ-2: **Include high-efficiency particulate filtration systems in residential ventilation systems.**

The significant exposure for new project receptors is judged by two effects: (1) increased cancer risk, and (2) annual $PM_{2.5}$ concentration. Exposure to cancer risk and annual $PM_{2.5}$ concentrations from S. Winchester Boulevard are significant. Cancer risk is based on exposure to exhaust

[13] CAPCOA. 1997. *Air Toxics "Hot Spots" Program, Gasoline Service Station Industrywide Risk Assessment Guidelines*, November 1997

emissions while annual $PM_{2.5}$ concentrations are based on the exposure to $PM_{2.5}$ resulting from emissions attributable to truck and auto exhaust, the wearing of brakes and tires and re-entrainment of roadway dust from vehicles traveling over pavement. $PM_{2.5}$ exposure drives the mitigation plan. Reducing $PM_{2.5}$ exposures to less-than-significant would also reduce cancer risk to less-than-significant levels.

The project shall include the following measures to minimize long-term annual $PM_{2.5}$ exposure for new project occupants:

1. Install air filtration in the proposed project. Air filtration devices shall be rated MERV13 or higher. To ensure adequate health protection to sensitive receptors (i.e., residents), this ventilation system, whether mechanical or passive, all fresh air circulated into the dwelling units shall be filtered, as described above.

2. As part of implementing this measure, an ongoing maintenance plan for the buildings' heating, ventilation, and air conditioning (HVAC) air filtration system shall be required.

3. Ensure that the use agreement and other property documents: (1) require cleaning, maintenance, and monitoring of the affected buildings for air flow leaks, (2) include assurance that new owners or tenants are provided information on the ventilation system, and (3) include provisions that fees associated with owning or leasing a unit(s) in the building include funds for cleaning, maintenance, monitoring, and replacements of the filters, as needed.

Significance After Mitigation Measure AQ-2

A properly installed and operated ventilation system with MERV13 filters should achieve reductions of 80 percent. $PM_{2.5}$ exposures for MERV13 filtration cases were calculated assuming a combination of outdoor and indoor exposure. For use of MERV13 filtration systems, without the additional use of sealed, inoperable widows and no balconies, three hours of outdoor exposure to ambient $PM_{2.5}$ concentrations and 21 hours of indoor exposure to filtered air was assumed. In this case, the effective control efficiency using a MERV13 filtration system is about 70 percent for $PM_{2.5}$ exposure. This would reduce the maximum annual $PM_{2.5}$ concentration to 0.09 $\mu g/m^3$, which is below 0.3 $\mu g/m^3$.

Project Construction Activity

Construction activities, particularly during site preparation and grading would temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD CEQA Air Quality Guidelines consider these impacts to be less-than-significant if best management practices are employed to reduce these emissions. *Mitigation Measure AQ-1 would implement BAAQMD-required best management practices.*

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. These exhaust air pollutant emissions would not be considered to contribute substantially to existing or projected air quality violations. Construction exhaust emissions may still pose community risks for sensitive receptors such as nearby 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 community risk assessment of the project construction activities was conducted that evaluated potential health effects of sensitive receptors at these nearby residences from construction emissions of DPM and $PM_{2.5}$.[14] The closest sensitive receptors to the project site are residences in apartments adjacent to the western site boundary. There are additional residences at east and west of the site at farther distances. There is also daycare adjacent to the northwest of the project site. Dispersion modeling was conducted to predict the off-site concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be evaluated.

Construction Emissions

Construction period emissions were computed using CalEEMod along with projected construction activity, as described above. 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 0.0.0970 tons (194 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. It was assumed that these emissions from on-road vehicles traveling at or near the site would occur at the construction site. Fugitive $PM_{2.5}$ dust emissions were calculated by CalEEMod as 0.00978 tons (20 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) that would be present in the vicinity of the project site during construction activities. 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 5-meter (16-foot) intervals throughout the construction site. This resulted in 81 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. Emissions from vehicle travel on- and off-site were distributed among the point sources throughout the 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. and 4 p.m., when the majority of construction activity would occur. Figure 2 shows the project site, emission source locations, and nearby sensitive receptor locations where health impacts were evaluated.

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

The modeling used a 5-year meteorological data set (2006-2010) of hourly meteorological data from the San José Airport prepared for use with the AERMOD model by the BAAQMD. Annual DPM and $PM_{2.5}$ concentrations from construction activities during the 2019 period were calculated using the model. DPM and $PM_{2.5}$ concentrations were calculated at nearby sensitive receptors. Receptor heights of 1.5 meters (5 feet) and 4.5 meters (15 feet) were used to represent the breathing heights of residents in nearby homes and apartment buildings on the first and second floor levels, respectively. Receptor heights of 1.0 meter (3.3 feet) were used for modeling impacts to children at the daycare.

The maximum DPM and $PM_{2.5}$ concentrations from project construction occurred at a residential receptor at the second-floor level (4.5 meters) of an apartment building adjacent to the western project site boundary. The maximum-modeled DPM and $PM_{2.5}$ concentrations from project construction at a daycare receptor occurred in the area closest to the project site, in the southeast portion of the daycare site. These receptors are considered the maximally exposed individuals (MEI) for a residence and a school receptor.

Figure 2 shows the locations where both the residential and daycare maximum-modeled DPM and $PM_{2.5}$ concentrations occurred. Increased cancer risks were calculated using the maximum modeled concentrations for the 2019 period and BAAQMD recommended risk assessment methods for an infant exposure (3rd trimester through two years of age) and for an adult exposure at residences and child exposures (two years to nine years of age) at the daycare. The cancer risk calculations were based on applying the BAAQMD recommended age sensitivity factors to the TAC concentrations, as described *Attachment 1*. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing TACs. Infant and adult exposures were assumed to occur at all residences through the entire construction period and child exposures were assumed to occur at the daycare through the entire construction period. *Attachment 4* includes the emission calculations and source information used in the modeling and the cancer risk calculations.

Cancer Risks

Results of this assessment indicate that the maximum increased residential cancer risks would be 35.8 in one million for an infant exposure and 0.6 in one million for an adult exposure. The maximum increased daycare child cancer risk would be 3.9 in one million. The maximum residential excess cancer risk would be above the BAAQMD significance threshold of 10.0 in one million. This impact is considered *Significant.*

Predicted Annual $PM_{2.5}$ Concentration

The maximum-modeled annual $PM_{2.5}$ concentrations, which are based on combined exhaust and fugitive dust emissions, were 0.26 micrograms per cubic meter ($\mu g/m^3$) at the residential MEI and was 0.19 $\mu g/m^3$ at the daycare MEI. These maximum annual $PM_{2.5}$ concentration at both the residential and daycare MEIs would be below the BAAQMD significance threshold of greater than 0.3 $\mu g/m^3$.

Non-Cancer Hazards

The maximum modeled annual DPM concentration (i.e., from construction exhaust) for the project was 0.21793 µg/m^3 at the residential MEI and 0.1011 µg/m^3 at the daycare MEI. The maximum computed HI for the project based on these DPM concentrations were 0.04 at the residential MEI and 0.02 at the daycare MEI. Both these concentrations would not exceed the BAAQMD significance criterion of a HI greater than 1.0.

The project would have a *significant* impact with respect to community risk caused by project construction activities, since maximum residential cancer risk is above the single-source threshold of 10.0 per million for cancer risk.

Figure 2. Project Construction Site and Locations of Off-Site Sensitive Receptors and Maximum TAC Impacts

Mitigation Measure: See Mitigation Measure AQ-1 described above.

Effectiveness of Mitigation Measure AQ-1

Implementation of Mitigation Measure AQ-1 is considered to reduce fugitive dust emissions by over 60 percent and reduce on-site diesel exhaust emissions by 85 percent. This would reduce the residential infant cancer risk proportionally, such that the mitigated risk at the residential receptor would be less than 4.8 in one million and the maximum annual $PM_{2.5}$ concentration would be reduced to less than 0.04μg/m^3, which is less than the BAAQMD significance thresholds. After implementation of these mitigation measures, the project would have a *less-than-significant* impact with respect to community risk caused by construction activities.

Cumulative Impact on Construction MEI

The cumulative impacts of TAC emissions from construction of the project, the stationary source, and traffic on S. Winchester Boulevard and Hamilton Avenue on the construction MEI have been summarized in Table 5. The construction MEI in this cumulative section is represented by the residential MEI located indicated above. The residential MEI would represent the worst-case scenario as its calculated unmitigated maximum cancer risk concentrations exceeded the BAAQMD single-source threshold and the daycare MEI's concentrations did not exceed. The screening levels reported for cumulative sources were computed in the same manner described above for project residential occupants.

As shown in Table 5, the sum of impacts from combined sources at the construction MEI would not exceed the cumulative threshold for cancer risk of 100.0 cases per pillion. The cumulative impact would be *less-than-significant*.

Table 5. Impacts from Combined Sources at Construction MEI

Source		Maximum Cancer Risk (per million)	$PM_{2.5}$ concentration (μg/m^3)	Hazard Index
Project Construction	Unmitigated	**35.8 (infant)**	0.26	0.04
	Mitigated	4.8 (infant)	0.04	<0.01
S. Winchester Blvd (north-south) at 170 ft west, 25,135 ADT		3.7	0.11	<0.01
Hamilton Ave (east-west) at 1,000 ft north, 24,125 ADT		1.2	0.03	<0.01
Plant #G10703 (Gas Station) at 75 ft southwest		6.7	0.00	<0.01
Combined Sources	*Unmitigated*	47.4	0.40	<0.07
	Mitigated	16.4	0.18	<0.04
BAAQMD Threshold – Combined Sources		***100***	***0.8***	***10.0***

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 bikeable 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.

City of San Jose Greenhouse Gas Reduction Strategy

The Greenhouse Gas Reduction Strategy (GHGRS) was a document prepared by the City of San José to help the City to quantify, reduce, and manage their GHG emissions.[15] The GHGRS was prepared alongside the *Envision San José 2040 General Plan Update* to ensure that the General Plan aligned with AB32. The City uses the following 'Plan-level' GHG significance threshold to reduce GHG emissions to meet the 2020 goal of AB32: 6.6 metric tons of CO_2 equivalent per service population per year (MT CO_2e / SP / year). Service population is defined as the number of residents plus the number of people working within San José. The City has also estimated an efficiency threshold of 3.04 MT CO_2e /SP for 2035. However, since this project would be operational post-2020, the 2020 efficiency threshold is not appropriate, and this analysis uses an efficiency threshold for projects operational post-2020 that is more aggressive than 2035 efficiency threshold proposed by the City of San José. Additionally, the GHGRS has several measures that would implemented, monitored, and enforced by the City. These policies and measures are listed as attachments in the GHGRS. New development projects are subject to the greenhouse gas policies s listed in Attachment B and D of the GHGRS.

[15] City of San José, 2011. *Greenhouse Gas Reduction Strategy for the City of San José*. June (updated December 2015). http://www.sanjoseca.gov/documentcenter/view/9388

BAAQMD Significance Thresholds

The BAAQMD's CEQA Air Quality Guidelines do not use quantified thresholds for projects that are in a jurisdiction with a qualified GHG reductions plan (i.e., a Climate Action Plan). The plan has to address emissions associated with the period that the project would operate (e.g., beyond year 2020). For quantified emissions, the 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.[16] The 2030 bright-line threshold of 660 MT CO_2e/year is a 40 percent reduction of the 2020 1,100 MT CO_2e/year threshold.

Impact: 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, energy and water usage, and solid waste disposal. 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 within the operational period emissions. CalEEMod output is included in *Attachment 2*.

Service Population Emissions

The project service population efficiency rate is based on the number of future residences plus full-time employees. The number of future residences is estimated at 147 based on the latest California Department of Finance data of 3.20 average persons per household for the City of San José.[17] The number of future employees is based on a rate of one employee per 250 square feet of small retail

[16] Dave Vintze, BAAQMD, 2016. *CEQA Guidelines, Case Law and Policy Update*. December.
[17] State of California, Department of Finance. "E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2019." Accessed: June 7, 2019. Available at: http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/

land use.[18] Using this rate, the number of future employees would be 20 employees. The total service population considering future residence and employees was calculated as 167 individuals.

Construction Emissions

GHG emissions associated with construction were computed to be 348 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.

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. As shown in Table 6, annual net emissions resulting from operation of the proposed project are predicted to be 345 MT of CO_2e for the year 2021 and 283 MT of CO_{2e} for the year 2030. Both the 2021 and the 2030 emissions do not exceed the 2030 "Substantial Progress" threshold of 660 MT of CO_{2e}/yr. The Service Population Emissions for the year 2021 would be 2.3 and 1.9 for the year 2030, which would not exceed the "Substantial Progress" efficiency metric of 2.6 MT CO_2e/year/service population.

To be considered significant, the project must exceed both the GHG significance threshold in metric tons per year and the service population significance threshold. This project does not exceed either of the significance thresholds. Therefore, the project would have a *less-than-significant* impact regarding GHG emissions.

Table 6. Annual Project GHG Emissions (CO_2e) in Metric Tons

Source Category	Existing in 2021	Proposed Project in 2021	Proposed Project in 2030
Area	<1	2	2
Energy Consumption	5	78	78
Mobile	27	280	218
Solid Waste Generation	1	13	13
Water Usage	<1	6	6
Total	34	379	317
Net New Emissions		345	283
Significance Threshold		***660 MT CO_2e/yr***	***660 MT CO_2e/yr***
Service Population Emissions (MT CO2e/year/service population)		2.3	1.9
Significance Threshold		***2.6***	***2.6***
Significant (Exceeds both thresholds)?		*No*	*No*

[18] Strategic Economics, Inc., 2016. *San Jose market Overview and Employment Land Analysis*. January.

Supporting Documentation

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

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

Attachment 3 includes the screening community risk calculations from sources affecting the project and MEI.

Attachment 4 is the construction 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 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.[19] 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.[20] This HRA used the recent 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.[21] 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 are 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 of exposure, and the exposure duration. 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). As recommended by the BAAQMD, 95th percentile breathing rates are used for the third trimester and infant exposures, and 80th percentile breathing rates for child and adult exposures. Additionally, CARB and the BAAQMD recommend the use of a residential exposure duration of 30 years for sources with long-term emissions (e.g., roadways).

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[19] 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.

[20] CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.

[21] BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

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 that would 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)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

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 < 9**	**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	1.10E+00
Daily Breathing Rate (L/kg-day)*		361	1,090	631	572	261
Inhalation Absorption Factor		1	1	1	1	1
Averaging Time (years)		70	70	70	70	70
Exposure Duration (years)		0.25	2	14	14	14
Exposure Frequency (days/year)		350	350	350	350	350
Age Sensitivity Factor		10	10	3	3	1
Fraction of Time at Home		0.85-1.0	0.85-1.0	0.72-1.0	0.72-1.0	0.73

* 95th percentile breathing rates for 3rd trimester and infants and 80th percentile for children and adults

Non-Cancer Hazards

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

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

Annual $PM_{2.5}$ Concentrations

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

Attachment 2: CalEEMod Modeling Output

Table 1
Trip Generation Comparison

Land Use	ITE Trip Generation Rate	Reduction %	Size	Daily Rate	Daily Trips	AM Peak Hour Rate	AM Split In	AM Split Out	AM Trips In	AM Trips Out	AM Trips Total	PM Peak Hour Rate	PM Split In	PM Split Out	PM Trips In	PM Trips Out	PM Trips Total
Proposed Project (TIA dated January 21, 2019)																	
Residential	221 - Multifamily Housing (Mid-Rise)		46 Dwelling Units	5.44	250	0.36	26%	74%	4	13	17	0.44	61%	39%	12	8	20
housing and retail mixed-use reduction[1]		*15%*			*-38*				*0*	*-1*	*-1*				*-2*	*-1*	*-3*
housing and employment mixed-use reduction[2]		*3%*			*-4*				*0*	*0*	*0*				*0*	*0*	*0*
Retail	820 - Shopping Center		7,000 Square Feet	37.75	264	0.94	62%	38%	4	3	7	3.81	48%	52%	13	14	27
housing and retail mixed-use reduction[1]		*15%*			*-38*				*-1*	*0*	*-1*				*-1*	*-2*	*-3*
employment and retail mixed-use reduction[3]		*3%*			*-4*				*0*	*0*	*0*				*0*	*0*	*0*
retail passby[4]		*25%*			*-6*				*0*	*0*	*0*				*-3*	*-3*	*-6*
Office	710 - General Office Building		12,700 Square Feet	9.74	124	1.16	86%	14%	13	2	15	1.15	16%	84%	2	13	15
housing and employment mixed-use reduction[2]		*3%*			*-4*				*0*	*0*	*0*				*0*	*0*	*0*
employment and retail mixed-use reduction[3]		*3%*			*-4*				*0*	*0*	*0*				*0*	*0*	*0*
Total Proposed Project Trips					540				20	17	37				21	29	50
Existing Land Use																	
Commercial[5]	820 - Shopping Center		1,300 Square Feet	37.75	49	1.54	50%	50%	-1	-1	-2	3.85	0%	100%	0	-5	-5
Net Project Trips (Proposed - Existing)					**491**				**19**	**16**	**35**				**21**	**24**	**45**
Proposed Reduced Project																	
Residential	221 - Multifamily Housing (Mid-Rise)		46 Dwelling Units	5.44	250	0.36	26%	74%	4	13	17	0.44	61%	39%	12	8	20
housing and retail mixed-use reduction[1]		*15%*			*-28*				*0*	*0*	*0*				*-2*	*-1*	*-3*
Retail	820 - Shopping Center		5,000 Square Feet	37.75	189	0.94	62%	38%	3	2	5	3.81	48%	52%	9	10	19
housing and retail mixed-use reduction[1]		*15%*			*-28*				*0*	*0*	*0*				*-1*	*-2*	*-3*
retail passby[4]		*25%*			*-4*				*0*	*0*	*0*				*-2*	*-2*	*-4*
Total Proposed Project Trips					379				7	15	22				16	13	29
Existing Land Use																	
Commercial[5]	820 - Shopping Center		1,300 Square Feet	37.75	-49	1.54	50%	50%	-1	-1	-2	3.85	0%	100%	0	-5	-5
Net Project Trips (Proposed Reduced - Existing)					**330**				**6**	**14**	**20**				**16**	**8**	**24**
Difference (Reduced Project - Project TIA)					**-161**				**-13**	**-2**	**-15**				**-5**	**-16**	**-21**

Source: ITE Trip Generation Manual, 10th Edition 2017. (Average rates were used all for land uses)

[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 equa 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] A 25% PM pass-by reduction is typically applied for retail development within Santa Clara County.

[5] Peak-hour trips for the existing uses were obtained from driveway counts conducted on May 16, 2018. Daily trips were estimated using ITE rates. The existing uses on site closes at 4PM, therefore, the PM peak hour trips only consist of employees leaving the site.

18-025 1495 S Winchester Blvd, San Jose - Santa Clara County, Annual

18-025 1495 S Winchester Blvd, San Jose

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	68.00	Space	0.00	29,935.00	0
Apartments Mid Rise	46.00	Dwelling Unit	1.21	37,743.00	132
Strip Mall	4.97	1000sqft	0.00	4,966.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2021
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 CO2 Intensity rate = 290

Land Use - Applicant plan provided land uses with default acreage

Construction Phase - Default Construction Schedule, add trenching

Off-road Equipment - Default Constrcution Equipment

Off-road Equipment - Add Trenching equipment

Trips and VMT - 12,000sf pavement demo = 34 one way pavement trips + 9 existing demo trips = 43 trips

Demolition - 1,300sf existing building demolition

Grading - 14,120cy export during grading

Vehicle Trips - Trip Gen rates with reductions, Mid Rise rate = 4.83, 4.64, 4.26, retail rate = 32.42, 30.75, 14.94

Woodstoves - No Wood all gas

Energy Use -

Water And Wastewater - WTP Treatment 100% Aerobic

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	6.90	14.72
tblFireplaces	NumberWood	7.82	0.00
tblGrading	MaterialExported	0.00	14,120.00
tblLandUse	LandUseSquareFeet	27,200.00	29,935.00
tblLandUse	LandUseSquareFeet	46,000.00	37,743.00
tblLandUse	LandUseSquareFeet	4,970.00	4,966.00
tblLandUse	LotAcreage	0.61	0.00
tblLandUse	LotAcreage	0.11	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	HaulingTripNumber	9.00	43.00
tblVehicleTrips	ST_TR	6.39	4.64
tblVehicleTrips	ST_TR	42.04	30.75
tblVehicleTrips	SU_TR	5.86	4.26
tblVehicleTrips	SU_TR	20.43	14.94
tblVehicleTrips	WD_TR	6.65	4.83
tblVehicleTrips	WD_TR	44.32	32.42
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	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					
2020	0.5612	2.1960	1.7622	3.9800e-003	0.0794	0.0984	0.1779	0.0251	0.0945	0.1196	0.0000	346.7511	346.7511	0.0481	0.0000	347.9547
Maximum	**0.5612**	**2.1960**	**1.7622**	**3.9800e-003**	**0.0794**	**0.0984**	**0.1779**	**0.0251**	**0.0945**	**0.1196**	**0.0000**	**346.7511**	**346.7511**	**0.0481**	**0.0000**	**347.9547**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.5612	2.1960	1.7622	3.9800e-003	0.0794	0.0984	0.1779	0.0251	0.0945	0.1196	0.0000	346.7508	346.7508	0.0481	0.0000	347.9544
Maximum	**0.5612**	**2.1960**	**1.7622**	**3.9800e-003**	**0.0794**	**0.0984**	**0.1779**	**0.0251**	**0.0945**	**0.1196**	**0.0000**	**346.7508**	**346.7508**	**0.0481**	**0.0000**	**347.9544**

	ROG	NOx	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	**1-1-2020**	**3-31-2020**	0.9434	0.9434
2	**4-1-2020**	**6-30-2020**	0.5968	0.5968
3	**7-1-2020**	**9-30-2020**	0.6033	0.6033
		Highest	0.9434	0.9434

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	0.2091	5.5400e-003	0.3437	3.0000e-005		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003	0.0000	2.3969	2.3969	5.8000e-004	3.0000e-005	2.4214
Energy	2.2100e-003	0.0189	8.2800e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	76.8740	76.8740	5.9200e-003	1.5400e-003	77.4807
Mobile	0.0871	0.3524	0.9592	3.0600e-003	0.2710	2.6800e-003	0.2737	0.0726	2.5000e-003	0.0751	0.0000	280.1932	280.1932	0.0101	0.0000	280.4457
Waste						0.0000	0.0000		0.0000	0.0000	5.3549	0.0000	5.3549	0.3165	0.0000	13.2665
Water						0.0000	0.0000		0.0000	0.0000	1.1906	3.3691	4.5597	4.4300e-003	2.6600e-003	5.4629
Total	**0.2984**	**0.3768**	**1.3111**	**3.2100e-003**	**0.2710**	**6.2200e-003**	**0.2772**	**0.0726**	**6.0400e-003**	**0.0786**	**6.5455**	**362.8331**	**369.3786**	**0.3375**	**4.2300e-003**	**379.0772**

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	0.2091	5.5400e-003	0.3437	3.0000e-005		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003	0.0000	2.3969	2.3969	5.8000e-004	3.0000e-005	2.4214
Energy	2.2100e-003	0.0189	8.2800e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	76.8740	76.8740	5.9200e-003	1.5400e-003	77.4807
Mobile	0.0871	0.3524	0.9592	3.0600e-003	0.2710	2.6800e-003	0.2737	0.0726	2.5000e-003	0.0751	0.0000	280.1932	280.1932	0.0101	0.0000	280.4457
Waste						0.0000	0.0000		0.0000	0.0000	5.3549	0.0000	5.3549	0.3165	0.0000	13.2665
Water						0.0000	0.0000		0.0000	0.0000	1.1906	3.3691	4.5597	4.4300e-003	2.6600e-003	5.4629
Total	**0.2984**	**0.3768**	**1.3111**	**3.2100e-003**	**0.2710**	**6.2200e-003**	**0.2772**	**0.0726**	**6.0400e-003**	**0.0786**	**6.5455**	**362.8331**	**369.3786**	**0.3375**	**4.2300e-003**	**379.0772**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2020	1/28/2020	5	20	
2	Site Preparation	Site Preparation	1/29/2020	1/30/2020	5	2	
3	Grading	Grading	1/31/2020	2/5/2020	5	4	
4	Trenching	Trenching	1/31/2020	2/5/2020	5	4	
5	Building Construction	Building Construction	2/6/2020	11/11/2020	5	200	
6	Paving	Paving	11/12/2020	11/25/2020	5	10	
7	Architectural Coating	Architectural Coating	11/26/2020	12/9/2020	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 76,430; Residential Outdoor: 25,477; Non-Residential Indoor: 7,449; Non-Residential Outdoor: 2,483; Striped Parking

OffRoad Equipment

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

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	5	13.00	0.00	43.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	1,765.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	47.00	11.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	9.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.8000e-004	0.0000	9.8000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0213	0.2095	0.1466	2.4000e-004		0.0115	0.0115		0.0108	0.0108	0.0000	21.0677	21.0677	5.4200e-003	0.0000	21.2031
Total	**0.0213**	**0.2095**	**0.1466**	**2.4000e-004**	**9.8000e-004**	**0.0115**	**0.0125**	**1.5000e-004**	**0.0108**	**0.0109**	**0.0000**	**21.0677**	**21.0677**	**5.4200e-003**	**0.0000**	**21.2031**

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	1.8000e-004	6.2400e-003	1.2800e-003	2.0000e-005	3.6000e-004	2.0000e-005	3.8000e-004	1.0000e-004	2.0000e-005	1.2000e-004	0.0000	1.6398	1.6398	8.0000e-005	0.0000	1.6417

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	4.3000e-004	3.1000e-004	3.2500e-003	1.0000e-005	1.0300e-003	1.0000e-005	1.0400e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.8842	0.8842	2.0000e-005	0.0000	0.8847
Total	**6.1000e-004**	**6.5500e-003**	**4.5300e-003**	**3.0000e-005**	**1.3900e-003**	**3.0000e-005**	**1.4200e-003**	**3.7000e-004**	**3.0000e-005**	**4.0000e-004**	**0.0000**	**2.5240**	**2.5240**	**1.0000e-004**	**0.0000**	**2.5264**

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					9.8000e-004	0.0000	9.8000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0213	0.2095	0.1466	2.4000e-004		0.0115	0.0115		0.0108	0.0108	0.0000	21.0676	21.0676	5.4200e-003	0.0000	21.2030
Total	**0.0213**	**0.2095**	**0.1466**	**2.4000e-004**	**9.8000e-004**	**0.0115**	**0.0125**	**1.5000e-004**	**0.0108**	**0.0109**	**0.0000**	**21.0676**	**21.0676**	**5.4200e-003**	**0.0000**	**21.2030**

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	1.8000e-004	6.2400e-003	1.2800e-003	2.0000e-005	3.6000e-004	2.0000e-005	3.8000e-004	1.0000e-004	2.0000e-005	1.2000e-004	0.0000	1.6398	1.6398	8.0000e-005	0.0000	1.6417
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	4.3000e-004	3.1000e-004	3.2500e-003	1.0000e-005	1.0300e-003	1.0000e-005	1.0400e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.8842	0.8842	2.0000e-005	0.0000	0.8847
Total	**6.1000e-004**	**6.5500e-003**	**4.5300e-003**	**3.0000e-005**	**1.3900e-003**	**3.0000e-005**	**1.4200e-003**	**3.7000e-004**	**3.0000e-005**	**4.0000e-004**	**0.0000**	**2.5240**	**2.5240**	**1.0000e-004**	**0.0000**	**2.5264**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.8000e-003	0.0000	5.8000e-003	2.9500e-003	0.0000	2.9500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6300e-003	0.0184	7.7100e-003	2.0000e-005		8.2000e-004	8.2000e-004		7.6000e-004	7.6000e-004	0.0000	1.5127	1.5127	4.9000e-004	0.0000	1.5249
Total	**1.6300e-003**	**0.0184**	**7.7100e-003**	**2.0000e-005**	**5.8000e-003**	**8.2000e-004**	**6.6200e-003**	**2.9500e-003**	**7.6000e-004**	**3.7100e-003**	**0.0000**	**1.5127**	**1.5127**	**4.9000e-004**	**0.0000**	**1.5249**

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	2.0000e-005	2.0000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0544	0.0544	0.0000	0.0000	0.0545
Total	**3.0000e-005**	**2.0000e-005**	**2.0000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0544**	**0.0544**	**0.0000**	**0.0000**	**0.0545**

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					5.8000e-003	0.0000	5.8000e-003	2.9500e-003	0.0000	2.9500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6300e-003	0.0184	7.7100e-003	2.0000e-005		8.2000e-004	8.2000e-004		7.6000e-004	7.6000e-004	0.0000	1.5127	1.5127	4.9000e-004	0.0000	1.5249
Total	**1.6300e-003**	**0.0184**	**7.7100e-003**	**2.0000e-005**	**5.8000e-003**	**8.2000e-004**	**6.6200e-003**	**2.9500e-003**	**7.6000e-004**	**3.7100e-003**	**0.0000**	**1.5127**	**1.5127**	**4.9000e-004**	**0.0000**	**1.5249**

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	2.0000e-005	2.0000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0544	0.0544	0.0000	0.0000	0.0545
Total	**3.0000e-005**	**2.0000e-005**	**2.0000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0544**	**0.0544**	**0.0000**	**0.0000**	**0.0545**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0106	0.0000	0.0106	5.1700e-003	0.0000	5.1700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	2.7000e-003	0.0302	0.0129	3.0000e-005		1.3700e-003	1.3700e-003		1.2600e-003	1.2600e-003	0.0000	2.4779	2.4779	8.0000e-004	0.0000	2.4980
Total	**2.7000e-003**	**0.0302**	**0.0129**	**3.0000e-005**	**0.0106**	**1.3700e-003**	**0.0120**	**5.1700e-003**	**1.2600e-003**	**6.4300e-003**	**0.0000**	**2.4779**	**2.4779**	**8.0000e-004**	**0.0000**	**2.4980**

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	7.3300e-003	0.2561	0.0525	7.0000e-004	0.0150	8.3000e-004	0.0158	4.1100e-003	8.0000e-004	4.9100e-003	0.0000	67.3090	67.3090	3.0800e-003	0.0000	67.3860
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	5.0000e-005	4.0000e-005	4.0000e-004	0.0000	1.3000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1088	0.1088	0.0000	0.0000	0.1089
Total	**7.3800e-003**	**0.2561**	**0.0529**	**7.0000e-004**	**0.0151**	**8.3000e-004**	**0.0159**	**4.1400e-003**	**8.0000e-004**	**4.9400e-003**	**0.0000**	**67.4178**	**67.4178**	**3.0800e-003**	**0.0000**	**67.4948**

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					0.0106	0.0000	0.0106	5.1700e-003	0.0000	5.1700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-003	0.0302	0.0129	3.0000e-005		1.3700e-003	1.3700e-003		1.2600e-003	1.2600e-003	0.0000	2.4779	2.4779	8.0000e-004	0.0000	2.4980
Total	**2.7000e-003**	**0.0302**	**0.0129**	**3.0000e-005**	**0.0106**	**1.3700e-003**	**0.0120**	**5.1700e-003**	**1.2600e-003**	**6.4300e-003**	**0.0000**	**2.4779**	**2.4779**	**8.0000e-004**	**0.0000**	**2.4980**

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	7.3300e-003	0.2561	0.0525	7.0000e-004	0.0150	8.3000e-004	0.0158	4.1100e-003	8.0000e-004	4.9100e-003	0.0000	67.3090	67.3090	3.0800e-003	0.0000	67.3860
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	5.0000e-005	4.0000e-005	4.0000e-004	0.0000	1.3000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1088	0.1088	0.0000	0.0000	0.1089
Total	**7.3800e-003**	**0.2561**	**0.0529**	**7.0000e-004**	**0.0151**	**8.3000e-004**	**0.0159**	**4.1400e-003**	**8.0000e-004**	**4.9400e-003**	**0.0000**	**67.4178**	**67.4178**	**3.0800e-003**	**0.0000**	**67.4948**

3.5 Trenching - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.1000e-004	9.0400e-003	0.0111	2.0000e-005		5.0000e-004	5.0000e-004		4.6000e-004	4.6000e-004	0.0000	1.4531	1.4531	4.7000e-004	0.0000	1.4649
Total	**9.1000e-004**	**9.0400e-003**	**0.0111**	**2.0000e-005**		**5.0000e-004**	**5.0000e-004**		**4.6000e-004**	**4.6000e-004**	**0.0000**	**1.4531**	**1.4531**	**4.7000e-004**	**0.0000**	**1.4649**

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	2.0000e-005	2.5000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0680	0.0680	0.0000	0.0000	0.0681
Total	**3.0000e-005**	**2.0000e-005**	**2.5000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0680**	**0.0680**	**0.0000**	**0.0000**	**0.0681**

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	9.1000e-004	9.0400e-003	0.0111	2.0000e-005		5.0000e-004	5.0000e-004		4.6000e-004	4.6000e-004	0.0000	1.4531	1.4531	4.7000e-004	0.0000	1.4649
Total	**9.1000e-004**	**9.0400e-003**	**0.0111**	**2.0000e-005**		**5.0000e-004**	**5.0000e-004**		**4.6000e-004**	**4.6000e-004**	**0.0000**	**1.4531**	**1.4531**	**4.7000e-004**	**0.0000**	**1.4649**

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	2.0000e-005	2.5000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0680	0.0680	0.0000	0.0000	0.0681
Total	**3.0000e-005**	**2.0000e-005**	**2.5000e-004**	**0.0000**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0680**	**0.0680**	**0.0000**	**0.0000**	**0.0681**

3.6 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2031	1.4788	1.3188	2.2000e-003		0.0796	0.0796		0.0769	0.0769	0.0000	181.5421	181.5421	0.0337	0.0000	182.3847
Total	**0.2031**	**1.4788**	**1.3188**	**2.2000e-003**		**0.0796**	**0.0796**		**0.0769**	**0.0769**	**0.0000**	**181.5421**	**181.5421**	**0.0337**	**0.0000**	**182.3847**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.3600e-003	0.1253	0.0334	3.0000e-004	7.2400e-003	6.2000e-004	7.8600e-003	2.0900e-003	5.9000e-004	2.6900e-003	0.0000	28.7587	28.7587	1.3200e-003	0.0000	28.7917
Worker	0.0156	0.0112	0.1176	3.5000e-004	0.0373	2.4000e-004	0.0375	9.9100e-003	2.2000e-004	0.0101	0.0000	31.9670	31.9670	7.8000e-004	0.0000	31.9866
Total	**0.0200**	**0.1365**	**0.1510**	**6.5000e-004**	**0.0445**	**8.6000e-004**	**0.0454**	**0.0120**	**8.1000e-004**	**0.0128**	**0.0000**	**60.7257**	**60.7257**	**2.1000e-003**	**0.0000**	**60.7783**

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	0.2031	1.4788	1.3188	2.2000e-003		0.0796	0.0796		0.0769	0.0769	0.0000	181.5419	181.5419	0.0337	0.0000	182.3844
Total	**0.2031**	**1.4788**	**1.3188**	**2.2000e-003**		**0.0796**	**0.0796**		**0.0769**	**0.0769**	**0.0000**	**181.5419**	**181.5419**	**0.0337**	**0.0000**	**182.3844**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.3600e-003	0.1253	0.0334	3.0000e-004	7.2400e-003	6.2000e-004	7.8600e-003	2.0900e-003	5.9000e-004	2.6900e-003	0.0000	28.7587	28.7587	1.3200e-003	0.0000	28.7917
Worker	0.0156	0.0112	0.1176	3.5000e-004	0.0373	2.4000e-004	0.0375	9.9100e-003	2.2000e-004	0.0101	0.0000	31.9670	31.9670	7.8000e-004	0.0000	31.9866
Total	**0.0200**	**0.1365**	**0.1510**	**6.5000e-004**	**0.0445**	**8.6000e-004**	**0.0454**	**0.0120**	**8.1000e-004**	**0.0128**	**0.0000**	**60.7257**	**60.7257**	**2.1000e-003**	**0.0000**	**60.7783**

3.7 Paving - 2020

Unmitigated Construction On-Site

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

Category	tons/yr										MT/yr					
Off-Road	4.2000e-003	0.0423	0.0444	7.0000e-005		2.3500e-003	2.3500e-003		2.1600e-003	2.1600e-003	0.0000	5.8829	5.8829	1.8600e-003	0.0000	5.9295
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.2000e-003**	**0.0423**	**0.0444**	**7.0000e-005**		**2.3500e-003**	**2.3500e-003**		**2.1600e-003**	**2.1600e-003**	**0.0000**	**5.8829**	**5.8829**	**1.8600e-003**	**0.0000**	**5.9295**

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	2.2000e-004	1.6000e-004	1.6300e-003	0.0000	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4421	0.4421	1.0000e-005	0.0000	0.4424
Total	**2.2000e-004**	**1.6000e-004**	**1.6300e-003**	**0.0000**	**5.2000e-004**	**0.0000**	**5.2000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4421**	**0.4421**	**1.0000e-005**	**0.0000**	**0.4424**

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	4.2000e-003	0.0423	0.0444	7.0000e-005		2.3500e-003	2.3500e-003		2.1600e-003	2.1600e-003	0.0000	5.8828	5.8828	1.8600e-003	0.0000	5.9295
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total	**4.2000e-003**	**0.0423**	**0.0444**	**7.0000e-005**		**2.3500e-003**	**2.3500e-003**		**2.1600e-003**	**2.1600e-003**	**0.0000**	**5.8828**	**5.8828**	**1.8600e-003**	**0.0000**	**5.9295**

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	2.2000e-004	1.6000e-004	1.6300e-003	0.0000	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4421	0.4421	1.0000e-005	0.0000	0.4424
Total	**2.2000e-004**	**1.6000e-004**	**1.6300e-003**	**0.0000**	**5.2000e-004**	**0.0000**	**5.2000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4421**	**0.4421**	**1.0000e-005**	**0.0000**	**0.4424**

3.8 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2978					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2100e-003	8.4200e-003	9.1600e-003	1.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	1.2766	1.2766	1.0000e-004	0.0000	1.2791
Total	**0.2990**	**8.4200e-003**	**9.1600e-003**	**1.0000e-005**		**5.5000e-004**	**5.5000e-004**		**5.5000e-004**	**5.5000e-004**	**0.0000**	**1.2766**	**1.2766**	**1.0000e-004**	**0.0000**	**1.2791**

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	1.5000e-004	1.1000e-004	1.1300e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3061	0.3061	1.0000e-005	0.0000	0.3063
Total	**1.5000e-004**	**1.1000e-004**	**1.1300e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3061**	**0.3061**	**1.0000e-005**	**0.0000**	**0.3063**

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	0.2978					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2100e-003	8.4200e-003	9.1600e-003	1.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	1.2766	1.2766	1.0000e-004	0.0000	1.2791
Total	**0.2990**	**8.4200e-003**	**9.1600e-003**	**1.0000e-005**		**5.5000e-004**	**5.5000e-004**		**5.5000e-004**	**5.5000e-004**	**0.0000**	**1.2766**	**1.2766**	**1.0000e-004**	**0.0000**	**1.2791**

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	1.5000e-004	1.1000e-004	1.1300e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3061	0.3061	1.0000e-005	0.0000	0.3063
Total	**1.5000e-004**	**1.1000e-004**	**1.1300e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3061**	**0.3061**	**1.0000e-005**	**0.0000**	**0.3063**

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	0.0871	0.3524	0.9592	3.0600e-003	0.2710	2.6800e-003	0.2737	0.0726	2.5000e-003	0.0751	0.0000	280.1932	280.1932	0.0101	0.0000	280.4457
Unmitigated	0.0871	0.3524	0.9592	3.0600e-003	0.2710	2.6800e-003	0.2737	0.0726	2.5000e-003	0.0751	0.0000	280.1932	280.1932	0.0101	0.0000	280.4457

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	222.18	213.44	195.96	501,614	501,614
Enclosed Parking with Elevator	0.00	0.00	0.00		
Strip Mall	161.13	152.83	74.25	227,202	227,202
Total	383.31	366.27	270.21	728,816	728,816

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	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
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 Mid Rise	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
Enclosed Parking with Elevator	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
Strip Mall	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	55.0384	55.0384	5.5000e-003	1.1400e-003	55.5153
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	55.0384	55.0384	5.5000e-003	1.1400e-003	55.5153
NaturalGas Mitigated	2.2100e-003	0.0189	8.2800e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	21.8356	21.8356	4.2000e-004	4.0000e-004	21.9654
NaturalGas Unmitigated	2.2100e-003	0.0189	8.2800e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	21.8356	21.8356	4.2000e-004	4.0000e-004	21.9654

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	397415	2.1400e-003	0.0183	7.7900e-003	1.2000e-004		1.4800e-003	1.4800e-003		1.4800e-003	1.4800e-003	0.0000	21.2076	21.2076	4.1000e-004	3.9000e-004	21.3336
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	11769.4	6.0000e-005	5.8000e-004	4.8000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.6281	0.6281	1.0000e-005	1.0000e-005	0.6318
Total		**2.2000e-003**	**0.0189**	**8.2700e-003**	**1.2000e-004**		**1.5200e-003**	**1.5200e-003**		**1.5200e-003**	**1.5200e-003**	**0.0000**	**21.8356**	**21.8356**	**4.2000e-004**	**4.0000e-004**	**21.9654**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	397415	2.1400e-003	0.0183	7.7900e-003	1.2000e-004		1.4800e-003	1.4800e-003		1.4800e-003	1.4800e-003	0.0000	21.2076	21.2076	4.1000e-004	3.9000e-004	21.3336
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	11769.4	6.0000e-005	5.8000e-004	4.8000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.6281	0.6281	1.0000e-005	1.0000e-005	0.6318
Total		**2.2000e-003**	**0.0189**	**8.2700e-003**	**1.2000e-004**		**1.5200e-003**	**1.5200e-003**		**1.5200e-003**	**1.5200e-003**	**0.0000**	**21.8356**	**21.8356**	**4.2000e-004**	**4.0000e-004**	**21.9654**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e

Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	189904	24.9803	2.5000e-003	5.2000e-004	25.1968
Enclosed Parking with Elevator	175419	23.0749	2.3100e-003	4.8000e-004	23.2749
Strip Mall	53086.5	6.9831	7.0000e-004	1.4000e-004	7.0436
Total		**55.0384**	**5.5100e-003**	**1.1400e-003**	**55.5153**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	189904	24.9803	2.5000e-003	5.2000e-004	25.1968
Enclosed Parking with Elevator	175419	23.0749	2.3100e-003	4.8000e-004	23.2749
Strip Mall	53086.5	6.9831	7.0000e-004	1.4000e-004	7.0436
Total		**55.0384**	**5.5100e-003**	**1.1400e-003**	**55.5153**

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	0.2091	5.5400e-003	0.3437	3.0000e-005		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003	0.0000	2.3969	2.3969	5.8000e-004	3.0000e-005	2.4214
Unmitigated	0.2091	5.5400e-003	0.3437	3.0000e-005		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003	0.0000	2.3969	2.3969	5.8000e-004	3.0000e-005	2.4214

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	0.0298					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1687					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.9000e-004	1.5900e-003	6.8000e-004	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	1.8376	1.8376	4.0000e-005	3.0000e-005	1.8486
Landscaping	0.0104	3.9600e-003	0.3430	2.0000e-005		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	0.5592	0.5592	5.4000e-004	0.0000	0.5728
Total	**0.2091**	**5.5500e-003**	**0.3437**	**3.0000e-005**		**2.0200e-003**	**2.0200e-003**		**2.0200e-003**	**2.0200e-003**	**0.0000**	**2.3969**	**2.3969**	**5.8000e-004**	**3.0000e-005**	**2.4214**

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	0.0298					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1687					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Hearth	1.9000e-004	1.5900e-003	6.8000e-004	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	1.8376	1.8376	4.0000e-005	3.0000e-005	1.8486
Landscaping	0.0104	3.9600e-003	0.3430	2.0000e-005		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	0.5592	0.5592	5.4000e-004	0.0000	0.5728
Total	**0.2091**	**5.5500e-003**	**0.3437**	**3.0000e-005**		**2.0200e-003**	**2.0200e-003**		**2.0200e-003**	**2.0200e-003**	**0.0000**	**2.3969**	**2.3969**	**5.8000e-004**	**3.0000e-005**	**2.4214**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	4.5597	4.4300e-003	2.6600e-003	5.4629
Unmitigated	4.5597	4.4300e-003	2.6600e-003	5.4629

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	2.99709 / 1.88947	4.0635	3.9500e-003	2.3700e-003	4.8680
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.36814 / 0.225634	0.4962	4.8000e-004	2.9000e-004	0.5950

Total		**4.5597**	**4.4300e-003**	**2.6600e-003**	**5.4629**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	2.99709 / 1.88947	4.0635	3.9500e-003	2.3700e-003	4.8680
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.36814 / 0.225634	0.4962	4.8000e-004	2.9000e-004	0.5950
Total		**4.5597**	**4.4300e-003**	**2.6600e-003**	**5.4629**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	5.3549	0.3165	0.0000	13.2665
Unmitigated	5.3549	0.3165	0.0000	13.2665

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	21.16	4.2953	0.2538	0.0000	10.6414
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	5.22	1.0596	0.0626	0.0000	2.6252
Total		**5.3549**	**0.3165**	**0.0000**	**13.2666**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	21.16	4.2953	0.2538	0.0000	10.6414
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	5.22	1.0596	0.0626	0.0000	2.6252
Total		**5.3549**	**0.3165**	**0.0000**	**13.2666**

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

18-025 1495 S Winchester Blvd, 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
Parking Lot	12.00	1000sqft	0.28	12,000.00	0
Strip Mall	1.30	1000sqft	0.03	1,300.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2021
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 use

Construction Phase - No construction - existing

Off-road Equipment - Existing - no construction

Grading - existing no construction

Vehicle Trips - Com = 37.69, 35.75, 17.37

Water And Wastewater - WTP treament 100% aerobic

Energy Use - Historical energy data

Table Name	Column Name	Default Value	New Value
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
tblVehicleTrips	ST_TR	42.04	35.75
tblVehicleTrips	SU_TR	20.43	17.37
tblVehicleTrips	WD_TR	44.32	37.69

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	6.7900e-003	0.0000	1.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4000e-004	2.4000e-004	0.0000	0.0000	2.5000e-004
Energy	2.0000e-005	1.5000e-004	1.3000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.4290	5.4290	2.4000e-004	5.0000e-005	5.4506
Mobile	9.9600e-003	0.0382	0.0990	3.0000e-004	0.0257	2.6000e-004	0.0260	6.8800e-003	2.5000e-004	7.1200e-003	0.0000	27.1821	27.1821	1.0400e-003	0.0000	27.2082
Waste						0.0000	0.0000		0.0000	0.0000	0.2781	0.0000	0.2781	0.0164	0.0000	0.6890
Water						0.0000	0.0000		0.0000	0.0000	0.0306	0.2117	0.2422	3.1500e-003	8.0000e-005	0.3436

Total	**0.0168**	**0.0383**	**0.0992**	**3.0000e-004**	**0.0257**	**2.7000e-004**	**0.0260**	**6.8800e-003**	**2.6000e-004**	**7.1300e-003**	**0.3087**	**32.8231**	**33.1317**	**0.0209**	**1.3000e-004**	**33.6917**

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	6.7900e-003	0.0000	1.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4000e-004	2.4000e-004	0.0000	0.0000	2.5000e-004
Energy	2.0000e-005	1.5000e-004	1.3000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.4290	5.4290	2.4000e-004	5.0000e-005	5.4506
Mobile	9.9600e-003	0.0382	0.0990	3.0000e-004	0.0257	2.6000e-004	0.0260	6.8800e-003	2.5000e-004	7.1200e-003	0.0000	27.1821	27.1821	1.0400e-003	0.0000	27.2082
Waste						0.0000	0.0000		0.0000	0.0000	0.2781	0.0000	0.2781	0.0164	0.0000	0.6890
Water						0.0000	0.0000		0.0000	0.0000	0.0306	0.2117	0.2422	3.1500e-003	8.0000e-005	0.3436
Total	**0.0168**	**0.0383**	**0.0992**	**3.0000e-004**	**0.0257**	**2.7000e-004**	**0.0260**	**6.8800e-003**	**2.6000e-004**	**7.1300e-003**	**0.3087**	**32.8231**	**33.1317**	**0.0209**	**1.3000e-004**	**33.6917**

	ROG	NOx	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	9.9600e-003	0.0382	0.0990	3.0000e-004	0.0257	2.6000e-004	0.0260	6.8800e-003	2.5000e-004	7.1200e-003	0.0000	27.1821	27.1821	1.0400e-003	0.0000	27.2082
Unmitigated	9.9600e-003	0.0382	0.0990	3.0000e-004	0.0257	2.6000e-004	0.0260	6.8800e-003	2.5000e-004	7.1200e-003	0.0000	27.1821	27.1821	1.0400e-003	0.0000	27.2082

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	49.00	46.48	22.58	69,091	69,091
Total	49.00	46.48	22.58	69,091	69,091

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	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
Strip Mall	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761

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	5.2646	5.2646	2.4000e-004	5.0000e-005	5.2853
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	5.2646	5.2646	2.4000e-004	5.0000e-005	5.2853
NaturalGas Mitigated	2.0000e-005	1.5000e-004	1.3000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1644	0.1644	0.0000	0.0000	0.1654
NaturalGas Unmitigated	2.0000e-005	1.5000e-004	1.3000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1644	0.1644	0.0000	0.0000	0.1654

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	3081	2.0000e-005	1.5000e-004	1.3000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1644	0.1644	0.0000	0.0000	0.1654
Total		**2.0000e-005**	**1.5000e-004**	**1.3000e-004**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.1644**	**0.1644**	**0.0000**	**0.0000**	**0.1654**

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	3081	2.0000e-005	1.5000e-004	1.3000e-004	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1644	0.1644	0.0000	0.0000	0.1654
Total		**2.0000e-005**	**1.5000e-004**	**1.3000e-004**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.1644**	**0.1644**	**0.0000**	**0.0000**	**0.1654**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	4200	1.2218	6.0000e-005	1.0000e-005	1.2266
Strip Mall	13897	4.0428	1.8000e-004	4.0000e-005	4.0586
Total		**5.2646**	**2.4000e-004**	**5.0000e-005**	**5.2853**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	4200	1.2218	6.0000e-005	1.0000e-005	1.2266
Strip Mall	13897	4.0428	1.8000e-004	4.0000e-005	4.0586
Total		**5.2646**	**2.4000e-004**	**5.0000e-005**	**5.2853**

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	6.7900e-003	0.0000	1.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4000e-004	2.4000e-004	0.0000	0.0000	2.5000e-004
Unmitigated	6.7900e-003	0.0000	1.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4000e-004	2.4000e-004	0.0000	0.0000	2.5000e-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	9.3000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.8500e-003					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	1.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4000e-004	2.4000e-004	0.0000	0.0000	2.5000e-004
Total	**6.7900e-003**	**0.0000**	**1.2000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.4000e-004**	**2.4000e-004**	**0.0000**	**0.0000**	**2.5000e-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	9.3000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.8500e-003					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	1.2000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4000e-004	2.4000e-004	0.0000	0.0000	2.5000e-004
Total	**6.7900e-003**	**0.0000**	**1.2000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.4000e-004**	**2.4000e-004**	**0.0000**	**0.0000**	**2.5000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.2422	3.1500e-003	8.0000e-005	0.3436
Unmitigated	0.2422	3.1500e-003	8.0000e-005	0.3436

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	0.0962943 /	0.2422	3.1500e-003	8.0000e-005	0.3436
Total		**0.2422**	**3.1500e-003**	**8.0000e-005**	**0.3436**

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	0.0962943 /	0.2422	3.1500e-003	8.0000e-005	0.3436
Total		**0.2422**	**3.1500e-003**	**8.0000e-005**	**0.3436**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			

Mitigated	0.2781	0.0164	0.0000	0.6890
Unmitigated	0.2781	0.0164	0.0000	0.6890

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	1.37	0.2781	0.0164	0.0000	0.6890
Total		**0.2781**	**0.0164**	**0.0000**	**0.6890**

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	1.37	0.2781	0.0164	0.0000	0.6890
Total		**0.2781**	**0.0164**	**0.0000**	**0.6890**

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

18-025 1495 S Winchester Blvd, San Jose - Santa Clara County, Annual

18-025 1495 S Winchester Blvd, 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
Enclosed Parking with Elevator	68.00	Space	0.00	29,935.00	0
Apartments Mid Rise	46.00	Dwelling Unit	1.21	37,743.00	132
Strip Mall	4.97	1000sqft	0.00	4,966.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2021
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 CO2 Intensity rate = 290

Land Use - Applicant plan provided land uses with default acreage

Construction Phase - Default Construction Schedule, add trenching

Off-road Equipment - Default Constrcution Equipment

Off-road Equipment - Add Trenching equipment

Trips and VMT - TAC 1 mile length for localized emissions, 12,000sf pavement demo = 34 one way pavement trips + 9 existing demo trips = 43 trips

Demolition - 1,300sf existing building demolition

Grading - 14,120cy export during grading

Vehicle Trips - Trip Gen rates with reductions, Mid Rise rate = 4.83, 4.64, 4.26, retail rate = 32.42, 30.75, 14.94

Woodstoves - No Wood all gas

Water And Wastewater - WTP Treatment 100% Aerobic

Energy Use -

Construction Off-road Equipment Mitigation - BMPs, Tier 3 DPF 3 Mitigation

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	6.90	14.72
tblFireplaces	NumberWood	7.82	0.00
tblGrading	MaterialExported	0.00	14,120.00
tblLandUse	LandUseSquareFeet	27,200.00	29,935.00
tblLandUse	LandUseSquareFeet	46,000.00	37,743.00
tblLandUse	LotAcreage	0.61	0.00
tblLandUse	LotAcreage	0.11	0.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.37

tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
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	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripNumber	9.00	43.00
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	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
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblVehicleTrips	ST_TR	6.39	4.36
tblVehicleTrips	ST_TR	42.04	32.42
tblVehicleTrips	SU_TR	5.86	4.00
tblVehicleTrips	SU_TR	20.43	15.76
tblVehicleTrips	WD_TR	6.65	4.54

tblVehicleTrips	WD_TR	44.32	34.18
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	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					
2020	0.5423	1.9658	1.6189	2.8500e-003	0.0229	0.0970	0.1199	9.7800e-003	0.0931	0.1029	0.0000	239.8318	239.8318	0.0451	0.0000	240.9600
Maximum	**0.5423**	**1.9658**	**1.6189**	**2.8500e-003**	**0.0229**	**0.0970**	**0.1199**	**9.7800e-003**	**0.0931**	**0.1029**	**0.0000**	**239.8318**	**239.8318**	**0.0451**	**0.0000**	**240.9600**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.3805	1.5686	1.6672	2.8500e-003	0.0133	0.0129	0.0262	3.3600e-003	0.0129	0.0162	0.0000	239.8316	239.8316	0.0451	0.0000	240.9597
Maximum	**0.3805**	**1.5686**	**1.6672**	**2.8500e-003**	**0.0133**	**0.0129**	**0.0262**	**3.3600e-003**	**0.0129**	**0.0162**	**0.0000**	**239.8316**	**239.8316**	**0.0451**	**0.0000**	**240.9597**

	ROG	NOx	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	**29.84**	**20.21**	**-2.98**	**0.00**	**41.82**	**86.71**	**78.13**	**65.64**	**86.16**	**84.21**	**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	1-1-2020	3-31-2020	0.7378	0.5243
2	4-1-2020	6-30-2020	0.5741	0.4408
3	7-1-2020	9-30-2020	0.5804	0.4456
		Highest	0.7378	0.5243

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2020	1/28/2020	5	20	
2	Site Preparation	Site Preparation	1/29/2020	1/30/2020	5	2	
3	Grading	Grading	1/31/2020	2/5/2020	5	4	
4	Trenching	Trenching	1/31/2020	2/5/2020	5	4	
5	Building Construction	Building Construction	2/6/2020	11/11/2020	5	200	
6	Paving	Paving	11/12/2020	11/25/2020	5	10	
7	Architectural Coating	Architectural Coating	11/26/2020	12/9/2020	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 76,430; Residential Outdoor: 25,477; Non-Residential Indoor: 7,449; Non-Residential Outdoor: 2,483; Striped Parking

OffRoad Equipment

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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	43.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	1,765.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	47.00	11.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	9.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	5.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.8000e-004	0.0000	9.8000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0213	0.2095	0.1466	2.4000e-004		0.0115	0.0115		0.0108	0.0108	0.0000	21.0677	21.0677	5.4200e-003	0.0000	21.2031
Total	**0.0213**	**0.2095**	**0.1466**	**2.4000e-004**	**9.8000e-004**	**0.0115**	**0.0125**	**1.5000e-004**	**0.0108**	**0.0109**	**0.0000**	**21.0677**	**21.0677**	**5.4200e-003**	**0.0000**	**21.2031**

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	5.0000e-005	2.2200e-003	3.6000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.2792	0.2792	3.0000e-005	0.0000	0.2800
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	1.4000e-004	7.0000e-005	8.5000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1057	0.1057	0.0000	0.0000	0.1058
Total	**1.9000e-004**	**2.2900e-003**	**1.2100e-003**	**0.0000**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.3850**	**0.3850**	**3.0000e-005**	**0.0000**	**0.3858**

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					4.4000e-004	0.0000	4.4000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.6200e-003	0.1210	0.1542	2.4000e-004		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003	0.0000	21.0676	21.0676	5.4200e-003	0.0000	21.2030
Total	**5.6200e-003**	**0.1210**	**0.1542**	**2.4000e-004**	**4.4000e-004**	**1.0800e-003**	**1.5200e-003**	**3.0000e-005**	**1.0800e-003**	**1.1100e-003**	**0.0000**	**21.0676**	**21.0676**	**5.4200e-003**	**0.0000**	**21.2030**

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	5.0000e-005	2.2200e-003	3.6000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.2792	0.2792	3.0000e-005	0.0000	0.2800
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	1.4000e-004	7.0000e-005	8.5000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1057	0.1057	0.0000	0.0000	0.1058
Total	**1.9000e-004**	**2.2900e-003**	**1.2100e-003**	**0.0000**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.3850**	**0.3850**	**3.0000e-005**	**0.0000**	**0.3858**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.8000e-003	0.0000	5.8000e-003	2.9500e-003	0.0000	2.9500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6300e-003	0.0184	7.7100e-003	2.0000e-005		8.2000e-004	8.2000e-004		7.6000e-004	7.6000e-004	0.0000	1.5127	1.5127	4.9000e-004	0.0000	1.5249
Total	**1.6300e-003**	**0.0184**	**7.7100e-003**	**2.0000e-005**	**5.8000e-003**	**8.2000e-004**	**6.6200e-003**	**2.9500e-003**	**7.6000e-004**	**3.7100e-003**	**0.0000**	**1.5127**	**1.5127**	**4.9000e-004**	**0.0000**	**1.5249**

Unmitigated Construction Off-Site

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

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	0.0000	5.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	6.5100e-003	6.5100e-003	0.0000	0.0000	6.5100e-003
Total	**1.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**6.5100e-003**	**6.5100e-003**	**0.0000**	**0.0000**	**6.5100e-003**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.6100e-003	0.0000	2.6100e-003	6.6000e-004	0.0000	6.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.2000e-004	8.4100e-003	9.8200e-003	2.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	1.5127	1.5127	4.9000e-004	0.0000	1.5249
Total	**4.2000e-004**	**8.4100e-003**	**9.8200e-003**	**2.0000e-005**	**2.6100e-003**	**6.0000e-005**	**2.6700e-003**	**6.6000e-004**	**6.0000e-005**	**7.2000e-004**	**0.0000**	**1.5127**	**1.5127**	**4.9000e-004**	**0.0000**	**1.5249**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	0.0000	5.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	6.5100e-003	6.5100e-003	0.0000	0.0000	6.5100e-003
Total	**1.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**6.5100e-003**	**6.5100e-003**	**0.0000**	**0.0000**	**6.5100e-003**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0106	0.0000	0.0106	5.1700e-003	0.0000	5.1700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-003	0.0302	0.0129	3.0000e-005		1.3700e-003	1.3700e-003		1.2600e-003	1.2600e-003	0.0000	2.4779	2.4779	8.0000e-004	0.0000	2.4980
Total	**2.7000e-003**	**0.0302**	**0.0129**	**3.0000e-005**	**0.0106**	**1.3700e-003**	**0.0120**	**5.1700e-003**	**1.2600e-003**	**6.4300e-003**	**0.0000**	**2.4779**	**2.4779**	**8.0000e-004**	**0.0000**	**2.4980**

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	1.9200e-003	0.0910	0.0149	1.2000e-004	7.7000e-004	9.0000e-005	8.5000e-004	2.1000e-004	8.0000e-005	2.9000e-004	0.0000	11.4619	11.4619	1.2200e-003	0.0000	11.4924
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.0000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0130	0.0130	0.0000	0.0000	0.0130
Total	**1.9400e-003**	**0.0910**	**0.0150**	**1.2000e-004**	**7.8000e-004**	**9.0000e-005**	**8.6000e-004**	**2.1000e-004**	**8.0000e-005**	**2.9000e-004**	**0.0000**	**11.4749**	**11.4749**	**1.2200e-003**	**0.0000**	**11.5054**

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					4.7800e-003	0.0000	4.7800e-003	1.1600e-003	0.0000	1.1600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.9000e-004	0.0138	0.0162	3.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	2.4779	2.4779	8.0000e-004	0.0000	2.4980
Total	**6.9000e-004**	**0.0138**	**0.0162**	**3.0000e-005**	**4.7800e-003**	**9.0000e-005**	**4.8700e-003**	**1.1600e-003**	**9.0000e-005**	**1.2500e-003**	**0.0000**	**2.4779**	**2.4779**	**8.0000e-004**	**0.0000**	**2.4980**

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	1.9200e-003	0.0910	0.0149	1.2000e-004	7.7000e-004	9.0000e-005	8.5000e-004	2.1000e-004	8.0000e-005	2.9000e-004	0.0000	11.4619	11.4619	1.2200e-003	0.0000	11.4924
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.0000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0130	0.0130	0.0000	0.0000	0.0130
Total	**1.9400e-003**	**0.0910**	**0.0150**	**1.2000e-004**	**7.8000e-004**	**9.0000e-005**	**8.6000e-004**	**2.1000e-004**	**8.0000e-005**	**2.9000e-004**	**0.0000**	**11.4749**	**11.4749**	**1.2200e-003**	**0.0000**	**11.5054**

3.5 Trenching - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.1000e-004	9.0400e-003	0.0111	2.0000e-005		5.0000e-004	5.0000e-004		4.6000e-004	4.6000e-004	0.0000	1.4554	1.4554	4.7000e-004	0.0000	1.4672

Total	**9.1000e-004**	**9.0400e-003**	**0.0111**	**2.0000e-005**		**5.0000e-004**	**5.0000e-004**		**4.6000e-004**	**4.6000e-004**	**0.0000**	**1.4554**	**1.4554**	**4.7000e-004**	**0.0000**	**1.4672**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	8.1300e-003	8.1300e-003	0.0000	0.0000	8.1400e-003
Total	**1.0000e-005**	**1.0000e-005**	**7.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**8.1300e-003**	**8.1300e-003**	**0.0000**	**0.0000**	**8.1400e-003**

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	4.1000e-004	8.3900e-003	0.0125	2.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.4554	1.4554	4.7000e-004	0.0000	1.4672
Total	**4.1000e-004**	**8.3900e-003**	**0.0125**	**2.0000e-005**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**	**0.0000**	**1.4554**	**1.4554**	**4.7000e-004**	**0.0000**	**1.4672**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	8.1300e-003	8.1300e-003	0.0000	0.0000	8.1400e-003
Total	**1.0000e-005**	**1.0000e-005**	**7.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**8.1300e-003**	**8.1300e-003**	**0.0000**	**0.0000**	**8.1400e-003**

3.6 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2031	1.4788	1.3188	2.2000e-003		0.0796	0.0796		0.0769	0.0769	0.0000	181.5421	181.5421	0.0337	0.0000	182.3847
Total	**0.2031**	**1.4788**	**1.3188**	**2.2000e-003**		**0.0796**	**0.0796**		**0.0769**	**0.0769**	**0.0000**	**181.5421**	**181.5421**	**0.0337**	**0.0000**	**182.3847**

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	2.0800e-003	0.0736	0.0204	9.0000e-005	1.0200e-003	1.2000e-004	1.1300e-003	3.0000e-004	1.1000e-004	4.1000e-004	0.0000	8.8306	8.8306	8.6000e-004	0.0000	8.8521
Worker	5.2100e-003	2.3800e-003	0.0308	4.0000e-005	3.4900e-003	5.0000e-005	3.5400e-003	9.3000e-004	4.0000e-005	9.8000e-004	0.0000	3.8221	3.8221	1.6000e-004	0.0000	3.8262
Total	**7.2900e-003**	**0.0760**	**0.0512**	**1.3000e-004**	**4.5100e-003**	**1.7000e-004**	**4.6700e-003**	**1.2300e-003**	**1.5000e-004**	**1.3900e-003**	**0.0000**	**12.6526**	**12.6526**	**1.0200e-003**	**0.0000**	**12.6783**

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	0.0641	1.2077	1.3479	2.2000e-003		0.0110	0.0110		0.0110	0.0110	0.0000	181.5419	181.5419	0.0337	0.0000	182.3844
Total	**0.0641**	**1.2077**	**1.3479**	**2.2000e-003**		**0.0110**	**0.0110**		**0.0110**	**0.0110**	**0.0000**	**181.5419**	**181.5419**	**0.0337**	**0.0000**	**182.3844**

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	2.0800e-003	0.0736	0.0204	9.0000e-005	1.0200e-003	1.2000e-004	1.1300e-003	3.0000e-004	1.1000e-004	4.1000e-004	0.0000	8.8306	8.8306	8.6000e-004	0.0000	8.8521

Worker	5.2100e-003	2.3800e-003	0.0308	4.0000e-005	3.4900e-003	5.0000e-005	3.5400e-003	9.3000e-004	4.0000e-005	9.8000e-004	0.0000	3.8221	3.8221	1.6000e-004	0.0000	3.8262
Total	**7.2900e-003**	**0.0760**	**0.0512**	**1.3000e-004**	**4.5100e-003**	**1.7000e-004**	**4.6700e-003**	**1.2300e-003**	**1.5000e-004**	**1.3900e-003**	**0.0000**	**12.6526**	**12.6526**	**1.0200e-003**	**0.0000**	**12.6783**

3.7 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.2000e-003	0.0423	0.0444	7.0000e-005		2.3500e-003	2.3500e-003		2.1600e-003	2.1600e-003	0.0000	5.8829	5.8829	1.8600e-003	0.0000	5.9295
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.2000e-003**	**0.0423**	**0.0444**	**7.0000e-005**		**2.3500e-003**	**2.3500e-003**		**2.1600e-003**	**2.1600e-003**	**0.0000**	**5.8829**	**5.8829**	**1.8600e-003**	**0.0000**	**5.9295**

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	7.0000e-005	3.0000e-005	4.3000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0529	0.0529	0.0000	0.0000	0.0529
Total	**7.0000e-005**	**3.0000e-005**	**4.3000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0529**	**0.0529**	**0.0000**	**0.0000**	**0.0529**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.6000e-003	0.0332	0.0493	7.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004	0.0000	5.8828	5.8828	1.8600e-003	0.0000	5.9295
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.6000e-003**	**0.0332**	**0.0493**	**7.0000e-005**		**2.9000e-004**	**2.9000e-004**		**2.9000e-004**	**2.9000e-004**	**0.0000**	**5.8828**	**5.8828**	**1.8600e-003**	**0.0000**	**5.9295**

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	7.0000e-005	3.0000e-005	4.3000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0529	0.0529	0.0000	0.0000	0.0529
Total	**7.0000e-005**	**3.0000e-005**	**4.3000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0529**	**0.0529**	**0.0000**	**0.0000**	**0.0529**

3.8 Architectural Coating - 2020

Unmitigated Construction On-Site

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

Category	tons/yr										MT/yr					
Archit. Coating	0.2978					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2100e-003	8.4200e-003	9.1600e-003	1.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	1.2766	1.2766	1.0000e-004	0.0000	1.2791
Total	**0.2990**	**8.4200e-003**	**9.1600e-003**	**1.0000e-005**		**5.5000e-004**	**5.5000e-004**		**5.5000e-004**	**5.5000e-004**	**0.0000**	**1.2766**	**1.2766**	**1.0000e-004**	**0.0000**	**1.2791**

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	5.0000e-005	2.0000e-005	3.0000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0366	0.0366	0.0000	0.0000	0.0366
Total	**5.0000e-005**	**2.0000e-005**	**3.0000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0366**	**0.0366**	**0.0000**	**0.0000**	**0.0366**

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	0.2978					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0000e-004	6.7800e-003	9.1600e-003	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.2766	1.2766	1.0000e-004	0.0000	1.2791

Total	**0.2981**	**6.7800e-003**	**9.1600e-003**	**1.0000e-005**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**	**0.0000**	**1.2766**	**1.2766**	**1.0000e-004**	**0.0000**	**1.2791**

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	5.0000e-005	2.0000e-005	3.0000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0366	0.0366	0.0000	0.0000	0.0366
Total	**5.0000e-005**	**2.0000e-005**	**3.0000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0366**	**0.0366**	**0.0000**	**0.0000**	**0.0366**

18-025 1495 S Winchester Blvd, San Jose - Santa Clara County, Annual

18-025 1495 S Winchester Blvd, 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
Enclosed Parking with Elevator	68.00	Space	0.00	29,935.00	0
Apartments Mid Rise	46.00	Dwelling Unit	1.21	37,743.00	132
Strip Mall	4.97	1000sqft	0.00	4,966.00	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 CO2 Intensity rate = 290

Land Use - Applicant plan provided land uses with default acreage

Construction Phase - Default Construction Schedule, add trenching

Off-road Equipment - Default Constrcution Equipment

Off-road Equipment - Add Trenching equipment

Trips and VMT - 12,000sf pavement demo = 34 one way pavement trips + 9 existing demo trips = 43 trips

Demolition - 1,300sf existing building demolition

Grading - 14,120cy export during grading

Vehicle Trips - Trip Gen rates with reductions, Mid Rise rate = 4.83, 4.64, 4.26, retail rate = 32.42, 30.75, 14.94

Woodstoves - No Wood all gas

Energy Use -

Water And Wastewater - WTP Treatment 100% Aerobic

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	6.90	14.72
tblFireplaces	NumberWood	7.82	0.00
tblGrading	MaterialExported	0.00	14,120.00
tblLandUse	LandUseSquareFeet	27,200.00	29,935.00
tblLandUse	LandUseSquareFeet	46,000.00	37,743.00
tblLandUse	LandUseSquareFeet	4,970.00	4,966.00
tblLandUse	LotAcreage	0.61	0.00
tblLandUse	LotAcreage	0.11	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	HaulingTripNumber	9.00	43.00
tblVehicleTrips	ST_TR	6.39	4.64
tblVehicleTrips	ST_TR	42.04	30.75
tblVehicleTrips	SU_TR	5.86	4.26
tblVehicleTrips	SU_TR	20.43	14.94
tblVehicleTrips	WD_TR	6.65	4.83
tblVehicleTrips	WD_TR	44.32	32.42
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	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	0.2090	5.5200e-003	0.3420	3.0000e-005		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003	0.0000	2.3969	2.3969	5.7000e-004	3.0000e-005	2.4212
Energy	2.2100e-003	0.0189	8.2800e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	76.8740	76.8740	5.9200e-003	1.5400e-003	77.4807
Mobile	0.0519	0.2224	0.5639	2.3700e-003	0.2710	1.6100e-003	0.2726	0.0725	1.4900e-003	0.0740	0.0000	218.0778	218.0778	6.4200e-003	0.0000	218.2383
Waste						0.0000	0.0000		0.0000	0.0000	5.3549	0.0000	5.3549	0.3165	0.0000	13.2665
Water						0.0000	0.0000		0.0000	0.0000	1.1906	3.3691	4.5597	4.4300e-003	2.6600e-003	5.4629
Total	**0.2631**	**0.2468**	**0.9142**	**2.5200e-003**	**0.2710**	**5.1500e-003**	**0.2761**	**0.0725**	**5.0300e-003**	**0.0775**	**6.5455**	**300.7177**	**307.2632**	**0.3338**	**4.2300e-003**	**316.8696**

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	0.2090	5.5200e-003	0.3420	3.0000e-005		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003	0.0000	2.3969	2.3969	5.7000e-004	3.0000e-005	2.4212

Energy	2.2100e-003	0.0189	8.2800e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	76.8740	76.8740	5.9200e-003	1.5400e-003	77.4807
Mobile	0.0519	0.2224	0.5639	2.3700e-003	0.2710	1.6100e-003	0.2726	0.0725	1.4900e-003	0.0740	0.0000	218.0778	218.0778	6.4200e-003	0.0000	218.2383
Waste						0.0000	0.0000		0.0000	0.0000	5.3549	0.0000	5.3549	0.3165	0.0000	13.2665
Water						0.0000	0.0000		0.0000	0.0000	1.1906	3.3691	4.5597	4.4300e-003	2.6600e-003	5.4629
Total	**0.2631**	**0.2468**	**0.9142**	**2.5200e-003**	**0.2710**	**5.1500e-003**	**0.2761**	**0.0725**	**5.0300e-003**	**0.0775**	**6.5455**	**300.7177**	**307.2632**	**0.3338**	**4.2300e-003**	**316.8696**

	ROG	NOx	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	0.0519	0.2224	0.5639	2.3700e-003	0.2710	1.6100e-003	0.2726	0.0725	1.4900e-003	0.0740	0.0000	218.0778	218.0778	6.4200e-003	0.0000	218.2383
Unmitigated	0.0519	0.2224	0.5639	2.3700e-003	0.2710	1.6100e-003	0.2726	0.0725	1.4900e-003	0.0740	0.0000	218.0778	218.0778	6.4200e-003	0.0000	218.2383

4.2 Trip Summary Information

	Average Daily Trip Rate	Unmitigated	Mitigated

Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	222.18	213.44	195.96	501,614	501,614
Enclosed Parking with Elevator	0.00	0.00	0.00		
Strip Mall	161.13	152.83	74.25	227,202	227,202
Total	383.31	366.27	270.21	728,816	728,816

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	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
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 Mid 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
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

	ROG	NOx	CO	SO2	Fugitive 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	55.0384	55.0384	5.5000e-003	1.1400e-003	55.5153

Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	55.0384	55.0384	5.5000e-003	1.1400e-003	55.5153
NaturalGas Mitigated	2.2100e-003	0.0189	8.2800e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	21.8356	21.8356	4.2000e-004	4.0000e-004	21.9654
NaturalGas Unmitigated	2.2100e-003	0.0189	8.2800e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	21.8356	21.8356	4.2000e-004	4.0000e-004	21.9654

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	397415	2.1400e-003	0.0183	7.7900e-003	1.2000e-004		1.4800e-003	1.4800e-003		1.4800e-003	1.4800e-003	0.0000	21.2076	21.2076	4.1000e-004	3.9000e-004	21.3336
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	11769.4	6.0000e-005	5.8000e-004	4.8000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.6281	0.6281	1.0000e-005	1.0000e-005	0.6318
Total		**2.2000e-003**	**0.0189**	**8.2700e-003**	**1.2000e-004**		**1.5200e-003**	**1.5200e-003**		**1.5200e-003**	**1.5200e-003**	**0.0000**	**21.8356**	**21.8356**	**4.2000e-004**	**4.0000e-004**	**21.9654**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	397415	2.1400e-003	0.0183	7.7900e-003	1.2000e-004		1.4800e-003	1.4800e-003		1.4800e-003	1.4800e-003	0.0000	21.2076	21.2076	4.1000e-004	3.9000e-004	21.3336
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	11769.4	6.0000e-005	5.8000e-004	4.8000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.6281	0.6281	1.0000e-005	1.0000e-005	0.6318
Total		**2.2000e-003**	**0.0189**	**8.2700e-003**	**1.2000e-004**		**1.5200e-003**	**1.5200e-003**		**1.5200e-003**	**1.5200e-003**	**0.0000**	**21.8356**	**21.8356**	**4.2000e-004**	**4.0000e-004**	**21.9654**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	189904	24.9803	2.5000e-003	5.2000e-004	25.1968
Enclosed Parking with Elevator	175419	23.0749	2.3100e-003	4.8000e-004	23.2749
Strip Mall	53086.5	6.9831	7.0000e-004	1.4000e-004	7.0436
Total		**55.0384**	**5.5100e-003**	**1.1400e-003**	**55.5153**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	189904	24.9803	2.5000e-003	5.2000e-004	25.1968
Enclosed Parking with Elevator	175419	23.0749	2.3100e-003	4.8000e-004	23.2749
Strip Mall	53086.5	6.9831	7.0000e-004	1.4000e-004	7.0436
Total		**55.0384**	**5.5100e-003**	**1.1400e-003**	**55.5153**

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	0.2090	5.5200e-003	0.3420	3.0000e-005		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003	0.0000	2.3969	2.3969	5.7000e-004	3.0000e-005	2.4212
Unmitigated	0.2090	5.5200e-003	0.3420	3.0000e-005		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003	0.0000	2.3969	2.3969	5.7000e-004	3.0000e-005	2.4212

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	0.0298					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1687					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.9000e-004	1.5900e-003	6.8000e-004	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	1.8376	1.8376	4.0000e-005	3.0000e-005	1.8486
Landscaping	0.0103	3.9300e-003	0.3413	2.0000e-005		1.9000e-003	1.9000e-003		1.9000e-003	1.9000e-003	0.0000	0.5592	0.5592	5.3000e-004	0.0000	0.5726
Total	**0.2090**	**5.5200e-003**	**0.3420**	**3.0000e-005**		**2.0300e-003**	**2.0300e-003**		**2.0300e-003**	**2.0300e-003**	**0.0000**	**2.3969**	**2.3969**	**5.7000e-004**	**3.0000e-005**	**2.4212**

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	0.0298					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1687					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.9000e-004	1.5900e-003	6.8000e-004	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	1.8376	1.8376	4.0000e-005	3.0000e-005	1.8486
Landscaping	0.0103	3.9300e-003	0.3413	2.0000e-005		1.9000e-003	1.9000e-003		1.9000e-003	1.9000e-003	0.0000	0.5592	0.5592	5.3000e-004	0.0000	0.5726
Total	**0.2090**	**5.5200e-003**	**0.3420**	**3.0000e-005**		**2.0300e-003**	**2.0300e-003**		**2.0300e-003**	**2.0300e-003**	**0.0000**	**2.3969**	**2.3969**	**5.7000e-004**	**3.0000e-005**	**2.4212**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	4.5597	4.4300e-003	2.6600e-003	5.4629
Unmitigated	4.5597	4.4300e-003	2.6600e-003	5.4629

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	2.99709 / 1.88947	4.0635	3.9500e-003	2.3700e-003	4.8680
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.36814 / 0.225634	0.4962	4.8000e-004	2.9000e-004	0.5950
Total		**4.5597**	**4.4300e-003**	**2.6600e-003**	**5.4629**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	2.99709 / 1.88947	4.0635	3.9500e-003	2.3700e-003	4.8680
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.36814 / 0.225634	0.4962	4.8000e-004	2.9000e-004	0.5950
Total		**4.5597**	**4.4300e-003**	**2.6600e-003**	**5.4629**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	5.3549	0.3165	0.0000	13.2665
Unmitigated	5.3549	0.3165	0.0000	13.2665

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	21.16	4.2953	0.2538	0.0000	10.6414
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	5.22	1.0596	0.0626	0.0000	2.6252
Total		**5.3549**	**0.3165**	**0.0000**	**13.2666**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	21.16	4.2953	0.2538	0.0000	10.6414

Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	5.22	1.0596	0.0626	0.0000	2.6252
Total		**5.3549**	**0.3165**	**0.0000**	**13.2666**

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: Operational Community Risk

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	West
Distance from Roadway	22 feet
	2nd Floor Receptor
Annual Average Daily Traffic (ADT)	25,135

Results

Santa Clara County

NORTH-SOUTH DIRECTIONAL ROADWAY

PM2.5 annual average

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

Cancer Risk

15.13 (per million)

S Winchester Blvd

Cumulative plus project volumes 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

10.40
(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:

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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	940 feet
	3rd Floor Receptor
Annual Average Daily Traffic (ADT)	24,125

Results

Santa Clara County

EAST-WEST DIRECTIONAL ROADWAY

PM2.5 annual average

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

Cancer Risk

1.90 (per million)

Hamilton Ave

Cumulative plus project volumes 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

1.31
(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

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• 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	West
Distance from Roadway	170 feet
	3rd Floor Receptor
Annual Average Daily Traffic (ADT)	25,135

Results

Santa Clara County

NORTH-SOUTH DIRECTIONAL ROADWAY

PM2.5 annual average

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

Cancer Risk

5.38 (per million)

S Winchester Blvd

Cumulative plus project volumes 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

3.69
(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.

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• 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	1000 feet
	3rd Floor Receptor
Annual Average Daily Traffic (ADT)	24,125

Results

Santa Clara County

EAST-WEST DIRECTIONAL ROADWAY

PM2.5 annual average

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

Cancer Risk

1.81 (per million)

Hamilton Ave

Cumulative plus project volumes 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

1.24

(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.

1495 S Winchester Blvd

6 Pump 12 Nozzle Fueling Station

BAAQMD Evaluation

Controlled Rate (for all activities) = 0.67 lbs/10^3 gal throughput

Estimated Project Throughput	5000	10^3 gal/year		
Annual VOC Emissions	3,350	pounds/ye	9.2	pounds/day
	1.68	tons/year		
Annual Benzene Emissions	0.01		0.051	pounds/day

BAAQMD reports
emission rates for fueling stations of 0.00369 pounds of benzene per thousand gallons of fuel handled13

BAAQMD 2013. EVALUATION REPORT, Safeway Fuel Center #3011 Facility ID#200026 Application #405215 at S. McDowell Blvd & Maria Drive, Petaluma, CA 94954. Accessed from http://www.baaqmd.gov/Divisions/Engineering/Public-Notices-on-Permits/2013/082213-405215/Safeway-Fuel-Center-3011.aspx on April 15, 2014.

Step 1:	
Plant Name	Tesoro (USA) 63041 - Project Site
Plant No.	G10703

Step 3: Specify Source Type	
Does facility have only diesel backup generators?	no
Is this analysis for a gas station?	yes

Step 2: Estimate Distance	
What is the distance (m) from the facility boundary to the MEI?	5

Step 5: Read Estimates		
Total Cancer Risk	6.464	per 1,000,000
Total Chronic Hazard	0.032	
Total PM2.5 Concentration	0.000	µg/m³

Step 2: Enter Emissions Data

Chemical Name	CAS No. (dashes removed)	Rate (lb/day)	Risk (# / 1,000,000)	Hazard (index)	Concentration (µg/m3)
Fine Particulate Matter (PM2.5)		0.00E+00			
ACETALDEHYDE	75070	0.00E+00			
ACETAMIDE	60355	0.00E+00			
ACROLEIN	107028	0.00E+00			
ACRYLAMIDE	79061	0.00E+00			
ACRYLIC ACID	79107	0.00E+00			
ACRYLONITRILE	107131	0.00E+00			
ALLYL CHLORIDE	107051	0.00E+00			
2-AMINOANTHRAQUINONE	117793	0.00E+00			
AMMONIA	7664417	0.00E+00			
ANILINE	62533	0.00E+00			
ARSENIC AND COMPOUNDS (INORGANIC)[1,2]	7440382	0.00E+00			
ARSINE	7784421	0.00E+00			
ASBESTOS[3]	1332214	0.00E+00			
BENZENE[1]	71432	5.05E-02	6.46E+00	3.18E-02	
BENZIDINE (AND ITS SALTS) values also apply to:	92875	0.00E+00			
Benzidine based dyes	92875	0.00E+00			
Direct Black 38	1937377	0.00E+00			
Direct Blue 6	2602462	0.00E+00			
Direct Brown 95 (technical grade)	16071866	0.00E+00			
BENZYL CHLORIDE	100447	0.00E+00			
BERYLLIUM AND COMPOUNDS[2]	7440417	0.00E+00			
BIS(2-CHLOROETHYL)ETHER (Dichloroethyl ether)	111444	0.00E+00			
BIS(CHLOROMETHYL)ETHER	542881	0.00E+00			
BROMINE AND COMPOUNDS see Potassium Bromate	7758012	0.00E+00			
1,3-BUTADIENE	106990	0.00E+00			
CADMIUM AND COMPOUNDS[2]	7440439	0.00E+00			
CAPROLACTAM	105602	0.00E+00			
CARBON DISULFIDE[1]	75150	0.00E+00			
CARBON MONOXIDE	630080	0.00E+00			
CARBON TETRACHLORIDE[1] (Tetrachloromethane)	56235	0.00E+00			
CHLORINATED PARAFFINS	108171262	0.00E+00			
CHLORINE	7782505	0.00E+00			
CHLORINE DIOXIDE	10049044	0.00E+00			
4-CHLORO-O-PHENYLENEDIAMINE	95830	0.00E+00			
CHLOROBENZENE	108907	0.00E+00			
CHLOROFORM[1]	67663	0.00E+00			
Chlorophenols	87865	0.00E+00			
PENTACHLOROPHENOL	87865	0.00E+00			
2,4,6-TRICHLOROPHENOL	88062	0.00E+00			
CHLOROPICRIN	76062	0.00E+00			
p-CHLORO-o-TOLUIDINE	95692	0.00E+00			
CHROMIUM 6+[2]	18540299	0.00E+00			
Barium chromate[2]	10294403	0.00E+00			
Calcium chromate[2]	13765190	0.00E+00			
Lead chromate[2]	7758976	0.00E+00			
Sodium dichromate[2]	10588019	0.00E+00			
Strontium chromate[2]	7789062	0.00E+00			
CHROMIC TRIOXIDE (as chromic acid mist)	1333820	0.00E+00			
COPPER AND COMPOUNDS	7440508	0.00E+00			
p-CRESIDINE	120718	0.00E+00			
CRESOLS	1319773	0.00E+00			
M-CRESOL	108394	0.00E+00			
O-CRESOL	95487	0.00E+00			
P-CRESOL	106445	0.00E+00			
CUPFERRON	135206	0.00E+00			
Cyanide And Compounds (inorganic)	57125	0.00E+00			
HYDROGEN CYANIDE (Hydrocyanic acid)	74908	0.00E+00			
2,4-DIAMINOANISOLE	615054	0.00E+00			
2,4-DIAMINOTOLUENE	95807	0.00E+00			

	1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	96128	0.00E+00			
	1,4-DICHLOROBENZENE (p-Dichlorobenzene)	106467	0.00E+00			
	3,3-DICHLOROBENZIDINE	91941	0.00E+00			
	1,1,-DICHLOROETHANE (Ethylidene dichloride)	75343	0.00E+00			
	DI(2-ETHYLHEXYL)PHTHALATE (DEHP)	117817	0.00E+00			
	DIETHANOLAMINE	111422	0.00E+00			
	p-DIMETHYLAMINOAZOBENZENE	60117	0.00E+00			
	N,N-DIMETHYL FORMAMIDE	68122	0.00E+00			
	2,4-DINITROTOLUENE	121142	0.00E+00			
	1,4-DIOXANE (1,4-Diethylene dioxide)	123911	0.00E+00			
	EPICHLOROHYDRIN (1-Chloro-2,3-epoxypropane)	106898	0.00E+00			
	1,2-EPOXYBUTANE	106887	0.00E+00			
	ETHYL BENZENE	100414	0.00E+00			
	ETHYL CHLORIDE (Chloroethane)	75003	0.00E+00			
	ETHYLENE DIBROMIDE (1,2-Dibromoethane)	106934	0.00E+00			
	ETHYLENE DICHLORIDE (1,2-Dichloroethane)	107062	0.00E+00			
	ETHYLENE GLYCOL	107211	0.00E+00			
	ETHYLENE OXIDE (1,2-Epoxyethane)	75218	0.00E+00			
	ETHYLENE THIOUREA	96457	0.00E+00			
	Fluorides	1101	0.00E+00			
	HYDROGEN FLUORIDE (Hydrofluoric acid)	7664393	0.00E+00			
	FORMALDEHYDE	50000	0.00E+00			
	GLUTARALDEHYDE	111308	0.00E+00			
	GLYCOL ETHERS	107211	0.00E+00			
	ETHYLENE GLYCOL BUTYL ETHER – EGBE	111762	0.00E+00			
	ETHYLENE GLYCOL ETHYL ETHER – EGEE[1]	110805	0.00E+00			
	ETHYLENE GLYCOL ETHYL ETHER ACETATE – EGEEA[1]	111159	0.00E+00			
	ETHYLENE GLYCOL METHYL ETHER – EGME[1]	109864	0.00E+00			
	ETHYLENE GLYCOL METHYL ETHER ACETATE – EGMEA	110496	0.00E+00			
	HEXACHLOROBENZENE	118741	0.00E+00			
	HEXACHLOROCYCLOHEXANES (mixed or technical grade)	608731	0.00E+00			
	alpha-HEXACHLOROCYCLOHEXANE	319846	0.00E+00			
	beta- HEXACHLOROCYCLOHEXANE	319857	0.00E+00			
	gamma-HEXACHLOROCYCLOHEXANE (Lindane)	58899	0.00E+00			
	n-HEXANE	110543	0.00E+00			
	HYDRAZINE	302012	0.00E+00			
	HYDROCHLORIC ACID (Hydrogen chloride)	7647010	0.00E+00			
	HYDROGEN SULFIDE	7783064	0.00E+00			
	ISOPHORONE	78591	0.00E+00			
	ISOPROPYL ALCOHOL (Isopropanol)	67630	0.00E+00			
	LEAD AND COMPOUNDS[2,4] (inorganic) *values also apply to:*	7439921	0.00E+00			
	Lead acetate[2]	301042	0.00E+00			
	Lead phosphate[2]	7446277	0.00E+00			
	Lead subacetate[2]	1335326	0.00E+00			
	LINDANE [see gamma-Hexachlorocyclohexanes]	58899	0.00E+00			
	MALEIC ANHYDRIDE	108316	0.00E+00			
	MANGANESE AND COMPOUNDS	7439965	0.00E+00			
	MERCURY AND COMPOUNDS (INORGANIC)	7439976	0.00E+00			
	Mercuric chloride	7487947	0.00E+00			
	METHANOL	67561	0.00E+00			
	METHYL BROMIDE (Bromomethane)	74839	0.00E+00			
	METHYL tertiary-BUTYL ETHER	1634044	0.00E+00			
	METHYL CHLOROFORM (1,1,1-Trichloroethane)	71556	0.00E+00			
	METHYL ETHYL KETONE (2-Butanone)	78933	0.00E+00			
	METHYL ISOCYANATE	624839	0.00E+00			
	4,4'-METHYLENE BIS (2-CHLOROANILINE) (MOCA)	101144	0.00E+00			
	METHYLENE CHLORIDE (Dichloromethane)	75092	0.00E+00			
	4,4'-METHYLENE DIANILINE (AND ITS DICHLORIDE)	101779	0.00E+00			
	METHYLENE DIPHENYL ISOCYANATE	101688	0.00E+00			
	MICHLER'S KETONE (4,4'-Bis(dimethylamino)benzophenone)	90948	0.00E+00			
	N-NITROSODI-n-BUTYLAMINE	924163	0.00E+00			
	N-NITROSODI-n-PROPYLAMINE	621647	0.00E+00			
	N-NITROSODIETHYLAMINE	55185	0.00E+00			
	N-NITROSODIMETHYLAMINE	62759	0.00E+00			
	N-NITROSODIPHENYLAMINE	86306	0.00E+00			
	N-NITROSO-N-METHYLETHYLAMINE	10595956	0.00E+00			
	N-NITROSOMORPHOLINE	59892	0.00E+00			
	N-NITROSOPIPERIDINE	100754	0.00E+00			
	N-NITROSOPYRROLIDINE	930552	0.00E+00			
	NAPTHALENE [see Polycylcic aromatic hydrocarbons]	91203	0.00E+00			
	NICKEL AND COMPOUNDS[2] *(values also apply to:)*	7440020	0.00E+00			
	Nickel acetate[2]	373024	0.00E+00			
	Nickel carbonate[2]	3333673	0.00E+00			
	Nickel carbonyl[2]	13463393	0.00E+00			
	Nickel hydroxide[2]	12054487	0.00E+00			
	Nickelocene[2]	1271289	0.00E+00			
	NICKEL OXIDE[2]	1313991	0.00E+00			
	Nickel refinery dust from the pyrometallurgical process[2]	1146	0.00E+00			
	Nickel subsulfide[2]	12035722	0.00E+00			

NITRIC ACID	7697372	0.00E+00			
NITROGEN DIOXIDE	10102440	0.00E+00			
p-NITROSODIPHENYLAMINE	156105	0.00E+00			
OZONE	10028156	0.00E+00			
PARTICULATE EMISSIONS FROM DIESEL-FUELED ENGINES	85105	0.00E+00			
PERCHLOROETHYLENE (Tetrachloroethylene)	127184	0.00E+00			
PHENOL	108952	0.00E+00			
PHOSGENE	75445	0.00E+00			
PHOSPHINE	7803512	0.00E+00			
PHOSPHORIC ACID	7664382	0.00E+00			
PHTHALIC ANHYDRIDE	85449	0.00E+00			
PCB (POLYCHLORINATED BIPHENYLS)	1336363	0.00E+00			
POLYCHLORINATED DIBENZO-P-DIOXINS (PCDD) (Treated as 2,3,7,8-TCDD for HRA)[2,7]	1746016	0.00E+00			
POLYCHLORINATED DIBENZOFURANS (PCDF) (Treated as 2,3,7,8-TCDD for HRA) 2,7	1746016	0.00E+00			
POLYCYCLIC AROMATIC HYDROCARBON[2] (PAH) (AS B(a)P-EQUIV)[5]	50328	0.00E+00			
NAPHTHALENE	91203	0.00E+00			
POTASSIUM BROMATE	7758012	0.00E+00			
1,3-PROPANE SULTONE	1120714	0.00E+00			
PROPYLENE (PROPENE)	115071	0.00E+00			
PROPYLENE GLYCOL MONOMETHYL ETHER	107982	0.00E+00			
PROPYLENE OXIDE	75569	0.00E+00			
SELENIUM AND COMPOUNDS	7782492	0.00E+00			
HYDROGEN SELENIDE	7783075	0.00E+00			
Selenium sulfide	7446346	0.00E+00			
SILICA (Crystalline, Respirable)	7631869	0.00E+00			
SODIUM HYDROXIDE	1310732	0.00E+00			
STYRENE	100425	0.00E+00			
SULFATES	9960	0.00E+00			
SULFUR DIOXIDE	7446095	0.00E+00			
SULFURIC ACID	7664939	0.00E+00			
SULFUR TRIOXIDE	7446719	0.00E+00			
OLEUM	8014957	0.00E+00			
1,1,2,2-TETRACHLOROETHANE	79345	0.00E+00			
THIOACETAMIDE	62555	0.00E+00			
TOLUENE	108883	0.00E+00			
Toluene diisocyantates	26471625	0.00E+00			
TOLUENE-2,4-DIISOCYANATE	584849	0.00E+00			
TOLUENE-2,6-DIISOCYANATE	91087	0.00E+00			
1,1,2-TRICHLOROETHANE (Vinyl trichloride)	79005	0.00E+00			
TRICHLOROETHYLENE	79016	0.00E+00			
TRIETHYLAMINE	121448	0.00E+00			
URETHANE (Ethyl carbamate)	51796	0.00E+00			
Vanadium Compounds	7440622	0.00E+00			
Vanadium (fume or dust)	7440622	0.00E+00			
VANADIUM PENTOXIDE	1314621	0.00E+00			
VINYL ACETATE	108054	0.00E+00			
VINYL CHLORIDE (Chloroethylene)	75014	0.00E+00			
VINYLIDENE CHLORIDE (1,1-Dichloroethylene)	75354	0.00E+00			
XYLENES (mixed isomers)	1330207	0.00E+00			
m-XYLENE	108383	0.00E+00			
o-XYLENE	95476	0.00E+00			
p-XYLENE	106423	0.00E+00			
		TOTAL UNADJUSTED Risk Values	**6.464**	**0.032**	**0.000**

Attachment 4: Construction Health Risk Calculations

1495 S. Winchester Blvd, San Jose CA

DPM Construction Emissions and Modeling Emission Rates - Unmitigated

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)
2019	Construction	0.0970	Point	81	194.0	0.05906	7.44E-03	9.19E-05
		hr/day =	9	(7am - 4pm)				
		days/yr =	365					
		hours/year =	3285					

PM2.5 Fugitive Dust Construction Emissions for Modeling - Unmitigated

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
2019	Construction	CON_FUG	0.00978	19.6	0.00595	7.50E-04	1,975	3.80E-07
		hr/day =	9	(7am - 4pm)				
		days/yr =	365					
		hours/year =	3285					

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)
2019	Construction	0.0129	Point	81	25.8	0.00785	9.90E-04	1.22E-05
		hr/day =	9	(7am - 4pm)				
		days/yr =	365					
		hours/year =	3285					

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
2019	Construction	CON_FUG	0.00336	6.7	0.00205	2.58E-04	1,975	1.30E-07
		hr/day =	9	(7am - 4pm)				
		days/yr =	365					
		hours/year =	3285					

1495 S. Winchester Blvd, San Jose CA - Construction Health Impact Summary

Maximum Impacts at MEI Location - Unmitigated

Emissions Year	Maximum Concentrations		Cancer Risk (per million)		Hazard Index	Maximum Annual PM2.5 Concentration
	Exhaust PM10/DPM ($\mu g/m^3$)	Fugitive PM2.5 ($\mu g/m^3$)	Infant/Child	Adult	(-)	($\mu g/m^3$)
2019	0.2179	0.0453	**35.8**	**0.6**	**0.044**	**0.26**

Maximum Impacts at MEI Location - With Mitigation

Emissions Year	Maximum Concentrations		Cancer Risk (per million)		Hazard Index	Maximum Annual PM2.5 Concentration
	Exhaust PM10/DPM ($\mu g/m^3$)	Fugitive PM2.5 ($\mu g/m^3$)	Infant/Child	Adult	(-)	($\mu g/m^3$)
2019	0.0290	0.0155	**4.8**	**0.1**	**0.006**	**0.04**

Maximum Impacts at Daycare

Construction Year	Unmitigated Emissions				
	Maximum Concentrations				
	Exhaust PM2.5/DPM ($\mu g/m^3$)	Fugitive PM2.5 ($\mu g/m^3$)	Child Cancer Risk (per million)	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2019	0.1011	0.0904	**3.9**	**0.02**	**0.19**

1495 S. Winchester Blvd, San Jose CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height

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

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

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

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

Values

	Infant/Child				Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 9**	**2 - 16**	**16 - 30**
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	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*	-	-	10	-	-	-	-	-		
1	1	0 - 1	2019	0.0815	10	13.39	2019	0.0815	1	0.23	0.0874	0.168
2	1	1 - 2	2020	0.0000	10	0.00	2020	0.0000	1	0.00		
3	1	2 - 3	2021	0.0000	3	0.00	2021	0.0000	1	0.00		
4	1	3 - 4	2022	0.0000	3	0.00	2022	0.0000	1	0.00		
5	1	4 - 5	2023	0.0000	3	0.00	2023	0.0000	1	0.00		
6	1	5 - 6	2024	0.0000	3	0.00	2024	0.0000	1	0.00		
7	1	6 - 7	2025	0.0000	3	0.00	2025	0.0000	1	0.00		
8	1	7 - 8	2026	0.0000	3	0.00	2026	0.0000	1	0.00		
9	1	8 - 9	2027	0.0000	3	0.00	2027	0.0000	1	0.00		
10	1	9 - 10	2028	0.0000	3	0.00	2028	0.0000	1	0.00		
11	1	10 - 11	2029	0.0000	3	0.00	2029	0.0000	1	0.00		
12	1	11 - 12	2030	0.0000	3	0.00	2030	0.0000	1	0.00		
13	1	12 - 13	2031	0.0000	3	0.00	2031	0.0000	1	0.00		
14	1	13 - 14	2032	0.0000	3	0.00	2032	0.0000	1	0.00		
15	1	14 - 15	2033	0.0000	3	0.00	2033	0.0000	1	0.00		
16	1	15 - 16	2034	0.0000	3	0.00	2034	0.0000	1	0.00		
17	1	16-17	2035	0.0000	1	0.00	2035	0.0000	1	0.00		
18	1	17-18	2036	0.0000	1	0.00	2036	0.0000	1	0.00		
19	1	18-19	2037	0.0000	1	0.00	2037	0.0000	1	0.00		
20	1	19-20	2038	0.0000	1	0.00	2038	0.0000	1	0.00		
21	1	20-21	2039	0.0000	1	0.00	2039	0.0000	1	0.00		
22	1	21-22	2040	0.0000	1	0.00	2040	0.0000	1	0.00		
23	1	22-23	2041	0.0000	1	0.00	2041	0.0000	1	0.00		
24	1	23-24	2042	0.0000	1	0.00	2042	0.0000	1	0.00		
25	1	24-25	2043	0.0000	1	0.00	2043	0.0000	1	0.00		
26	1	25-26	2044	0.0000	1	0.00	2044	0.0000	1	0.00		
27	1	26-27	2045	0.0000	1	0.00	2045	0.0000	1	0.00		
28	1	27-28	2046	0.0000	1	0.00	2046	0.0000	1	0.00		
29	1	28-29	2047	0.0000	1	0.00	2047	0.0000	1	0.00		
30	1	29-30	2048	0.0000	1	0.00	2048	0.0000	1	0.00		
Total Increased Cancer Risk						**13.4**				**0.23**		

* Third trimester of pregnancy

1495 S. Winchester Blvd, San Jose CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 4.5 meter receptor height

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

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

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

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

Values

	Infant/Child				Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 9**	**2 - 16**	**16 - 30**
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information			Infant/Child	Adult - Exposure Information			Adult	Maximum	
			DPM Conc (ug/m3)		Age	Cancer	Modeled DPM Conc (ug/m3)		Age	Cancer	Fugitive	Total
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Sensitivity Factor**	**Risk (per million)**	**Year**	**Annual**	**Sensitivity Factor**	**Risk (per million)**	**PM2.5**	**PM2.5**
0	0.25	-0.25 - 0*	-	-	10	-	-	-	-	-		
1	1	0 - 1	2019	0.2179	10	35.78	2019	0.2179	1	0.63	0.0453	0.263
2	1	1 - 2	2020	0.0000	10	0.00	2020	0.0000	1	0.00		
3	1	2 - 3	2021	0.0000	3	0.00	2021	0.0000	1	0.00		
4	1	3 - 4	2022	0.0000	3	0.00	2022	0.0000	1	0.00		
5	1	4 - 5	2023	0.0000	3	0.00	2023	0.0000	1	0.00		
6	1	5 - 6	2024	0.0000	3	0.00	2024	0.0000	1	0.00		
7	1	6 - 7	2025	0.0000	3	0.00	2025	0.0000	1	0.00		
8	1	7 - 8	2026	0.0000	3	0.00	2026	0.0000	1	0.00		
9	1	8 - 9	2027	0.0000	3	0.00	2027	0.0000	1	0.00		
10	1	9 - 10	2028	0.0000	3	0.00	2028	0.0000	1	0.00		
11	1	10 - 11	2029	0.0000	3	0.00	2029	0.0000	1	0.00		
12	1	11 - 12	2030	0.0000	3	0.00	2030	0.0000	1	0.00		
13	1	12 - 13	2031	0.0000	3	0.00	2031	0.0000	1	0.00		
14	1	13 - 14	2032	0.0000	3	0.00	2032	0.0000	1	0.00		
15	1	14 - 15	2033	0.0000	3	0.00	2033	0.0000	1	0.00		
16	1	15 - 16	2034	0.0000	3	0.00	2034	0.0000	1	0.00		
17	1	16-17	2035	0.0000	1	0.00	2035	0.0000	1	0.00		
18	1	17-18	2036	0.0000	1	0.00	2036	0.0000	1	0.00		
19	1	18-19	2037	0.0000	1	0.00	2037	0.0000	1	0.00		
20	1	19-20	2038	0.0000	1	0.00	2038	0.0000	1	0.00		
21	1	20-21	2039	0.0000	1	0.00	2039	0.0000	1	0.00		
22	1	21-22	2040	0.0000	1	0.00	2040	0.0000	1	0.00		
23	1	22-23	2041	0.0000	1	0.00	2041	0.0000	1	0.00		
24	1	23-24	2042	0.0000	1	0.00	2042	0.0000	1	0.00		
25	1	24-25	2043	0.0000	1	0.00	2043	0.0000	1	0.00		
26	1	25-26	2044	0.0000	1	0.00	2044	0.0000	1	0.00		
27	1	26-27	2045	0.0000	1	0.00	2045	0.0000	1	0.00		
28	1	27-28	2046	0.0000	1	0.00	2046	0.0000	1	0.00		
29	1	28-29	2047	0.0000	1	0.00	2047	0.0000	1	0.00		
30	1	29-30	2048	0.0000	1	0.00	2048	0.0000	1	0.00		
Total Increased Cancer Risk						**35.8**				**0.63**		

* Third trimester of pregnancy

1495 S. Winchester Blvd, San Jose CA - Construction Impacts - With Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 4.5 meter receptor height

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

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

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

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

Values

	Infant/Child				Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 9**	**2 - 16**	**16 - 30**
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information			Infant/Child	Adult - Exposure Information			Adult	Maximum	
							Modeled					
Exposure	**Exposure Duration**		**DPM Conc (ug/m3)**		**Age Sensitivity**	**Cancer Risk**	**DPM Conc (ug/m3)**		**Age Sensitivity**	**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*	-	-	10	-	-	-	-	-		
1	1	0 - 1	2019	0.0290	10	4.76	2019	0.0290	1	0.08	0.0155	0.044
2	1	1 - 2	2020	0.0000	10	0.00	2020	0.0000	1	0.00		
3	1	2 - 3	2021	0.0000	3	0.00	2021	0.0000	1	0.00		
4	1	3 - 4	2022	0.0000	3	0.00	2022	0.0000	1	0.00		
5	1	4 - 5	2023	0.0000	3	0.00	2023	0.0000	1	0.00		
6	1	5 - 6	2024	0.0000	3	0.00	2024	0.0000	1	0.00		
7	1	6 - 7	2025	0.0000	3	0.00	2025	0.0000	1	0.00		
8	1	7 - 8	2026	0.0000	3	0.00	2026	0.0000	1	0.00		
9	1	8 - 9	2027	0.0000	3	0.00	2027	0.0000	1	0.00		
10	1	9 - 10	2028	0.0000	3	0.00	2028	0.0000	1	0.00		
11	1	10 - 11	2029	0.0000	3	0.00	2029	0.0000	1	0.00		
12	1	11 - 12	2030	0.0000	3	0.00	2030	0.0000	1	0.00		
13	1	12 - 13	2031	0.0000	3	0.00	2031	0.0000	1	0.00		
14	1	13 - 14	2032	0.0000	3	0.00	2032	0.0000	1	0.00		
15	1	14 - 15	2033	0.0000	3	0.00	2033	0.0000	1	0.00		
16	1	15 - 16	2034	0.0000	3	0.00	2034	0.0000	1	0.00		
17	1	16-17	2035	0.0000	1	0.00	2035	0.0000	1	0.00		
18	1	17-18	2036	0.0000	1	0.00	2036	0.0000	1	0.00		
19	1	18-19	2037	0.0000	1	0.00	2037	0.0000	1	0.00		
20	1	19-20	2038	0.0000	1	0.00	2038	0.0000	1	0.00		
21	1	20-21	2039	0.0000	1	0.00	2039	0.0000	1	0.00		
22	1	21-22	2040	0.0000	1	0.00	2040	0.0000	1	0.00		
23	1	22-23	2041	0.0000	1	0.00	2041	0.0000	1	0.00		
24	1	23-24	2042	0.0000	1	0.00	2042	0.0000	1	0.00		
25	1	24-25	2043	0.0000	1	0.00	2043	0.0000	1	0.00		
26	1	25-26	2044	0.0000	1	0.00	2044	0.0000	1	0.00		
27	1	26-27	2045	0.0000	1	0.00	2045	0.0000	1	0.00		
28	1	27-28	2046	0.0000	1	0.00	2046	0.0000	1	0.00		
29	1	28-29	2047	0.0000	1	0.00	2047	0.0000	1	0.00		
30	1	29-30	2048	0.0000	1	0.00	2048	0.0000	1	0.00		
Total Increased Cancer Risk						**4.8**				**0.08**		

* Third trimester of pregnancy

1495 S. Winchester Blvd, San Jose CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk Calculations From Construction
Daycare - 1.0 meters - Child 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

Values

	Infant/Child				Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 9**	**2 - 16**	**16 - 30**
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	861	572	291
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants, children and adults at daycare

Construction Cancer Risk by Year - Maximum Impact Receptor Location

		Child - Exposure Information				Maximum	
Exposure Year	**Exposure Duration (years)**	**DPM Conc (ug/m3) Year**	**Annual**	**Age* Sensitivity Factor**	**Child Cancer Risk (per million)**	**Fugitive PM2.5**	**Total PM2.5**
1	1	2019	0.1011	3	3.9	0.0904	0.190

* Students assumed to be from 2 to 9 years of age