

2300 CALLE DE LUNA CONSTRUCTION HEALTH RISK ASSESSMENT

Santa Clara, California

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INTRODUCTION

The report is the construction air quality analysis and health risk assessment for a proposed residential development located at 2300 Calle de Luna in Santa Clara, California. The project site is currently developed with four existing light industrial buildings (totaling approximately 240,325 square feet) and is located at the southwestern corner of the TESP area. As proposed, the project would construct 727 residential units in two buildings (multi-family market rate apartments and home for ambulatory aged). The project would incorporate a 0.5-acre public park between the two buildings facing Calle De Luna. The proposed park would have a playground, dog park, and a garden.

The proposed multi-family building would be located on the northeastern portion of the site. The building would be 21 stories tall (approximately 235 feet to the mechanical roof) with 551 residential units. Floors one to seven would consist of parking and residential units. The remaining floors would have residential units. The home for the ambulatory aged would be located on the northwestern portion of the site. The building would be 18 stories tall (approximately 208 feet to the top of the parapet) with 176 units. Parking is proposed on the ground level which would be shared with residential units.

Air quality impacts associated with development of the TESP were evaluated in the TESP environmental impact report (TESP EIR).¹ The EIR was certified and the TESP was adopted by the Santa Clara City Council in November 2018. Projects constructed under the TESP are subject to mitigation measures contained in the TESP EIR. Specifically, Mitigation Measure AQ-1 and AQ-2 which requires a project-level construction assessment of air quality impacts:

Mitigation Measure AQ-1: Implement BAAQMD-Recommended Measures to Control Particulate Matter Emissions during Construction for all TESP Construction Activity. Measures to reduce NOx, ROG, diesel particulate matter and fugitive particulate matter from construction are recommended to ensure that short-term health impacts to nearby sensitive receptors are avoided.

- *All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.*
- *All haul trucks transporting soil, sand, or other loose material off-site shall be covered.*
- *All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.*
- *All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).*
- *All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.*
- *Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne*

¹ Illingworth & Rodkin, Inc., “Tasman East Specific Plan and EIR – Air Quality and Greenhouse Gas Assessment”, June 2018. <http://santaclaraca.gov/home/showdocument?id=58780>

- 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.*
- 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.*
 - Post a publicly visible sign(s) 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.*
 - The contractor shall install temporary electrical service whenever possible to avoid the need for independently powered equipment (e.g. compressors).*

Mitigation Measure AQ-2: Require Project-Level Construction Assessment for Projects in the TESP. Construction criteria pollutant and TAC quantification shall be required on individual projects developed under the TESP once those details are available through modeling to identify impacts and, if necessary, include measures to reduce emissions below the applicable Bay Area Air Quality Management District (BAAQMD) construction thresholds. Reductions in emissions can be accomplished through, though is not limited to, the following measures:

- Construction equipment selection for low emissions;*
- Use of alternative fuels, engine retrofits, and added exhaust devices;*
- Low-VOC paints;*
- Modify construction schedule; and*
- Implementation of BAAQMD Basic and/or Additional Construction Mitigation Measures for control of fugitive dust.*

This report evaluates the project's construction air quality impacts, per Mitigation Measure AQ-2 of the TESP EIR and identifies any additional specific measures not identified in Mitigation Measure AQ-2 that may be applied to construction activities. At a minimum, the project is subject to Mitigation Measure AQ-1 that requires implementation of BAAQMD recommended best management practice measures to control particulate matter emissions during construction for all TESP Construction Activity.

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 (PM₁₀), 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 (PM₁₀) and fine particulate matter where particles have a diameter of 2.5 micrometers or less (PM_{2.5}). Elevated concentrations of PM₁₀ and PM_{2.5} are the result of both region-wide (or cumulative) emissions and localized emissions. High particulate matter levels aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

Toxic Air Contaminants

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

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs (based on the Bay Area average). According to the California Air Resources Board (CARB), diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the State or Federal programs.

CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy-duty diesel trucks that represent the bulk of DPM emissions from California highways. These regulations include the solid waste collection vehicle (SWCV) rule, in-use public and utility fleets, and the heavy-duty diesel truck and bus regulations. In 2008, CARB approved a new regulation to reduce emissions of DPM and nitrogen oxides from existing on-road heavy-duty diesel fueled vehicles.² The regulation requires affected vehicles to meet specific performance requirements between 2014 and 2023, with all affected diesel vehicles required to have 2010 model-year engines or equivalent by 2023. These requirements are phased in over the compliance period and depend on the model year of the vehicle.

The BAAQMD is the regional agency tasked with managing air quality in the region. At the State level, the CARB (a part of the California Environmental Protection Agency [EPA]) oversees regional air district activities and regulates air quality at the State level. The BAAQMD has recently published California Environmental Quality Act (CEQA) Air Quality Guidelines that are

² Available online: <http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm>. Accessed: November 21, 2014.

used in this assessment to evaluate air quality impacts of projects.³ *Attachment 1* includes detailed community risk modeling methodology.

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, and parks. For cancer risk assessments, children are the most sensitive receptors, since they are more susceptible to cancer causing TACs. Residential locations are assumed to include infants and small children. The closest sensitive receptors to the proposed project site would be residents in a townhome residential development south of the project and Lafayette Street.

Significance Thresholds

The thresholds identified in Table 1 represent the most recent guidance provided by BAAQMD. These are the thresholds used in the TESP EIR for addressing air quality impacts. The effect of existing TAC sources on the construction maximally exposed individual (MEI) is analyzed to comply with the Clean Air Plan key goal of reducing population TAC exposure and protecting public health in the Bay Area.

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 µg/m ³	>0.8 µg/m ³	
Note: ROG = reactive organic gases, NO _x = nitrogen oxides, PM ₁₀ = coarse 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.			

³ Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017.

IMPACTS FROM PROJECT CONSTRUCTION ACTIVITY

Criteria Air Pollutant Emissions

The first part of the evaluation under this mitigation measure involves the prediction of construction period criteria pollutant emissions and comparison to significance thresholds used in the TESP EIR. Construction period emissions were modeled using the California Emissions Estimator Model, Version 2016.3.2 (CalEEMod). These emissions include both on-site construction activity and off-site truck and worker travel.

Construction activity is anticipated to include demolition, grading, trenching, building construction, and paving. The construction build-out scenario for the project, including equipment list and schedule, was based on a combination of project applicant information and CalEEMod information. CalEEMod defaults were used for the construction equipment, which includes equipment quantity and usage, and for the land use acreage. The project land use and project hauling information was based on information provided by the project applicant. The proposed project land uses, and construction information were input into CalEEMod were as follows:

Market Rate Apartments

- 551 dwelling units and 600,829 square feet (sf) entered as “Apartments High Rise”
- 22,734 sf entered as “Strip Mall”
- 591 parking spaces and 246,741 sf entered as “Enclosed Parking with Elevator”

Home for Ambulatory Aged

- 176 Dwelling Units and 222,448 sf entered as “Apartments High Rise”
- 48 parking spaces and 17,401 sf entered as “Enclosed Parking with Elevator”

Parkland

- 0.5 acres entered as “City Park”

Construction Information

- 101,012 sf of building demolished
- 500 tons of pavement demolished and hauled
- 20,282 cubic yards (cy) of soil exported during site preparation
- 27,000 cy of soil exported during grading
- 1,200 cy of soil imported during grading
- 7,600 cement truck round-trips during building construction
- Electric cranes would be used during construction
- No diesel generator use due to use of temporary line power

The applicant provided construction schedule that assumed the project would be built out over a period of approximately months 20 months, beginning in February 2020. The project applicant proposed a total of 445 workdays. Since accurate construction information was not provided, the CalEEMod default were utilized for a project of this size. For computation of air pollutants, the default travel lengths were used in the modeling. For the on-site health risk assessment, travel was

assumed to occur over a distance of one mile on or near the site (note that travel away from the site would not contribute to health risk impacts).

Table 2 presents the construction period criteria air pollutant emissions in total tons and pounds per average day. The average emissions per day were computed by dividing total emissions from construction computed in the CalEEMod default output by the proposed number of workdays (i.e. 445 days). The annual and daily average emissions reported in Table 2 are below the significance thresholds. *Attachment 2* includes the CalEEMod modeling output.

Table 2. Project Construction Air Pollutant Emissions

Description	ROG	NOx	PM ₁₀ Exhaust	PM _{2.5} Exhaust
Total Construction Emissions (tons)	7.1	11.2	0.28	0.26
Average Daily Emissions (pounds per day)*	32.1	50.3	1.3	1.2
BAAQMD Thresholds (pounds per day)	54	54	82	54
Exceed Threshold?	No	No	No	No

*Assuming 445 construction workdays

Construction activities, particularly during demolition, site preparation and grading would temporarily generate fugitive dust in the form of PM₁₀ 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 of the TESP EIR would implement BAAQMD-required best management practices.*

Construction Toxic Air Containment Assessment

The second part of this analysis involves a construction period TAC assessment (i.e., community risk assessment). 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}.⁴ Emissions and dispersion modeling were conducted to predict the off-site DPM concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be evaluated.

⁴ DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.

Construction TAC Emissions

The CalEEMod model provided total annual PM₁₀ exhaust emissions (assumed to be diesel particulate matter) for the off-road construction equipment and for exhaust emissions from on-road vehicles (haul trucks, vendor trucks, and worker vehicles), with total emissions of 0.2587 tons (517 pounds). The on-road emissions are a result of haul truck travel, worker travel, and vendor deliveries during building demolition, grading and construction activities. 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 0.23145 tons (463 pounds) for the overall construction period.

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict concentrations of DPM and PM_{2.5} concentrations at sensitive receptors (residences) in the vicinity of the project construction area. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.⁵ The modeling utilized two area sources to represent the on-site construction emissions, one for exhaust emissions and one for fugitive dust emissions. To represent the construction equipment exhaust emissions, an emission release height of 6 meters (19.7 feet) was used for the area source. The elevated source height reflects the height of the equipment exhaust pipes plus an additional distance for the height of the exhaust plume above the exhaust pipes to account for plume rise of the exhaust gases. For modeling fugitive PM_{2.5} emissions, a near-ground level release height of 2 meters (6.6 feet) was used for the area source. Emissions from the construction equipment and on-road vehicle travel were distributed throughout the modeled area sources. Construction emissions were modeled as occurring daily between 7:00 a.m. to 4:00 p.m., when the majority of construction activity would occur.

The modeling used a five-year data set (2006 - 2010) of hourly meteorological data from the San Jose Airport prepared by the BAAQMD for use with the AERMOD model. DPM and PM_{2.5} concentrations from construction activities in 2020-2021 were calculated using the model. DPM and PM_{2.5} concentrations were calculated at nearby residential locations at a receptor height of 1.5 meters (4.9 feet) and 4.5 meters (14.8 feet) to represent the first and second building levels of nearby townhomes and multi-story residences. Figure 1 shows the construction area and the locations of nearby residential receptors.

The maximum-modeled annual DPM and PM_{2.5} concentrations, which includes both the DPM and fugitive PM_{2.5} concentrations, were identified at nearby sensitive receptors (as shown in Figure 1) to find the maximally exposed individuals (MEIs). The maximum increased cancer risks were based on the maximum annual modeled DPM concentrations and calculated using BAAQMD recommended methods and exposure parameters described in *Attachment 1*. The cancer risk calculations are based on applying the BAAQMD recommended age sensitivity factors to the TAC concentrations. Age-sensitivity factors reflect the greater sensitivity of infants and small children

⁵ Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0*. May.

to cancer causing TACs. BAAQMD-recommended exposure parameters were used for the cancer risk calculations. Non-cancer health hazards and maximum PM_{2.5} concentrations were also calculated and identified. *Attachment 3* includes the construction health risk modeling outputs and calculations.

Figure 1. Project Site, Construction Modeling Sources, Residential Receptor Locations, and Location of Maximum TAC Impacts (Cancer Risk and PM_{2.5} Concentration)



Results of this assessment indicated that the construction MEI, where the maximum-modeled PM_{2.5} and DPM concentrations would occur, was located at on the first floor (1.5 meters) of the townhome residential development south of the project site, opposite Lafayette Street. Table 3 summarizes the risks impacts at the construction MEI. The cancer risk does exceed the BAAQMD single-source threshold. *However, the TESP MM AQ-2 would reduce the risk to less-than-significant.*

Table 3. Construction Risk Impacts at the MEI

Source	Increased Cancer Risk (per million)	PM _{2.5} Concentration (µg/m ³)	Acute and Chronic Hazard (HI)
Without TESP MM AQ-2	49.2 (infant)	0.44	0.04
With TESP MM AQ-2	6.4 (infant)	0.09	<0.01
BAAQMD Single-Source Threshold	>10.0	>0.3	>1.0
<i>Exceed Threshold?</i>			
Without/With MM AQ-2	Yes/No	Yes/No	No/No

Kathryn Hughes Elementary School – Sensitive Receptors

Additionally, modeling was conducted to predict the cancer risks, non-cancerous health hazards, and maximum PM_{2.5} associated that could impact sensitive receptors (i.e. school-aged children) attending Kathryn Hughes Elementary School. The school is directly south of the project site with the closest school building located approximately 540-feet south. Currently, the school serves students in preschool through fifth grade. Receptor heights of 1 meter was used to represent the breathing height of the school children.

Results of this assessment at the elementary school indicated that the maximum cancer risks (without any mitigation or construction emission controls) would be 4.1 per million for child exposure. The maximum-modeled annual PM_{2.5} concentration, which is based on combined exhausted and fugitive dust emissions, would be 0.16 µg/m³ and the maximum computed HI, based on the DPM concentration, would be 0.01. These risk values do not exceed the BAAQMD single-source significance threshold for annual cancer risk, PM_{2.5} concentration, or HI.

TESP Mitigation Measure AQ-2

This project-specific construction assessment quantified the TAC risk impacts from project construction. As stated above, the increased cancer risk would exceed the BAAQMD single-source threshold of greater than 10.0 per million. Per the TESP MM AQ-2 additional measures can be implemented during construction to reduce emissions to a level below the thresholds. For this project, the necessary measure includes the following:

The project shall develop a plan demonstrating that the off-road equipment used onsite to construct the project would achieve a fleet-wide average 80-percent reduction in DPM exhaust emissions or greater. One feasible plan to achieve this reduction would include the following:

1. 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 that include CARB-certified Level 3 Diesel Particulate Filters⁶ or equivalent. Additionally, equipment that meets U.S. EPA Tier 4 standards for particulate matter or use of equipment that is electrically powered or uses non-diesel fuels would meet this requirement.
2. Per the construction sheet provided by the project applicant, electrical power (e.g. temporary line power) must be provided to the project site during the initial construction phases and cranes must be electrified.

With this measure, the computed maximum increased lifetime residential cancer risk from construction, assuming infant exposure, would be 6.4 in one million or less. The maximum annual PM_{2.5} concentration would be 0.09 µg/m³. As a result, impacts would be reduced to *less-than-significant* with respect to community risk caused by construction activities.

⁶ See <http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm>

Combined Community Risk Impacts at the Construction MEI

Table 4 includes the community risk levels at the construction MEI for the combination of construction impacts and all sources within the influence area of 1,000 feet. Traffic on high volume roadways are a source of TAC emissions that affect sensitive receptors in close proximity to the roadways. As described in the TESP EIR, Tasman Drive, Lafayette Street, and Lick Mill Boulevard are roadways that would have a risk impact. The rail line is also in close proximity, which generates TAC and PM_{2.5} emissions from diesel locomotives. Additionally, stationary sources identified within the TESP EIR that could affect the plan area were also evaluated. Stationary sources that were deemed to pose no risk or would no longer pose a risk due to removal were not evaluated in the cumulative community risk impact.

Figure 2. Project Site and Nearby TAC Sources



Roadway

Tasman Drive, Lafayette Street, and Lick Mill Boulevard are all roadway sources within 1,000-ft of the project site. The construction MEI is 60 feet south of Tasman Drive, 670 feet east of Lafayette, and 800 feet west of Lick Mill Boulevard.

The BAAQMD's *Roadway Screening Analysis Calculator* was used to determine the risk impact at the identified construction MEI. The tool uses EMFAC2011 emission rates for the year 2014 to determine roadway emissions by taking the roadway's average daily traffic (ADT) and adjusting for distance and the 1.3744 factor for cancer risk to account for new OEHHA guidance. Risk impacts from both roadways are summarized in Table 4.

Railroad

The Union Pacific rail line is used for freight and passenger rail service. The construction MEI is approximately 700 feet east of the rail line. In the TESP EIR, the rail line was calculated to have a lifetime cancer risk of 22.0 per million, a $0.03 \mu\text{g}/\text{m}^3$, and an HI of less than 0.01 at 110 feet.

Stationary Sources

All the permitted stationary sources identified in the TESP were evaluated using the maximum community risk levels provided by BAAQMD and reported using their *Stationary Source Risk & Hazard Analysis Tool*. The following sources were included in this analysis:

- City of Santa Clara - Golf Course Storm (Plant 17251, Generator) at >1,000 ft,
- Megastor (Plant 1642) at 880 ft,
- Alzeta Corporation (Plant 1636) at >1,000 ft,
- Italix Company, Incorporated (Plant 3037) at > 1,000 ft,
- Nu-Metal Finishing (Plant 22529) at 950 ft &
- Note that the Coatek, Inc (Plant 5323) facility has been closed.

Additionally, another stationary source was identified that was not included in the TESP - RS Alameda, LLC (Plant 20241, Generator) at 430 ft. This plant was also included in the cumulative analysis. All seven stationary sources were adjusted for distance using the BAAQMD *Diesel Internal Combustion (IC) Engine Distance Multiplier Tool* or the *Generic Distance Multiplier Tool* when the source type was not identified.

Combined Health Risk at Construction MEI

Cumulative TAC impacts are assessed by predicting the combined community risk impacts to the project and nearby sources. Table 4 reports both the project and cumulative community risk impacts. The project would have a *less-than-significant* impact with respect to community risk.

Table 4. Impacts from Combined Sources at Construction MEI

Source	Cancer Risk (per million)	PM _{2.5} Concentration (µg/m ³)	Acute and Chronic Hazard (HI)
Project Construction			
Without TESP MM AQ-2	49.2 (infant)	0.44	0.04
With TESP MM AQ-2	6.4 (infant)	0.09	<0.01
Tasman Drive at 60 ft (45,000 ADT)	13.8	0.51	<0.01
Lafayette Street at 670 ft (30,000 ADT)	1.9	0.06	<0.01
Lick Mill Boulevard at 800 ft (15,500 ADT)	0.4	0.01	<0.01
UPPR Rail Line at 700 feet	<22.0	<0.03	<0.01
City of Santa Clara - Golf Course Storm (Plant 17251, Generator) at >1,000 ft	0.08	<0.01	<0.01
Megastor (Plant 1642) at 880 ft	-	<0.01	-
Alzeta Corporation (Plant 1636) at >1,000 ft	<0.1	<0.01	<0.01
Italix Company, Incorporated (Plant 3037) at > 1,000 ft	<0.1	0.01	<0.01
Nu-Metal Finishing (Plant 22529) at 950 ft	0.01	<0.01	<0.01
RS Alameda, LLC (Plant 20241, Generator) at 430 ft	0.78	<0.01	<0.01
Combined Total	<88.4 <45.6	<1.11 <0.76	<0.17 <0.14
<i>BAAQMD Cumulative Source Thresholds</i>	<i>>100</i>	<i>>0.8</i>	<i>>10.0</i>
<i>Significant?</i>	<i>No</i>	<i>No</i>	<i>No</i>

Conclusion

As shown above (in Table 2), criteria air pollutant emissions from construction of the project would not exceed the significance thresholds recommended by BAAQMD. The project would be subject to TESP Mitigation Measures AQ-1 and AQ-2. Computed community risk levels show that the project would have less than significant with respect to single-source impacts with MM AQ-2 (see Table 3) as well as cumulative-source impacts (see Table 4).

Attachment 1: Health Impact Evaluation 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 2015.⁷ 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.⁸ This HRA used the 2015 OEHHA risk assessment guidelines and CARB guidance. The BAAQMD has adopted recommended procedures for applying the newest OEHHA guidelines as part of Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants.⁹ 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 and duration of exposure. These parameters vary depending on the age, or age range, of the persons being exposed and whether the exposure is considered to occur at a residential location or other sensitive receptor location.

The current OEHHA guidance recommends that cancer risk be calculated by age groups to account for different breathing rates and sensitivity to TACs. Specifically, they recommend evaluating risks for the third trimester of pregnancy to age zero, ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), and ages 16 to 70 (adult exposure). Age sensitivity factors (ASFs) associated with the different types of exposure are an ASF of 10 for the third trimester and infant exposures, an ASF of 3 for a child exposure, and an ASF of 1 for an adult exposure. Also associated with each exposure type are different breathing rates, expressed as liters per kilogram of body weight per day (L/kg-day). As recommended by the BAAQMD for residential exposures, 95th percentile breathing rates are used for the third trimester and infant exposures, and 80th percentile breathing rates for child and adult exposures. For children at schools and daycare facilities, BAAQMD recommends using the 95th percentile breathing rates. Additionally, CARB and the BAAQMD recommend the use of a residential exposure duration of 30 years for sources with long-term emissions (e.g., roadways). For workers, assumed to be adults, a 25-year exposure period is recommended by the BAAQMD.

⁷ 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.

⁸ CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.

⁹ 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:

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

Where:

CPF = Cancer potency factor (mg/kg-day)⁻¹

ASF = Age sensitivity factor for specified age group

ED = Exposure duration (years)

AT = Averaging time for lifetime cancer risk (years)

FAH = Fraction of time spent at home (unitless)

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

Where:

C_{air} = concentration in air (µg/m³)

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 →	3 rd Trimester	0<2	2 < 9	2 < 16	16 - 30
DPM Cancer Potency Factor (mg/kg-day) ⁻¹		1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
Daily Breathing Rate (L/kg-day) 80 th Percentile Rate		273	758	631	572	261
Daily Breathing Rate (L/kg-day) 95 th Percentile Rate		361	1,090	861	745	335
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

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 ($\mu\text{g}/\text{m}^3$).

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

19-072 2300 Calle De Luna AQ - Santa Clara County, Annual

19-072 2300 Calle De Luna AQ
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	48.00	Space	0.43	17,401.00	0
Enclosed Parking with Elevator	591.00	Space	5.32	246,741.00	0
City Park	0.50	Acre	0.50	21,861.00	0
Apartments High Rise	551.00	Dwelling Unit	8.89	600,829.00	1576
Congregate Care (Assisted Living)	176.00	Dwelling Unit	11.00	222,448.00	503
Strip Mall	22.73	1000sqft	0.52	22,734.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2022

Utility Company	Pacific Gas & Electric Company
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CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006
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1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 290 rate

Land Use - Project land uses with default acreage

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	FuelType	Diesel	Electrical

tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblGrading	MaterialExported	0.00	27,000.00
tblGrading	MaterialExported	0.00	20,282.00
tblGrading	MaterialImported	0.00	1,200.00
tblLandUse	LandUseSquareFeet	19,200.00	17,401.00
tblLandUse	LandUseSquareFeet	236,400.00	246,741.00
tblLandUse	LandUseSquareFeet	21,780.00	21,861.00
tblLandUse	LandUseSquareFeet	551,000.00	600,829.00
tblLandUse	LandUseSquareFeet	176,000.00	222,448.00
tblLandUse	LandUseSquareFeet	22,730.00	22,734.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	HaulingTripNumber	459.00	559.00
tblTripsAndVMT	HaulingTripNumber	0.00	15,200.00

2.0 Emissions Summary

2.1 Overall Construction

Mitigated Construction *includes electric cranes and use of temporary line power

	ROG	NOx	CO	SO2	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	0.5464	5.8565	4.0647	0.0154	1.0482	0.1666	1.2148	0.3541	0.1544	0.5085	0.0000	1,351.7572	1,351.7572	0.1379	0.0000	1,355.2050
2021	0.5185	4.5381	4.2166	0.0182	0.9299	0.0930	1.0228	0.2499	0.0866	0.3365	0.0000	1,549.8520	1,549.8520	0.0991	0.0000	1,552.3306
2022	6.0745	0.7862	0.8792	3.0300e-003	0.2291	0.0219	0.2510	0.0596	0.0204	0.0800	0.0000	259.9567	259.9567	0.0249	0.0000	260.5790

Maximum	6.0745	5.8565	4.2166	0.0182	1.0482	0.1666	1.2148	0.3541	0.1544	0.5085	0.0000	1,549.8520	1,549.8520	0.1379	0.0000	1,552.3306
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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	2.23	13.01	11.59	0.00	0.00	21.64	3.03	0.00	22.20	7.46	0.00	6.56	6.56	12.70	0.00	6.57

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	2-1-2020	4-30-2020	2.0304	2.0304
2	5-1-2020	7-31-2020	2.1876	2.0303
3	8-1-2020	10-31-2020	1.6901	1.3946
4	11-1-2020	1-31-2021	1.6572	1.3714
5	2-1-2021	4-30-2021	1.4940	1.2356
6	5-1-2021	7-31-2021	1.5271	1.2600
7	8-1-2021	10-31-2021	1.5359	1.2688
8	11-1-2021	1-31-2022	1.5099	1.2526
9	2-1-2022	4-30-2022	3.1967	3.1501
10	5-1-2022	7-31-2022	3.3168	3.3168
		Highest	3.3168	3.3168

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	2/1/2020	3/13/2020	5	30	
2	Site Preparation	Site Preparation	3/14/2020	4/10/2020	5	20	
3	Grading	Grading	4/11/2020	6/12/2020	5	45	
4	Trenching	Trenching	6/13/2020	7/10/2020	5	20	
5	Building Construction	Building Construction	6/13/2020	2/18/2022	5	440	
6	Paving	Paving	2/19/2022	4/8/2022	5	35	
7	Architectural Coating	Architectural Coating	4/9/2022	5/27/2022	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 5.75

Residential Indoor: 1,667,136; Residential Outdoor: 555,712; Non-Residential Indoor: 34,101; Non-Residential Outdoor: 11,367; Striped

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	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Trenching	Excavators	2	8.00	158	0.38
Trenching	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

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	6	15.00	0.00	559.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	2,535.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	3,525.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	673.00	137.00	15,200.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	135.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Alternative Fuel for Construction Equipment

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0497	0.0000	0.0497	7.5300e-003	0.0000	7.5300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0497	0.4980	0.3263	5.8000e-004		0.0249	0.0249		0.0231	0.0231	0.0000	50.9979	50.9979	0.0144	0.0000	51.3578
Total	0.0497	0.4980	0.3263	5.8000e-004	0.0497	0.0249	0.0746	7.5300e-003	0.0231	0.0307	0.0000	50.9979	50.9979	0.0144	0.0000	51.3578

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	2.3200e-003	0.0811	0.0166	2.2000e-004	4.7400e-003	2.6000e-004	5.0000e-003	1.3000e-003	2.5000e-004	1.5500e-003	0.0000	21.3177	21.3177	9.8000e-004	0.0000	21.3421
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	7.5000e-004	5.4000e-004	5.6300e-003	2.0000e-005	1.7800e-003	1.0000e-005	1.8000e-003	4.7000e-004	1.0000e-005	4.9000e-004	0.0000	1.5303	1.5303	4.0000e-005	0.0000	1.5313
Total	3.0700e-003	0.0817	0.0222	2.4000e-004	6.5200e-003	2.7000e-004	6.8000e-003	1.7700e-003	2.6000e-004	2.0400e-003	0.0000	22.8480	22.8480	1.0200e-003	0.0000	22.8733

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					0.0497	0.0000	0.0497	7.5300e-003	0.0000	7.5300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0497	0.4980	0.3263	5.8000e-004		0.0249	0.0249		0.0231	0.0231	0.0000	50.9979	50.9979	0.0144	0.0000	51.3578
Total	0.0497	0.4980	0.3263	5.8000e-004	0.0497	0.0249	0.0746	7.5300e-003	0.0231	0.0307	0.0000	50.9979	50.9979	0.0144	0.0000	51.3578

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	2.3200e-003	0.0811	0.0166	2.2000e-004	4.7400e-003	2.6000e-004	5.0000e-003	1.3000e-003	2.5000e-004	1.5500e-003	0.0000	21.3177	21.3177	9.8000e-004	0.0000	21.3421

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	7.5000e-004	5.4000e-004	5.6300e-003	2.0000e-005	1.7800e-003	1.0000e-005	1.8000e-003	4.7000e-004	1.0000e-005	4.9000e-004	0.0000	1.5303	1.5303	4.0000e-005	0.0000	1.5313
Total	3.0700e-003	0.0817	0.0222	2.4000e-004	6.5200e-003	2.7000e-004	6.8000e-003	1.7700e-003	2.6000e-004	2.0400e-003	0.0000	22.8480	22.8480	1.0200e-003	0.0000	22.8733

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					0.1818	0.0000	0.1818	0.0995	0.0000	0.0995	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0408	0.4242	0.2151	3.8000e-004		0.0220	0.0220		0.0202	0.0202	0.0000	33.4307	33.4307	0.0108	0.0000	33.7010
Total	0.0408	0.4242	0.2151	3.8000e-004	0.1818	0.0220	0.2038	0.0995	0.0202	0.1197	0.0000	33.4307	33.4307	0.0108	0.0000	33.7010

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	0.0105	0.3678	0.0753	1.0000e-003	0.0215	1.1900e-003	0.0227	5.9100e-003	1.1400e-003	7.0500e-003	0.0000	96.6732	96.6732	4.4200e-003	0.0000	96.7838
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.3000e-004	4.5000e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2243	1.2243	3.0000e-005	0.0000	1.2250
Total	0.0111	0.3682	0.0798	1.0100e-003	0.0229	1.2000e-003	0.0241	6.2900e-003	1.1500e-003	7.4400e-003	0.0000	97.8975	97.8975	4.4500e-003	0.0000	98.0088

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					0.1818	0.0000	0.1818	0.0995	0.0000	0.0995	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0408	0.4242	0.2151	3.8000e-004		0.0220	0.0220		0.0202	0.0202	0.0000	33.4306	33.4306	0.0108	0.0000	33.7009
Total	0.0408	0.4242	0.2151	3.8000e-004	0.1818	0.0220	0.2038	0.0995	0.0202	0.1197	0.0000	33.4306	33.4306	0.0108	0.0000	33.7009

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	0.0105	0.3678	0.0753	1.0000e-003	0.0215	1.1900e-003	0.0227	5.9100e-003	1.1400e-003	7.0500e-003	0.0000	96.6732	96.6732	4.4200e-003	0.0000	96.7838
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.3000e-004	4.5000e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2243	1.2243	3.0000e-005	0.0000	1.2250
Total	0.0111	0.3682	0.0798	1.0100e-003	0.0229	1.2000e-003	0.0241	6.2900e-003	1.1500e-003	7.4400e-003	0.0000	97.8975	97.8975	4.4500e-003	0.0000	98.0088

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					0.1967	0.0000	0.1967	0.0812	0.0000	0.0812	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1001	1.1294	0.7191	1.4000e-003		0.0489	0.0489		0.0450	0.0450	0.0000	122.5897	122.5897	0.0397	0.0000	123.5809
Total	0.1001	1.1294	0.7191	1.4000e-003	0.1967	0.0489	0.2457	0.0812	0.0450	0.1262	0.0000	122.5897	122.5897	0.0397	0.0000	123.5809

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	0.0147	0.5115	0.1047	1.3900e-003	0.0299	1.6600e-003	0.0315	8.2100e-003	1.5900e-003	9.8000e-003	0.0000	134.4273	134.4273	6.1500e-003	0.0000	134.5810
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	1.4900e-003	1.0700e-003	0.0113	3.0000e-005	3.5700e-003	2.0000e-005	3.5900e-003	9.5000e-004	2.0000e-005	9.7000e-004	0.0000	3.0607	3.0607	8.0000e-005	0.0000	3.0626
Total	0.0161	0.5125	0.1160	1.4200e-003	0.0335	1.6800e-003	0.0351	9.1600e-003	1.6100e-003	0.0108	0.0000	137.4880	137.4880	6.2300e-003	0.0000	137.6436

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					0.1967	0.0000	0.1967	0.0812	0.0000	0.0812	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.1001	1.1294	0.7191	1.4000e-003		0.0489	0.0489		0.0450	0.0450	0.0000	122.5895	122.5895	0.0397	0.0000	123.5807
Total	0.1001	1.1294	0.7191	1.4000e-003	0.1967	0.0489	0.2457	0.0812	0.0450	0.1262	0.0000	122.5895	122.5895	0.0397	0.0000	123.5807

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	0.0147	0.5115	0.1047	1.3900e-003	0.0299	1.6600e-003	0.0315	8.2100e-003	1.5900e-003	9.8000e-003	0.0000	134.4273	134.4273	6.1500e-003	0.0000	134.5810
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	1.4900e-003	1.0700e-003	0.0113	3.0000e-005	3.5700e-003	2.0000e-005	3.5900e-003	9.5000e-004	2.0000e-005	9.7000e-004	0.0000	3.0607	3.0607	8.0000e-005	0.0000	3.0626
Total	0.0161	0.5125	0.1160	1.4200e-003	0.0335	1.6800e-003	0.0351	9.1600e-003	1.6100e-003	0.0108	0.0000	137.4880	137.4880	6.2300e-003	0.0000	137.6436

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	9.0900e-003	0.0904	0.1110	1.7000e-004		5.0000e-003	5.0000e-003		4.6000e-003	4.6000e-003	0.0000	14.5311	14.5311	4.7000e-003	0.0000	14.6485
Total	9.0900e-003	0.0904	0.1110	1.7000e-004		5.0000e-003	5.0000e-003		4.6000e-003	4.6000e-003	0.0000	14.5311	14.5311	4.7000e-003	0.0000	14.6485

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	3.3000e-004	2.4000e-004	2.5000e-003	1.0000e-005	7.9000e-004	1.0000e-005	8.0000e-004	2.1000e-004	0.0000	2.2000e-004	0.0000	0.6802	0.6802	2.0000e-005	0.0000	0.6806
Total	3.3000e-004	2.4000e-004	2.5000e-003	1.0000e-005	7.9000e-004	1.0000e-005	8.0000e-004	2.1000e-004	0.0000	2.2000e-004	0.0000	0.6802	0.6802	2.0000e-005	0.0000	0.6806

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	9.0900e-003	0.0904	0.1110	1.7000e-004		5.0000e-003	5.0000e-003		4.6000e-003	4.6000e-003	0.0000	14.5310	14.5310	4.7000e-003	0.0000	14.6485
Total	9.0900e-003	0.0904	0.1110	1.7000e-004		5.0000e-003	5.0000e-003		4.6000e-003	4.6000e-003	0.0000	14.5310	14.5310	4.7000e-003	0.0000	14.6485

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
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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	3.3000e-004	2.4000e-004	2.5000e-003	1.0000e-005	7.9000e-004	1.0000e-005	8.0000e-004	2.1000e-004	0.0000	2.2000e-004	0.0000	0.6802	0.6802	2.0000e-005	0.0000	0.6806
Total	3.3000e-004	2.4000e-004	2.5000e-003	1.0000e-005	7.9000e-004	1.0000e-005	8.0000e-004	2.1000e-004	0.0000	2.2000e-004	0.0000	0.6802	0.6802	2.0000e-005	0.0000	0.6806

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	0.1526	1.3814	1.2131	1.9400e-003		0.0804	0.0804		0.0756	0.0756	0.0000	166.7592	166.7592	0.0407	0.0000	167.7763
Total	0.1526	1.3814	1.2131	1.9400e-003		0.0804	0.0804		0.0756	0.0756	0.0000	166.7592	166.7592	0.0407	0.0000	167.7763

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	0.0207	0.7218	0.1478	1.9600e-003	0.1071	2.3400e-003	0.1094	0.0275	2.2400e-003	0.0298	0.0000	189.7063	189.7063	8.6800e-003	0.0000	189.9232
Vendor	0.0391	1.1232	0.2991	2.6900e-003	0.0649	5.5600e-003	0.0705	0.0188	5.3200e-003	0.0241	0.0000	257.8872	257.8872	0.0118	0.0000	258.1828

Worker	0.1610	0.1157	1.2127	3.6500e-003	0.3843	2.4800e-003	0.3868	0.1022	2.2900e-003	0.1045	0.0000	329.5732	329.5732	8.0800e-003	0.0000	329.7753
Total	0.2207	1.9606	1.6596	8.3000e-003	0.5563	0.0104	0.5667	0.1485	9.8500e-003	0.1584	0.0000	777.1667	777.1667	0.0286	0.0000	777.8814

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	0.0953	0.7913	0.8130	1.9400e-003		0.0523	0.0523		0.0486	0.0486	0.0000	94.1278	94.1278	0.0281	0.0000	94.8294
Total	0.0953	0.7913	0.8130	1.9400e-003		0.0523	0.0523		0.0486	0.0486	0.0000	94.1278	94.1278	0.0281	0.0000	94.8294

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	0.0207	0.7218	0.1478	1.9600e-003	0.1071	2.3400e-003	0.1094	0.0275	2.2400e-003	0.0298	0.0000	189.7063	189.7063	8.6800e-003	0.0000	189.9232
Vendor	0.0391	1.1232	0.2991	2.6900e-003	0.0649	5.5600e-003	0.0705	0.0188	5.3200e-003	0.0241	0.0000	257.8872	257.8872	0.0118	0.0000	258.1828
Worker	0.1610	0.1157	1.2127	3.6500e-003	0.3843	2.4800e-003	0.3868	0.1022	2.2900e-003	0.1045	0.0000	329.5732	329.5732	8.0800e-003	0.0000	329.7753
Total	0.2207	1.9606	1.6596	8.3000e-003	0.5563	0.0104	0.5667	0.1485	9.8500e-003	0.1584	0.0000	777.1667	777.1667	0.0286	0.0000	777.8814

3.6 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2481	2.2749	2.1631	3.5100e-003		0.1251	0.1251		0.1176	0.1176	0.0000	302.2867	302.2867	0.0729	0.0000	304.1099
Total	0.2481	2.2749	2.1631	3.5100e-003		0.1251	0.1251		0.1176	0.1176	0.0000	302.2867	302.2867	0.0729	0.0000	304.1099

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	0.0354	1.2056	0.2627	3.5000e-003	0.1157	3.7600e-003	0.1195	0.0307	3.6000e-003	0.0343	0.0000	339.4810	339.4810	0.0154	0.0000	339.8661
Vendor	0.0583	1.8372	0.4891	4.8300e-003	0.1176	4.0700e-003	0.1217	0.0340	3.9000e-003	0.0379	0.0000	463.1057	463.1057	0.0202	0.0000	463.6102
Worker	0.2706	0.1873	2.0091	6.3800e-003	0.6966	4.3800e-003	0.7010	0.1853	4.0400e-003	0.1893	0.0000	576.6177	576.6177	0.0131	0.0000	576.9455
Total	0.3642	3.2302	2.7609	0.0147	0.9299	0.0122	0.9421	0.2499	0.0115	0.2614	0.0000	1,379.2044	1,379.2044	0.0487	0.0000	1,380.4219

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
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Category	tons/yr										MT/yr					
Off-Road	0.1543	1.3080	1.4558	3.5100e-003		0.0807	0.0807		0.0750	0.0750	0.0000	170.6476	170.6476	0.0505	0.0000	171.9087
Total	0.1543	1.3080	1.4558	3.5100e-003		0.0807	0.0807		0.0750	0.0750	0.0000	170.6476	170.6476	0.0505	0.0000	171.9087

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	0.0354	1.2056	0.2627	3.5000e-003	0.1157	3.7600e-003	0.1195	0.0307	3.6000e-003	0.0343	0.0000	339.4810	339.4810	0.0154	0.0000	339.8661
Vendor	0.0583	1.8372	0.4891	4.8300e-003	0.1176	4.0700e-003	0.1217	0.0340	3.9000e-003	0.0379	0.0000	463.1057	463.1057	0.0202	0.0000	463.6102
Worker	0.2706	0.1873	2.0091	6.3800e-003	0.6966	4.3800e-003	0.7010	0.1853	4.0400e-003	0.1893	0.0000	576.6177	576.6177	0.0131	0.0000	576.9455
Total	0.3642	3.2302	2.7609	0.0147	0.9299	0.0122	0.9421	0.2499	0.0115	0.2614	0.0000	1,379.2044	1,379.2044	0.0487	0.0000	1,380.4219

3.6 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0299	0.2733	0.2864	4.7000e-004		0.0142	0.0142		0.0133	0.0133	0.0000	40.5519	40.5519	9.7200e-003	0.0000	40.7948
Total	0.0299	0.2733	0.2864	4.7000e-004		0.0142	0.0142		0.0133	0.0133	0.0000	40.5519	40.5519	9.7200e-003	0.0000	40.7948

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.4700e-003	0.1485	0.0346	4.6000e-004	0.0991	4.3000e-004	0.0995	0.0246	4.1000e-004	0.0250	0.0000	44.9105	44.9105	2.0200e-003	0.0000	44.9610
Vendor	7.3000e-003	0.2329	0.0618	6.4000e-004	0.0158	4.7000e-004	0.0163	4.5600e-003	4.5000e-004	5.0100e-003	0.0000	61.5082	61.5082	2.5800e-003	0.0000	61.5728
Worker	0.0339	0.0225	0.2476	8.2000e-004	0.0934	5.7000e-004	0.0940	0.0248	5.3000e-004	0.0254	0.0000	74.5155	74.5155	1.5800e-003	0.0000	74.5549
Total	0.0456	0.4039	0.3440	1.9200e-003	0.2082	1.4700e-003	0.2097	0.0540	1.3900e-003	0.0554	0.0000	180.9342	180.9342	6.1800e-003	0.0000	181.0887

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	0.0184	0.1580	0.1931	4.7000e-004		8.9300e-003	8.9300e-003		8.3000e-003	8.3000e-003	0.0000	22.8979	22.8979	6.7300e-003	0.0000	23.0663
Total	0.0184	0.1580	0.1931	4.7000e-004		8.9300e-003	8.9300e-003		8.3000e-003	8.3000e-003	0.0000	22.8979	22.8979	6.7300e-003	0.0000	23.0663

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.4700e-003	0.1485	0.0346	4.6000e-004	0.0991	4.3000e-004	0.0995	0.0246	4.1000e-004	0.0250	0.0000	44.9105	44.9105	2.0200e-003	0.0000	44.9610
Vendor	7.3000e-003	0.2329	0.0618	6.4000e-004	0.0158	4.7000e-004	0.0163	4.5600e-003	4.5000e-004	5.0100e-003	0.0000	61.5082	61.5082	2.5800e-003	0.0000	61.5728
Worker	0.0339	0.0225	0.2476	8.2000e-004	0.0934	5.7000e-004	0.0940	0.0248	5.3000e-004	0.0254	0.0000	74.5155	74.5155	1.5800e-003	0.0000	74.5549
Total	0.0456	0.4039	0.3440	1.9200e-003	0.2082	1.4700e-003	0.2097	0.0540	1.3900e-003	0.0554	0.0000	180.9342	180.9342	6.1800e-003	0.0000	181.0887

3.7 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0193	0.1947	0.2552	4.0000e-004		9.9400e-003	9.9400e-003		9.1400e-003	9.1400e-003	0.0000	35.0482	35.0482	0.0113	0.0000	35.3316
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0193	0.1947	0.2552	4.0000e-004		9.9400e-003	9.9400e-003		9.1400e-003	9.1400e-003	0.0000	35.0482	35.0482	0.0113	0.0000	35.3316

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	7.5000e-004	5.0000e-004	5.5200e-003	2.0000e-005	2.0800e-003	1.0000e-005	2.0900e-003	5.5000e-004	1.0000e-005	5.7000e-004	0.0000	1.6608	1.6608	4.0000e-005	0.0000	1.6617
Total	7.5000e-004	5.0000e-004	5.5200e-003	2.0000e-005	2.0800e-003	1.0000e-005	2.0900e-003	5.5000e-004	1.0000e-005	5.7000e-004	0.0000	1.6608	1.6608	4.0000e-005	0.0000	1.6617

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	0.0193	0.1947	0.2552	4.0000e-004		9.9400e-003	9.9400e-003		9.1400e-003	9.1400e-003	0.0000	35.0482	35.0482	0.0113	0.0000	35.3316
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0193	0.1947	0.2552	4.0000e-004		9.9400e-003	9.9400e-003		9.1400e-003	9.1400e-003	0.0000	35.0482	35.0482	0.0113	0.0000	35.3316

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	7.5000e-004	5.0000e-004	5.5200e-003	2.0000e-005	2.0800e-003	1.0000e-005	2.0900e-003	5.5000e-004	1.0000e-005	5.7000e-004	0.0000	1.6608	1.6608	4.0000e-005	0.0000	1.6617

Total	7.5000e-004	5.0000e-004	5.5200e-003	2.0000e-005	2.0800e-003	1.0000e-005	2.0900e-003	5.5000e-004	1.0000e-005	5.7000e-004	0.0000	1.6608	1.6608	4.0000e-005	0.0000	1.6617
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3.8 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	5.9801					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.5800e-003	0.0247	0.0317	5.0000e-005		1.4300e-003	1.4300e-003		1.4300e-003	1.4300e-003	0.0000	4.4682	4.4682	2.9000e-004	0.0000	4.4755
Total	5.9837	0.0247	0.0317	5.0000e-005		1.4300e-003	1.4300e-003		1.4300e-003	1.4300e-003	0.0000	4.4682	4.4682	2.9000e-004	0.0000	4.4755

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7900e-003	4.5200e-003	0.0497	1.7000e-004	0.0187	1.2000e-004	0.0189	4.9800e-003	1.1000e-004	5.0900e-003	0.0000	14.9474	14.9474	3.2000e-004	0.0000	14.9553
Total	6.7900e-003	4.5200e-003	0.0497	1.7000e-004	0.0187	1.2000e-004	0.0189	4.9800e-003	1.1000e-004	5.0900e-003	0.0000	14.9474	14.9474	3.2000e-004	0.0000	14.9553

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	5.9801					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.5800e-003	0.0247	0.0317	5.0000e-005		1.4300e-003	1.4300e-003		1.4300e-003	1.4300e-003	0.0000	4.4682	4.4682	2.9000e-004	0.0000	4.4755
Total	5.9837	0.0247	0.0317	5.0000e-005		1.4300e-003	1.4300e-003		1.4300e-003	1.4300e-003	0.0000	4.4682	4.4682	2.9000e-004	0.0000	4.4755

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7900e-003	4.5200e-003	0.0497	1.7000e-004	0.0187	1.2000e-004	0.0189	4.9800e-003	1.1000e-004	5.0900e-003	0.0000	14.9474	14.9474	3.2000e-004	0.0000	14.9553
Total	6.7900e-003	4.5200e-003	0.0497	1.7000e-004	0.0187	1.2000e-004	0.0189	4.9800e-003	1.1000e-004	5.0900e-003	0.0000	14.9474	14.9474	3.2000e-004	0.0000	14.9553

19-072 2300 Calle De Luna TAC - Santa Clara County, Annual

19-072 2300 Calle De Luna TAC
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	48.00	Space	0.43	17,401.00	0
Enclosed Parking with Elevator	591.00	Space	5.32	246,741.00	0
City Park	0.50	Acre	0.50	21,861.00	0
Apartments High Rise	551.00	Dwelling Unit	8.89	600,829.00	1576
Congregate Care (Assisted Living)	176.00	Dwelling Unit	11.00	222,448.00	503
Strip Mall	22.73	1000sqft	0.52	22,734.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 290 rate

Construction Off-road Equipment Mitigation - Electrical cranes and generators

Land Use - Project land use with default acreage

Table Name	Column Name	Default Value	New Value
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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

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	0.4382	4.8060	3.1892	6.5100e-003	0.4824	0.1833	0.6657	0.2028	0.1706	0.3734	0.0000	582.9641	582.9641	0.1277	0.0000	586.1567
2021	0.3763	3.8981	3.0613	6.3600e-003	0.0877	0.1273	0.2150	0.0239	0.1197	0.1436	0.0000	571.3747	571.3747	0.0948	0.0000	573.7434
2022	6.0511	0.7034	0.6982	1.3200e-003	0.0179	0.0258	0.0437	4.7500e-003	0.0242	0.0289	0.0000	117.5586	117.5586	0.0241	0.0000	118.1622
Maximum	6.0511	4.8060	3.1892	6.5100e-003	0.4824	0.1833	0.6657	0.2028	0.1706	0.3734	0.0000	582.9641	582.9641	0.1277	0.0000	586.1567

Mitigated Construction *Emissions used for unmitigated baseline includes electric cranes and temporary power line

	ROG	NOx	CO	SO2	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	0.3810	4.2159	2.7892	6.5100e-003	0.4824	0.1552	0.6376	0.2028	0.1436	0.3464	0.0000	510.3325	510.3325	0.1151	0.0000	513.2096
2021	0.2825	2.9312	2.3541	6.3600e-003	0.0877	0.0829	0.1706	0.0239	0.0771	0.1010	0.0000	439.7357	439.7357	0.0723	0.0000	441.5423
2022	6.0396	0.5881	0.6049	1.3200e-003	0.0179	0.0206	0.0385	4.7500e-003	0.0192	0.0239	0.0000	99.9045	99.9045	0.0212	0.0000	100.4336
Maximum	6.0396	4.2159	2.7892	6.5100e-003	0.4824	0.1552	0.6376	0.2028	0.1436	0.3464	0.0000	510.3325	510.3325	0.1151	0.0000	513.2096

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	2.37	17.78	17.28	0.00	0.00	23.11	8.41	0.00	23.73	13.67	0.00	17.45	17.45	15.45	0.00	17.44

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	2-1-2020	4-30-2020	1.6248	1.6248
2	5-1-2020	7-31-2020	1.6913	1.5340
3	8-1-2020	10-31-2020	1.1678	0.8723
4	11-1-2020	1-31-2021	1.1303	0.8444
5	2-1-2021	4-30-2021	1.0403	0.7819
6	5-1-2021	7-31-2021	1.0828	0.8157
7	8-1-2021	10-31-2021	1.0790	0.8119
8	11-1-2021	1-31-2022	1.0435	0.7862
9	2-1-2022	4-30-2022	3.1069	3.0603
10	5-1-2022	7-31-2022	3.3126	3.3126
		Highest	3.3126	3.3126

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	2/1/2020	3/13/2020	5	30	
2	Site Preparation	Site Preparation	3/14/2020	4/10/2020	5	20	
3	Grading	Grading	4/11/2020	6/12/2020	5	45	
4	Trenching	Trenching	6/13/2020	7/10/2020	5	20	

5	Building Construction	Building Construction	6/13/2020	2/18/2022	5	440
6	Paving	Paving	2/19/2022	4/8/2022	5	35
7	Architectural Coating	Architectural Coating	4/9/2022	5/27/2022	5	35

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 5.75

Residential Indoor: 1,667,136; Residential Outdoor: 555,712; Non-Residential Indoor: 34,101; Non-Residential Outdoor: 11,367; Striped

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	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Trenching	Excavators	2	8.00	158	0.38
Trenching	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36

Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

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	6	15.00	0.00	559.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	2,535.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	3,525.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Trenching	4	10.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	673.00	137.00	15,200.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	135.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Alternative Fuel for Construction Equipment
- 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					0.0497	0.0000	0.0497	7.5300e-003	0.0000	7.5300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0497	0.4980	0.3263	5.8000e-004		0.0249	0.0249		0.0231	0.0231	0.0000	50.9979	50.9979	0.0144	0.0000	51.3578
Total	0.0497	0.4980	0.3263	5.8000e-004	0.0497	0.0249	0.0746	7.5300e-003	0.0231	0.0307	0.0000	50.9979	50.9979	0.0144	0.0000	51.3578

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.1000e-004	0.0288	4.7100e-003	4.0000e-005	2.4000e-004	3.0000e-005	2.7000e-004	7.0000e-005	3.0000e-005	9.0000e-005	0.0000	3.6301	3.6301	3.9000e-004	0.0000	3.6398
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	2.5000e-004	1.1000e-004	1.4800e-003	0.0000	1.7000e-004	0.0000	1.7000e-004	4.0000e-005	0.0000	5.0000e-005	0.0000	0.1830	0.1830	1.0000e-005	0.0000	0.1832
Total	8.6000e-004	0.0289	6.1900e-003	4.0000e-005	4.1000e-004	3.0000e-005	4.4000e-004	1.1000e-004	3.0000e-005	1.4000e-004	0.0000	3.8131	3.8131	4.0000e-004	0.0000	3.8230

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					0.0497	0.0000	0.0497	7.5300e-003	0.0000	7.5300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0497	0.4980	0.3263	5.8000e-004		0.0249	0.0249		0.0231	0.0231	0.0000	50.9979	50.9979	0.0144	0.0000	51.3578
Total	0.0497	0.4980	0.3263	5.8000e-004	0.0497	0.0249	0.0746	7.5300e-003	0.0231	0.0307	0.0000	50.9979	50.9979	0.0144	0.0000	51.3578

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
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Category	tons/yr										MT/yr					
Hauling	6.1000e-004	0.0288	4.7100e-003	4.0000e-005	2.4000e-004	3.0000e-005	2.7000e-004	7.0000e-005	3.0000e-005	9.0000e-005	0.0000	3.6301	3.6301	3.9000e-004	0.0000	3.6398
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	2.5000e-004	1.1000e-004	1.4800e-003	0.0000	1.7000e-004	0.0000	1.7000e-004	4.0000e-005	0.0000	5.0000e-005	0.0000	0.1830	0.1830	1.0000e-005	0.0000	0.1832
Total	8.6000e-004	0.0289	6.1900e-003	4.0000e-005	4.1000e-004	3.0000e-005	4.4000e-004	1.1000e-004	3.0000e-005	1.4000e-004	0.0000	3.8131	3.8131	4.0000e-004	0.0000	3.8230

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					0.1818	0.0000	0.1818	0.0995	0.0000	0.0995	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0408	0.4242	0.2151	3.8000e-004		0.0220	0.0220		0.0202	0.0202	0.0000	33.4307	33.4307	0.0108	0.0000	33.7010
Total	0.0408	0.4242	0.2151	3.8000e-004	0.1818	0.0220	0.2038	0.0995	0.0202	0.1197	0.0000	33.4307	33.4307	0.0108	0.0000	33.7010

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	2.7500e-003	0.1307	0.0213	1.7000e-004	1.1000e-003	1.2000e-004	1.2200e-003	3.0000e-004	1.2000e-004	4.2000e-004	0.0000	16.4623	16.4623	1.7500e-003	0.0000	16.5061
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	9.0000e-005	1.1800e-003	0.0000	1.3000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1464	0.1464	1.0000e-005	0.0000	0.1465

Total	2.9500e-003	0.1308	0.0225	1.7000e-004	1.2300e-003	1.2000e-004	1.3600e-003	3.4000e-004	1.2000e-004	4.6000e-004	0.0000	16.6087	16.6087	1.7600e-003	0.0000	16.6526
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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					0.1818	0.0000	0.1818	0.0995	0.0000	0.0995	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0408	0.4242	0.2151	3.8000e-004		0.0220	0.0220		0.0202	0.0202	0.0000	33.4306	33.4306	0.0108	0.0000	33.7009
Total	0.0408	0.4242	0.2151	3.8000e-004	0.1818	0.0220	0.2038	0.0995	0.0202	0.1197	0.0000	33.4306	33.4306	0.0108	0.0000	33.7009

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	2.7500e-003	0.1307	0.0213	1.7000e-004	1.1000e-003	1.2000e-004	1.2200e-003	3.0000e-004	1.2000e-004	4.2000e-004	0.0000	16.4623	16.4623	1.7500e-003	0.0000	16.5061
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	9.0000e-005	1.1800e-003	0.0000	1.3000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1464	0.1464	1.0000e-005	0.0000	0.1465
Total	2.9500e-003	0.1308	0.0225	1.7000e-004	1.2300e-003	1.2000e-004	1.3600e-003	3.4000e-004	1.2000e-004	4.6000e-004	0.0000	16.6087	16.6087	1.7600e-003	0.0000	16.6526

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					0.1967	0.0000	0.1967	0.0812	0.0000	0.0812	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1001	1.1294	0.7191	1.4000e-003		0.0489	0.0489		0.0450	0.0450	0.0000	122.5897	122.5897	0.0397	0.0000	123.5809
Total	0.1001	1.1294	0.7191	1.4000e-003	0.1967	0.0489	0.2457	0.0812	0.0450	0.1262	0.0000	122.5897	122.5897	0.0397	0.0000	123.5809

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.8300e-003	0.1818	0.0297	2.4000e-004	1.5300e-003	1.7000e-004	1.7000e-003	4.2000e-004	1.6000e-004	5.9000e-004	0.0000	22.8913	22.8913	2.4300e-003	0.0000	22.9522
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-004	2.3000e-004	2.9500e-003	0.0000	3.3000e-004	0.0000	3.4000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.3659	0.3659	2.0000e-005	0.0000	0.3663
Total	4.3300e-003	0.1820	0.0326	2.4000e-004	1.8600e-003	1.7000e-004	2.0400e-003	5.1000e-004	1.6000e-004	6.8000e-004	0.0000	23.2573	23.2573	2.4500e-003	0.0000	23.3186

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					0.1967	0.0000	0.1967	0.0812	0.0000	0.0812	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1001	1.1294	0.7191	1.4000e-003		0.0489	0.0489		0.0450	0.0450	0.0000	122.5895	122.5895	0.0397	0.0000	123.5807
Total	0.1001	1.1294	0.7191	1.4000e-003	0.1967	0.0489	0.2457	0.0812	0.0450	0.1262	0.0000	122.5895	122.5895	0.0397	0.0000	123.5807

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.8300e-003	0.1818	0.0297	2.4000e-004	1.5300e-003	1.7000e-004	1.7000e-003	4.2000e-004	1.6000e-004	5.9000e-004	0.0000	22.8913	22.8913	2.4300e-003	0.0000	22.9522
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-004	2.3000e-004	2.9500e-003	0.0000	3.3000e-004	0.0000	3.4000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.3659	0.3659	2.0000e-005	0.0000	0.3663
Total	4.3300e-003	0.1820	0.0326	2.4000e-004	1.8600e-003	1.7000e-004	2.0400e-003	5.1000e-004	1.6000e-004	6.8000e-004	0.0000	23.2573	23.2573	2.4500e-003	0.0000	23.3186

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	9.0900e-003	0.0904	0.1110	1.7000e-004		5.0000e-003	5.0000e-003		4.6000e-003	4.6000e-003	0.0000	14.5311	14.5311	4.7000e-003	0.0000	14.6485
Total	9.0900e-003	0.0904	0.1110	1.7000e-004		5.0000e-003	5.0000e-003		4.6000e-003	4.6000e-003	0.0000	14.5311	14.5311	4.7000e-003	0.0000	14.6485

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	1.1000e-004	5.0000e-005	6.6000e-004	0.0000	7.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0813	0.0813	0.0000	0.0000	0.0814
Total	1.1000e-004	5.0000e-005	6.6000e-004	0.0000	7.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0813	0.0813	0.0000	0.0000	0.0814

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	9.0900e-003	0.0904	0.1110	1.7000e-004		5.0000e-003	5.0000e-003		4.6000e-003	4.6000e-003	0.0000	14.5310	14.5310	4.7000e-003	0.0000	14.6485
Total	9.0900e-003	0.0904	0.1110	1.7000e-004		5.0000e-003	5.0000e-003		4.6000e-003	4.6000e-003	0.0000	14.5310	14.5310	4.7000e-003	0.0000	14.6485

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
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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	1.1000e-004	5.0000e-005	6.6000e-004	0.0000	7.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0813	0.0813	0.0000	0.0000	0.0814
Total	1.1000e-004	5.0000e-005	6.6000e-004	0.0000	7.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0813	0.0813	0.0000	0.0000	0.0814

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	0.1526	1.3814	1.2131	1.9400e-003		0.0804	0.0804		0.0756	0.0756	0.0000	166.7592	166.7592	0.0407	0.0000	167.7763
Total	0.1526	1.3814	1.2131	1.9400e-003		0.0804	0.0804		0.0756	0.0756	0.0000	166.7592	166.7592	0.0407	0.0000	167.7763

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	5.4000e-003	0.2565	0.0419	3.3000e-004	5.4000e-003	2.4000e-004	5.6500e-003	1.3900e-003	2.3000e-004	1.6300e-003	0.0000	32.3047	32.3047	3.4400e-003	0.0000	32.3906
Vendor	0.0186	0.6597	0.1831	8.2000e-004	9.1100e-003	1.0600e-003	0.0102	2.6600e-003	1.0200e-003	3.6800e-003	0.0000	79.1859	79.1859	7.7300e-003	0.0000	79.3791
Worker	0.0537	0.0246	0.3177	4.4000e-004	0.0360	4.9000e-004	0.0365	9.6400e-003	4.5000e-004	0.0101	0.0000	39.4046	39.4046	1.7000e-003	0.0000	39.4470

Total	0.0777	0.9408	0.5427	1.5900e-003	0.0505	1.7900e-003	0.0523	0.0137	1.7000e-003	0.0154	0.0000	150.8952	150.8952	0.0129	0.0000	151.2167
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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	0.0953	0.7913	0.8130	1.9400e-003		0.0523	0.0523		0.0486	0.0486	0.0000	94.1278	94.1278	0.0281	0.0000	94.8294
Total	0.0953	0.7913	0.8130	1.9400e-003		0.0523	0.0523		0.0486	0.0486	0.0000	94.1278	94.1278	0.0281	0.0000	94.8294

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	5.4000e-003	0.2565	0.0419	3.3000e-004	5.4000e-003	2.4000e-004	5.6500e-003	1.3900e-003	2.3000e-004	1.6300e-003	0.0000	32.3047	32.3047	3.4400e-003	0.0000	32.3906
Vendor	0.0186	0.6597	0.1831	8.2000e-004	9.1100e-003	1.0600e-003	0.0102	2.6600e-003	1.0200e-003	3.6800e-003	0.0000	79.1859	79.1859	7.7300e-003	0.0000	79.3791
Worker	0.0537	0.0246	0.3177	4.4000e-004	0.0360	4.9000e-004	0.0365	9.6400e-003	4.5000e-004	0.0101	0.0000	39.4046	39.4046	1.7000e-003	0.0000	39.4470
Total	0.0777	0.9408	0.5427	1.5900e-003	0.0505	1.7900e-003	0.0523	0.0137	1.7000e-003	0.0154	0.0000	150.8952	150.8952	0.0129	0.0000	151.2167

3.6 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2481	2.2749	2.1631	3.5100e-003		0.1251	0.1251		0.1176	0.1176	0.0000	302.2867	302.2867	0.0729	0.0000	304.1099
Total	0.2481	2.2749	2.1631	3.5100e-003		0.1251	0.1251		0.1176	0.1176	0.0000	302.2867	302.2867	0.0729	0.0000	304.1099

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	9.1900e-003	0.4473	0.0732	6.0000e-004	5.8700e-003	3.8000e-004	6.2600e-003	1.5700e-003	3.7000e-004	1.9300e-003	0.0000	57.9360	57.9360	5.9200e-003	0.0000	58.0839
Vendor	0.0302	1.1366	0.3062	1.4800e-003	0.0165	9.6000e-004	0.0175	4.8200e-003	9.1000e-004	5.7300e-003	0.0000	142.1560	142.1560	0.0132	0.0000	142.4857
Worker	0.0889	0.0393	0.5190	7.7000e-004	0.0653	8.7000e-004	0.0662	0.0175	8.0000e-004	0.0183	0.0000	68.9960	68.9960	2.7100e-003	0.0000	69.0639
Total	0.1282	1.6232	0.8983	2.8500e-003	0.0877	2.2100e-003	0.0899	0.0239	2.0800e-003	0.0259	0.0000	269.0881	269.0881	0.0218	0.0000	269.6335

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	0.1543	1.3080	1.4558	3.5100e-003		0.0807	0.0807		0.0750	0.0750	0.0000	170.6476	170.6476	0.0505	0.0000	171.9087
Total	0.1543	1.3080	1.4558	3.5100e-003		0.0807	0.0807		0.0750	0.0750	0.0000	170.6476	170.6476	0.0505	0.0000	171.9087

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	9.1900e-003	0.4473	0.0732	6.0000e-004	5.8700e-003	3.8000e-004	6.2600e-003	1.5700e-003	3.7000e-004	1.9300e-003	0.0000	57.9360	57.9360	5.9200e-003	0.0000	58.0839
Vendor	0.0302	1.1366	0.3062	1.4800e-003	0.0165	9.6000e-004	0.0175	4.8200e-003	9.1000e-004	5.7300e-003	0.0000	142.1560	142.1560	0.0132	0.0000	142.4857
Worker	0.0889	0.0393	0.5190	7.7000e-004	0.0653	8.7000e-004	0.0662	0.0175	8.0000e-004	0.0183	0.0000	68.9960	68.9960	2.7100e-003	0.0000	69.0639
Total	0.1282	1.6232	0.8983	2.8500e-003	0.0877	2.2100e-003	0.0899	0.0239	2.0800e-003	0.0259	0.0000	269.0881	269.0881	0.0218	0.0000	269.6335

3.6 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0299	0.2733	0.2864	4.7000e-004		0.0142	0.0142		0.0133	0.0133	0.0000	40.5519	40.5519	9.7200e-003	0.0000	40.7948
Total	0.0299	0.2733	0.2864	4.7000e-004		0.0142	0.0142		0.0133	0.0133	0.0000	40.5519	40.5519	9.7200e-003	0.0000	40.7948

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	1.1600e-003	0.0577	9.5300e-003	8.0000e-005	4.9700e-003	4.0000e-005	5.0100e-003	1.2400e-003	4.0000e-005	1.2800e-003	0.0000	7.6889	7.6889	7.5000e-004	0.0000	7.7076
Vendor	3.7400e-003	0.1475	0.0383	2.0000e-004	2.2200e-003	1.1000e-004	2.3300e-003	6.5000e-004	1.1000e-004	7.5000e-004	0.0000	18.8906	18.8906	1.6600e-003	0.0000	18.9321
Worker	0.0109	4.6600e-003	0.0631	1.0000e-004	8.7500e-003	1.2000e-004	8.8700e-003	2.3400e-003	1.1000e-004	2.4500e-003	0.0000	8.9222	8.9222	3.2000e-004	0.0000	8.9303
Total	0.0158	0.2098	0.1109	3.8000e-004	0.0159	2.7000e-004	0.0162	4.2300e-003	2.6000e-004	4.4800e-003	0.0000	35.5017	35.5017	2.7300e-003	0.0000	35.5700

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	0.0184	0.1580	0.1931	4.7000e-004		8.9300e-003	8.9300e-003		8.3000e-003	8.3000e-003	0.0000	22.8979	22.8979	6.7300e-003	0.0000	23.0663
Total	0.0184	0.1580	0.1931	4.7000e-004		8.9300e-003	8.9300e-003		8.3000e-003	8.3000e-003	0.0000	22.8979	22.8979	6.7300e-003	0.0000	23.0663

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
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Category	tons/yr										MT/yr					
Hauling	1.1600e-003	0.0577	9.5300e-003	8.0000e-005	4.9700e-003	4.0000e-005	5.0100e-003	1.2400e-003	4.0000e-005	1.2800e-003	0.0000	7.6889	7.6889	7.5000e-004	0.0000	7.7076
Vendor	3.7400e-003	0.1475	0.0383	2.0000e-004	2.2200e-003	1.1000e-004	2.3300e-003	6.5000e-004	1.1000e-004	7.5000e-004	0.0000	18.8906	18.8906	1.6600e-003	0.0000	18.9321
Worker	0.0109	4.6600e-003	0.0631	1.0000e-004	8.7500e-003	1.2000e-004	8.8700e-003	2.3400e-003	1.1000e-004	2.4500e-003	0.0000	8.9222	8.9222	3.2000e-004	0.0000	8.9303
Total	0.0158	0.2098	0.1109	3.8000e-004	0.0159	2.7000e-004	0.0162	4.2300e-003	2.6000e-004	4.4800e-003	0.0000	35.5017	35.5017	2.7300e-003	0.0000	35.5700

3.7 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0193	0.1947	0.2552	4.0000e-004		9.9400e-003	9.9400e-003		9.1400e-003	9.1400e-003	0.0000	35.0482	35.0482	0.0113	0.0000	35.3316
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0193	0.1947	0.2552	4.0000e-004		9.9400e-003	9.9400e-003		9.1400e-003	9.1400e-003	0.0000	35.0482	35.0482	0.0113	0.0000	35.3316

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	2.4000e-004	1.0000e-004	1.4100e-003	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1989	0.1989	1.0000e-005	0.0000	0.1990

Total	2.4000e-004	1.0000e-004	1.4100e-003	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1989	0.1989	1.0000e-005	0.0000	0.1990
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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	0.0193	0.1947	0.2552	4.0000e-004		9.9400e-003	9.9400e-003		9.1400e-003	9.1400e-003	0.0000	35.0482	35.0482	0.0113	0.0000	35.3316
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0193	0.1947	0.2552	4.0000e-004		9.9400e-003	9.9400e-003		9.1400e-003	9.1400e-003	0.0000	35.0482	35.0482	0.0113	0.0000	35.3316

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	2.4000e-004	1.0000e-004	1.4100e-003	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1989	0.1989	1.0000e-005	0.0000	0.1990
Total	2.4000e-004	1.0000e-004	1.4100e-003	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1989	0.1989	1.0000e-005	0.0000	0.1990

3.8 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	5.9801					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.5800e-003	0.0247	0.0317	5.0000e-005		1.4300e-003	1.4300e-003		1.4300e-003	1.4300e-003	0.0000	4.4682	4.4682	2.9000e-004	0.0000	4.4755
Total	5.9837	0.0247	0.0317	5.0000e-005		1.4300e-003	1.4300e-003		1.4300e-003	1.4300e-003	0.0000	4.4682	4.4682	2.9000e-004	0.0000	4.4755

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	2.1900e-003	9.4000e-004	0.0127	2.0000e-005	1.7600e-003	2.0000e-005	1.7800e-003	4.7000e-004	2.0000e-005	4.9000e-004	0.0000	1.7897	1.7897	6.0000e-005	0.0000	1.7914
Total	2.1900e-003	9.4000e-004	0.0127	2.0000e-005	1.7600e-003	2.0000e-005	1.7800e-003	4.7000e-004	2.0000e-005	4.9000e-004	0.0000	1.7897	1.7897	6.0000e-005	0.0000	1.7914

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	5.9801					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.5800e-003	0.0247	0.0317	5.0000e-005		1.4300e-003	1.4300e-003		1.4300e-003	1.4300e-003	0.0000	4.4682	4.4682	2.9000e-004	0.0000	4.4755
Total	5.9837	0.0247	0.0317	5.0000e-005		1.4300e-003	1.4300e-003		1.4300e-003	1.4300e-003	0.0000	4.4682	4.4682	2.9000e-004	0.0000	4.4755

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	2.1900e-003	9.4000e-004	0.0127	2.0000e-005	1.7600e-003	2.0000e-005	1.7800e-003	4.7000e-004	2.0000e-005	4.9000e-004	0.0000	1.7897	1.7897	6.0000e-005	0.0000	1.7914
Total	2.1900e-003	9.4000e-004	0.0127	2.0000e-005	1.7600e-003	2.0000e-005	1.7800e-003	4.7000e-004	2.0000e-005	4.9000e-004	0.0000	1.7897	1.7897	6.0000e-005	0.0000	1.7914

19-072 2300 Calle De Luna TAC - Santa Clara County, Annual

19-072 2300 Calle De Luna TAC (Mitigated)
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	48.00	Space	0.43	17,401.00	0
Enclosed Parking with Elevator	591.00	Space	5.32	246,741.00	0
City Park	0.50	Acre	0.50	21,861.00	0
Apartments High Rise	551.00	Dwelling Unit	8.89	600,829.00	1576
Congregate Care (Assisted Living)	176.00	Dwelling Unit	11.00	222,448.00	503
Strip Mall	22.73	1000sqft	0.52	22,734.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 290 rate

Construction Off-road Equipment Mitigation - Electrical cranes and generators (temporary line power), BMPs, Tier 3 DPF 3

Land Use - Project land use with default acreage

Table Name	Column Name	Default Value	New Value
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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	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
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
tblGrading	MaterialExported	0.00	27,000.00
tblGrading	MaterialExported	0.00	20,282.00
tblGrading	MaterialImported	0.00	1,200.00
tblLandUse	LandUseSquareFeet	19,200.00	17,401.00
tblLandUse	LandUseSquareFeet	236,400.00	246,741.00
tblLandUse	LandUseSquareFeet	21,780.00	21,861.00
tblLandUse	LandUseSquareFeet	551,000.00	600,829.00
tblLandUse	LandUseSquareFeet	176,000.00	222,448.00
tblLandUse	LandUseSquareFeet	22,730.00	22,734.00
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	459.00	559.00
tblTripsAndVMT	HaulingTripNumber	0.00	15,200.00

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
tblTripsAndVMT	WorkerTripLength	10.80	1.00

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	0.4382	4.8060	3.1892	6.5100e-003	0.4824	0.1833	0.6657	0.2028	0.1706	0.3734	0.0000	582.9641	582.9641	0.1277	0.0000	586.1567
2021	0.3763	3.8981	3.0613	6.3600e-003	0.0877	0.1273	0.2150	0.0239	0.1197	0.1436	0.0000	571.3747	571.3747	0.0948	0.0000	573.7434
2022	6.0511	0.7034	0.6982	1.3200e-003	0.0179	0.0258	0.0437	4.7500e-003	0.0242	0.0289	0.0000	117.5586	117.5586	0.0241	0.0000	118.1622
Maximum	6.0511	4.8060	3.1892	6.5100e-003	0.4824	0.1833	0.6657	0.2028	0.1706	0.3734	0.0000	582.9641	582.9641	0.1277	0.0000	586.1567

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	0.1776	3.1416	2.9572	6.5100e-003	0.2468	0.0171	0.2639	0.0570	0.0170	0.0740	0.0000	510.3325	510.3325	0.1151	0.0000	513.2096
2021	0.1828	2.7747	2.3507	6.3600e-003	0.0877	0.0140	0.1017	0.0239	0.0139	0.0377	0.0000	439.7357	439.7357	0.0723	0.0000	441.5423
2022	6.0165	0.5866	0.6544	1.3200e-003	0.0179	3.7200e-003	0.0216	4.7500e-003	3.7100e-003	8.4500e-003	0.0000	99.9045	99.9045	0.0212	0.0000	100.4336
Maximum	6.0165	3.1416	2.9572	6.5100e-003	0.2468	0.0171	0.2639	0.0570	0.0170	0.0740	0.0000	510.3325	510.3325	0.1151	0.0000	513.2096

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	7.12	30.88	14.20	0.00	40.06	89.65	58.11	63.01	89.01	77.99	0.00	17.45	17.45	15.45	0.00	17.44

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	2-1-2020	4-30-2020	1.6248	0.9354
2	5-1-2020	7-31-2020	1.6913	1.1132
3	8-1-2020	10-31-2020	1.1678	0.7714
4	11-1-2020	1-31-2021	1.1303	0.7557
5	2-1-2021	4-30-2021	1.0403	0.7195
6	5-1-2021	7-31-2021	1.0828	0.7512
7	8-1-2021	10-31-2021	1.0790	0.7474
8	11-1-2021	1-31-2022	1.0435	0.7342
9	2-1-2022	4-30-2022	3.1069	3.0469
10	5-1-2022	7-31-2022	3.3126	3.3107
		Highest	3.3126	3.3107

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	5.7606	0.1010	7.7198	4.8800e-003		0.3601	0.3601		0.3601	0.3601	33.1437	22.4432	55.5869	0.0618	2.1700e-003	57.7798
Energy	0.0342	0.2921	0.1254	1.8600e-003		0.0236	0.0236		0.0236	0.0236	0.0000	968.4226	968.4226	0.0695	0.0192	975.8940
Mobile	0.8386	3.4924	9.4130	0.0320	2.9301	0.0273	2.9574	0.7844	0.0255	0.8099	0.0000	2,927.9377	2,927.9377	0.1007	0.0000	2,930.4560
Waste						0.0000	0.0000		0.0000	0.0000	88.9040	0.0000	88.9040	5.2541	0.0000	220.2558
Water						0.0000	0.0000		0.0000	0.0000	15.5615	49.4105	64.9720	1.6033	0.0388	116.6045
Total	6.6333	3.8854	17.2582	0.0387	2.9301	0.4110	3.3411	0.7844	0.4092	1.1936	137.6092	3,968.2141	4,105.8232	7.0894	0.0602	4,300.9901

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	5.7606	0.1010	7.7198	4.8800e-003		0.3601	0.3601		0.3601	0.3601	33.1437	22.4432	55.5869	0.0618	2.1700e-003	57.7798
Energy	0.0342	0.2921	0.1254	1.8600e-003		0.0236	0.0236		0.0236	0.0236	0.0000	968.4226	968.4226	0.0695	0.0192	975.8940
Mobile	0.8386	3.4924	9.4130	0.0320	2.9301	0.0273	2.9574	0.7844	0.0255	0.8099	0.0000	2,927.9377	2,927.9377	0.1007	0.0000	2,930.4560
Waste						0.0000	0.0000		0.0000	0.0000	88.9040	0.0000	88.9040	5.2541	0.0000	220.2558
Water						0.0000	0.0000		0.0000	0.0000	15.5615	49.4105	64.9720	1.6033	0.0388	116.6045
Total	6.6333	3.8854	17.2582	0.0387	2.9301	0.4110	3.3411	0.7844	0.4092	1.1936	137.6092	3,968.2141	4,105.8232	7.0894	0.0602	4,300.9901

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	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	2/1/2020	3/13/2020	5	30	
2	Site Preparation	Site Preparation	3/14/2020	4/10/2020	5	20	
3	Grading	Grading	4/11/2020	6/12/2020	5	45	
4	Trenching	Trenching	6/13/2020	7/10/2020	5	20	
5	Building Construction	Building Construction	6/13/2020	2/18/2022	5	440	
6	Paving	Paving	2/19/2022	4/8/2022	5	35	
7	Architectural Coating	Architectural Coating	4/9/2022	5/27/2022	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 5.75

Residential Indoor: 1,667,136; Residential Outdoor: 555,712; Non-Residential Indoor: 34,101; Non-Residential Outdoor: 11,367; Striped

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	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41

Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Trenching	Excavators	2	8.00	158	0.38
Trenching	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

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	6	15.00	0.00	559.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	2,535.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	3,525.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Trenching	4	10.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	673.00	137.00	15,200.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	135.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Alternative Fuel for Construction Equipment
- Use Cleaner Engines for Construction Equipment
- Use 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					0.0497	0.0000	0.0497	7.5300e-003	0.0000	7.5300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0497	0.4980	0.3263	5.8000e-004		0.0249	0.0249		0.0231	0.0231	0.0000	50.9979	50.9979	0.0144	0.0000	51.3578
Total	0.0497	0.4980	0.3263	5.8000e-004	0.0497	0.0249	0.0746	7.5300e-003	0.0231	0.0307	0.0000	50.9979	50.9979	0.0144	0.0000	51.3578

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.1000e-004	0.0288	4.7100e-003	4.0000e-005	2.4000e-004	3.0000e-005	2.7000e-004	7.0000e-005	3.0000e-005	9.0000e-005	0.0000	3.6301	3.6301	3.9000e-004	0.0000	3.6398
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	2.5000e-004	1.1000e-004	1.4800e-003	0.0000	1.7000e-004	0.0000	1.7000e-004	4.0000e-005	0.0000	5.0000e-005	0.0000	0.1830	0.1830	1.0000e-005	0.0000	0.1832
Total	8.6000e-004	0.0289	6.1900e-003	4.0000e-005	4.1000e-004	3.0000e-005	4.4000e-004	1.1000e-004	3.0000e-005	1.4000e-004	0.0000	3.8131	3.8131	4.0000e-004	0.0000	3.8230

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					0.0224	0.0000	0.0224	1.6900e-003	0.0000	1.6900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0139	0.2747	0.3701	5.8000e-004		1.9400e-003	1.9400e-003		1.9400e-003	1.9400e-003	0.0000	50.9979	50.9979	0.0144	0.0000	51.3578
Total	0.0139	0.2747	0.3701	5.8000e-004	0.0224	1.9400e-003	0.0243	1.6900e-003	1.9400e-003	3.6300e-003	0.0000	50.9979	50.9979	0.0144	0.0000	51.3578

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.1000e-004	0.0288	4.7100e-003	4.0000e-005	2.4000e-004	3.0000e-005	2.7000e-004	7.0000e-005	3.0000e-005	9.0000e-005	0.0000	3.6301	3.6301	3.9000e-004	0.0000	3.6398
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	2.5000e-004	1.1000e-004	1.4800e-003	0.0000	1.7000e-004	0.0000	1.7000e-004	4.0000e-005	0.0000	5.0000e-005	0.0000	0.1830	0.1830	1.0000e-005	0.0000	0.1832
Total	8.6000e-004	0.0289	6.1900e-003	4.0000e-005	4.1000e-004	3.0000e-005	4.4000e-004	1.1000e-004	3.0000e-005	1.4000e-004	0.0000	3.8131	3.8131	4.0000e-004	0.0000	3.8230

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
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Category	tons/yr										MT/yr					
Fugitive Dust					0.1818	0.0000	0.1818	0.0995	0.0000	0.0995	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0408	0.4242	0.2151	3.8000e-004		0.0220	0.0220		0.0202	0.0202	0.0000	33.4307	33.4307	0.0108	0.0000	33.7010
Total	0.0408	0.4242	0.2151	3.8000e-004	0.1818	0.0220	0.2038	0.0995	0.0202	0.1197	0.0000	33.4307	33.4307	0.0108	0.0000	33.7010

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	2.7500e-003	0.1307	0.0213	1.7000e-004	1.1000e-003	1.2000e-004	1.2200e-003	3.0000e-004	1.2000e-004	4.2000e-004	0.0000	16.4623	16.4623	1.7500e-003	0.0000	16.5061
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	9.0000e-005	1.1800e-003	0.0000	1.3000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1464	0.1464	1.0000e-005	0.0000	0.1465
Total	2.9500e-003	0.1308	0.0225	1.7000e-004	1.2300e-003	1.2000e-004	1.3600e-003	3.4000e-004	1.2000e-004	4.6000e-004	0.0000	16.6087	16.6087	1.7600e-003	0.0000	16.6526

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					0.0818	0.0000	0.0818	0.0224	0.0000	0.0224	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.3100e-003	0.1907	0.2296	3.8000e-004		1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003	0.0000	33.4306	33.4306	0.0108	0.0000	33.7009

Total	9.3100e-003	0.1907	0.2296	3.8000e-004	0.0818	1.4200e-003	0.0832	0.0224	1.4200e-003	0.0238	0.0000	33.4306	33.4306	0.0108	0.0000	33.7009
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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	2.7500e-003	0.1307	0.0213	1.7000e-004	1.1000e-003	1.2000e-004	1.2200e-003	3.0000e-004	1.2000e-004	4.2000e-004	0.0000	16.4623	16.4623	1.7500e-003	0.0000	16.5061
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	9.0000e-005	1.1800e-003	0.0000	1.3000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1464	0.1464	1.0000e-005	0.0000	0.1465
Total	2.9500e-003	0.1308	0.0225	1.7000e-004	1.2300e-003	1.2000e-004	1.3600e-003	3.4000e-004	1.2000e-004	4.6000e-004	0.0000	16.6087	16.6087	1.7600e-003	0.0000	16.6526

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					0.1967	0.0000	0.1967	0.0812	0.0000	0.0812	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1001	1.1294	0.7191	1.4000e-003		0.0489	0.0489		0.0450	0.0450	0.0000	122.5897	122.5897	0.0397	0.0000	123.5809
Total	0.1001	1.1294	0.7191	1.4000e-003	0.1967	0.0489	0.2457	0.0812	0.0450	0.1262	0.0000	122.5897	122.5897	0.0397	0.0000	123.5809

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.8300e-003	0.1818	0.0297	2.4000e-004	1.5300e-003	1.7000e-004	1.7000e-003	4.2000e-004	1.6000e-004	5.9000e-004	0.0000	22.8913	22.8913	2.4300e-003	0.0000	22.9522
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-004	2.3000e-004	2.9500e-003	0.0000	3.3000e-004	0.0000	3.4000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.3659	0.3659	2.0000e-005	0.0000	0.3663
Total	4.3300e-003	0.1820	0.0326	2.4000e-004	1.8600e-003	1.7000e-004	2.0400e-003	5.1000e-004	1.6000e-004	6.8000e-004	0.0000	23.2573	23.2573	2.4500e-003	0.0000	23.3186

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					0.0885	0.0000	0.0885	0.0183	0.0000	0.0183	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0343	0.6745	0.8263	1.4000e-003		4.3900e-003	4.3900e-003		4.3900e-003	4.3900e-003	0.0000	122.5895	122.5895	0.0397	0.0000	123.5807
Total	0.0343	0.6745	0.8263	1.4000e-003	0.0885	4.3900e-003	0.0929	0.0183	4.3900e-003	0.0227	0.0000	122.5895	122.5895	0.0397	0.0000	123.5807

Mitigated Construction Off-Site

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

Hauling	3.8300e-003	0.1818	0.0297	2.4000e-004	1.5300e-003	1.7000e-004	1.7000e-003	4.2000e-004	1.6000e-004	5.9000e-004	0.0000	22.8913	22.8913	2.4300e-003	0.0000	22.9522
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-004	2.3000e-004	2.9500e-003	0.0000	3.3000e-004	0.0000	3.4000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.3659	0.3659	2.0000e-005	0.0000	0.3663
Total	4.3300e-003	0.1820	0.0326	2.4000e-004	1.8600e-003	1.7000e-004	2.0400e-003	5.1000e-004	1.6000e-004	6.8000e-004	0.0000	23.2573	23.2573	2.4500e-003	0.0000	23.3186

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	9.0900e-003	0.0904	0.1110	1.7000e-004		5.0000e-003	5.0000e-003		4.6000e-003	4.6000e-003	0.0000	14.5311	14.5311	4.7000e-003	0.0000	14.6485
Total	9.0900e-003	0.0904	0.1110	1.7000e-004		5.0000e-003	5.0000e-003		4.6000e-003	4.6000e-003	0.0000	14.5311	14.5311	4.7000e-003	0.0000	14.6485

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	1.1000e-004	5.0000e-005	6.6000e-004	0.0000	7.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0813	0.0813	0.0000	0.0000	0.0814
Total	1.1000e-004	5.0000e-005	6.6000e-004	0.0000	7.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0813	0.0813	0.0000	0.0000	0.0814

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	4.0600e-003	0.0838	0.1252	1.7000e-004		7.2000e-004	7.2000e-004		7.2000e-004	7.2000e-004	0.0000	14.5310	14.5310	4.7000e-003	0.0000	14.6485
Total	4.0600e-003	0.0838	0.1252	1.7000e-004		7.2000e-004	7.2000e-004		7.2000e-004	7.2000e-004	0.0000	14.5310	14.5310	4.7000e-003	0.0000	14.6485

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	1.1000e-004	5.0000e-005	6.6000e-004	0.0000	7.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0813	0.0813	0.0000	0.0000	0.0814
Total	1.1000e-004	5.0000e-005	6.6000e-004	0.0000	7.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0813	0.0813	0.0000	0.0000	0.0814

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	0.1526	1.3814	1.2131	1.9400e-003		0.0804	0.0804		0.0756	0.0756	0.0000	166.7592	166.7592	0.0407	0.0000	167.7763
Total	0.1526	1.3814	1.2131	1.9400e-003		0.0804	0.0804		0.0756	0.0756	0.0000	166.7592	166.7592	0.0407	0.0000	167.7763

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	5.4000e-003	0.2565	0.0419	3.3000e-004	5.4000e-003	2.4000e-004	5.6500e-003	1.3900e-003	2.3000e-004	1.6300e-003	0.0000	32.3047	32.3047	3.4400e-003	0.0000	32.3906
Vendor	0.0186	0.6597	0.1831	8.2000e-004	9.1100e-003	1.0600e-003	0.0102	2.6600e-003	1.0200e-003	3.6800e-003	0.0000	79.1859	79.1859	7.7300e-003	0.0000	79.3791
Worker	0.0537	0.0246	0.3177	4.4000e-004	0.0360	4.9000e-004	0.0365	9.6400e-003	4.5000e-004	0.0101	0.0000	39.4046	39.4046	1.7000e-003	0.0000	39.4470
Total	0.0777	0.9408	0.5427	1.5900e-003	0.0505	1.7900e-003	0.0523	0.0137	1.7000e-003	0.0154	0.0000	150.8952	150.8952	0.0129	0.0000	151.2167

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	0.0301	0.6353	0.8013	1.9400e-003		6.5000e-003	6.5000e-003		6.5000e-003	6.5000e-003	0.0000	94.1278	94.1278	0.0281	0.0000	94.8294

Total	0.0301	0.6353	0.8013	1.9400e-003		6.5000e-003	6.5000e-003		6.5000e-003	6.5000e-003	0.0000	94.1278	94.1278	0.0281	0.0000	94.8294
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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	5.4000e-003	0.2565	0.0419	3.3000e-004	5.4000e-003	2.4000e-004	5.6500e-003	1.3900e-003	2.3000e-004	1.6300e-003	0.0000	32.3047	32.3047	3.4400e-003	0.0000	32.3906
Vendor	0.0186	0.6597	0.1831	8.2000e-004	9.1100e-003	1.0600e-003	0.0102	2.6600e-003	1.0200e-003	3.6800e-003	0.0000	79.1859	79.1859	7.7300e-003	0.0000	79.3791
Worker	0.0537	0.0246	0.3177	4.4000e-004	0.0360	4.9000e-004	0.0365	9.6400e-003	4.5000e-004	0.0101	0.0000	39.4046	39.4046	1.7000e-003	0.0000	39.4470
Total	0.0777	0.9408	0.5427	1.5900e-003	0.0505	1.7900e-003	0.0523	0.0137	1.7000e-003	0.0154	0.0000	150.8952	150.8952	0.0129	0.0000	151.2167

3.6 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2481	2.2749	2.1631	3.5100e-003		0.1251	0.1251		0.1176	0.1176	0.0000	302.2867	302.2867	0.0729	0.0000	304.1099
Total	0.2481	2.2749	2.1631	3.5100e-003		0.1251	0.1251		0.1176	0.1176	0.0000	302.2867	302.2867	0.0729	0.0000	304.1099

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	9.1900e-003	0.4473	0.0732	6.0000e-004	5.8700e-003	3.8000e-004	6.2600e-003	1.5700e-003	3.7000e-004	1.9300e-003	0.0000	57.9360	57.9360	5.9200e-003	0.0000	58.0839
Vendor	0.0302	1.1366	0.3062	1.4800e-003	0.0165	9.6000e-004	0.0175	4.8200e-003	9.1000e-004	5.7300e-003	0.0000	142.1560	142.1560	0.0132	0.0000	142.4857
Worker	0.0889	0.0393	0.5190	7.7000e-004	0.0653	8.7000e-004	0.0662	0.0175	8.0000e-004	0.0183	0.0000	68.9960	68.9960	2.7100e-003	0.0000	69.0639
Total	0.1282	1.6232	0.8983	2.8500e-003	0.0877	2.2100e-003	0.0899	0.0239	2.0800e-003	0.0259	0.0000	269.0881	269.0881	0.0218	0.0000	269.6335

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	0.0546	1.1515	1.4524	3.5100e-003		0.0118	0.0118		0.0118	0.0118	0.0000	170.6476	170.6476	0.0505	0.0000	171.9087
Total	0.0546	1.1515	1.4524	3.5100e-003		0.0118	0.0118		0.0118	0.0118	0.0000	170.6476	170.6476	0.0505	0.0000	171.9087

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	9.1900e-003	0.4473	0.0732	6.0000e-004	5.8700e-003	3.8000e-004	6.2600e-003	1.5700e-003	3.7000e-004	1.9300e-003	0.0000	57.9360	57.9360	5.9200e-003	0.0000	58.0839
Vendor	0.0302	1.1366	0.3062	1.4800e-003	0.0165	9.6000e-004	0.0175	4.8200e-003	9.1000e-004	5.7300e-003	0.0000	142.1560	142.1560	0.0132	0.0000	142.4857
Worker	0.0889	0.0393	0.5190	7.7000e-004	0.0653	8.7000e-004	0.0662	0.0175	8.0000e-004	0.0183	0.0000	68.9960	68.9960	2.7100e-003	0.0000	69.0639
Total	0.1282	1.6232	0.8983	2.8500e-003	0.0877	2.2100e-003	0.0899	0.0239	2.0800e-003	0.0259	0.0000	269.0881	269.0881	0.0218	0.0000	269.6335

3.6 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0299	0.2733	0.2864	4.7000e-004		0.0142	0.0142		0.0133	0.0133	0.0000	40.5519	40.5519	9.7200e-003	0.0000	40.7948
Total	0.0299	0.2733	0.2864	4.7000e-004		0.0142	0.0142		0.0133	0.0133	0.0000	40.5519	40.5519	9.7200e-003	0.0000	40.7948

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	1.1600e-003	0.0577	9.5300e-003	8.0000e-005	4.9700e-003	4.0000e-005	5.0100e-003	1.2400e-003	4.0000e-005	1.2800e-003	0.0000	7.6889	7.6889	7.5000e-004	0.0000	7.7076
Vendor	3.7400e-003	0.1475	0.0383	2.0000e-004	2.2200e-003	1.1000e-004	2.3300e-003	6.5000e-004	1.1000e-004	7.5000e-004	0.0000	18.8906	18.8906	1.6600e-003	0.0000	18.9321
Worker	0.0109	4.6600e-003	0.0631	1.0000e-004	8.7500e-003	1.2000e-004	8.8700e-003	2.3400e-003	1.1000e-004	2.4500e-003	0.0000	8.9222	8.9222	3.2000e-004	0.0000	8.9303
Total	0.0158	0.2098	0.1109	3.8000e-004	0.0159	2.7000e-004	0.0162	4.2300e-003	2.6000e-004	4.4800e-003	0.0000	35.5017	35.5017	2.7300e-003	0.0000	35.5700

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	7.3200e-003	0.1544	0.1948	4.7000e-004		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003	0.0000	22.8979	22.8979	6.7300e-003	0.0000	23.0663
Total	7.3200e-003	0.1544	0.1948	4.7000e-004		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003	0.0000	22.8979	22.8979	6.7300e-003	0.0000	23.0663

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	1.1600e-003	0.0577	9.5300e-003	8.0000e-005	4.9700e-003	4.0000e-005	5.0100e-003	1.2400e-003	4.0000e-005	1.2800e-003	0.0000	7.6889	7.6889	7.5000e-004	0.0000	7.7076
Vendor	3.7400e-003	0.1475	0.0383	2.0000e-004	2.2200e-003	1.1000e-004	2.3300e-003	6.5000e-004	1.1000e-004	7.5000e-004	0.0000	18.8906	18.8906	1.6600e-003	0.0000	18.9321
Worker	0.0109	4.6600e-003	0.0631	1.0000e-004	8.7500e-003	1.2000e-004	8.8700e-003	2.3400e-003	1.1000e-004	2.4500e-003	0.0000	8.9222	8.9222	3.2000e-004	0.0000	8.9303
Total	0.0158	0.2098	0.1109	3.8000e-004	0.0159	2.7000e-004	0.0162	4.2300e-003	2.6000e-004	4.4800e-003	0.0000	35.5017	35.5017	2.7300e-003	0.0000	35.5700

3.7 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0193	0.1947	0.2552	4.0000e-004		9.9400e-003	9.9400e-003		9.1400e-003	9.1400e-003	0.0000	35.0482	35.0482	0.0113	0.0000	35.3316
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0193	0.1947	0.2552	4.0000e-004		9.9400e-003	9.9400e-003		9.1400e-003	9.1400e-003	0.0000	35.0482	35.0482	0.0113	0.0000	35.3316

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	2.4000e-004	1.0000e-004	1.4100e-003	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1989	0.1989	1.0000e-005	0.0000	0.1990
Total	2.4000e-004	1.0000e-004	1.4100e-003	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1989	0.1989	1.0000e-005	0.0000	0.1990

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	9.8200e-003	0.1977	0.3027	4.0000e-004		1.6000e-003	1.6000e-003		1.6000e-003	1.6000e-003	0.0000	35.0482	35.0482	0.0113	0.0000	35.3316

Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	9.8200e-003	0.1977	0.3027	4.0000e-004		1.6000e-003	1.6000e-003		1.6000e-003	1.6000e-003	0.0000	35.0482	35.0482	0.0113	0.0000	35.3316

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	2.4000e-004	1.0000e-004	1.4100e-003	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1989	0.1989	1.0000e-005	0.0000	0.1990
Total	2.4000e-004	1.0000e-004	1.4100e-003	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1989	0.1989	1.0000e-005	0.0000	0.1990

3.8 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	5.9801					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.5800e-003	0.0247	0.0317	5.0000e-005		1.4300e-003	1.4300e-003		1.4300e-003	1.4300e-003	0.0000	4.4682	4.4682	2.9000e-004	0.0000	4.4755
Total	5.9837	0.0247	0.0317	5.0000e-005		1.4300e-003	1.4300e-003		1.4300e-003	1.4300e-003	0.0000	4.4682	4.4682	2.9000e-004	0.0000	4.4755

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	2.1900e-003	9.4000e-004	0.0127	2.0000e-005	1.7600e-003	2.0000e-005	1.7800e-003	4.7000e-004	2.0000e-005	4.9000e-004	0.0000	1.7897	1.7897	6.0000e-005	0.0000	1.7914
Total	2.1900e-003	9.4000e-004	0.0127	2.0000e-005	1.7600e-003	2.0000e-005	1.7800e-003	4.7000e-004	2.0000e-005	4.9000e-004	0.0000	1.7897	1.7897	6.0000e-005	0.0000	1.7914

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	5.9801					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0400e-003	0.0238	0.0321	5.0000e-005		2.5000e-004	2.5000e-004		2.5000e-004	2.5000e-004	0.0000	4.4682	4.4682	2.9000e-004	0.0000	4.4755
Total	5.9811	0.0238	0.0321	5.0000e-005		2.5000e-004	2.5000e-004		2.5000e-004	2.5000e-004	0.0000	4.4682	4.4682	2.9000e-004	0.0000	4.4755

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	2.1900e-003	9.4000e-004	0.0127	2.0000e-005	1.7600e-003	2.0000e-005	1.7800e-003	4.7000e-004	2.0000e-005	4.9000e-004	0.0000	1.7897	1.7897	6.0000e-005	0.0000	1.7914
Total	2.1900e-003	9.4000e-004	0.0127	2.0000e-005	1.7600e-003	2.0000e-005	1.7800e-003	4.7000e-004	2.0000e-005	4.9000e-004	0.0000	1.7897	1.7897	6.0000e-005	0.0000	1.7914

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	0.8386	3.4924	9.4130	0.0320	2.9301	0.0273	2.9574	0.7844	0.0255	0.8099	0.0000	2,927.9377	2,927.9377	0.1007	0.0000	2,930.4560
Unmitigated	0.8386	3.4924	9.4130	0.0320	2.9301	0.0273	2.9574	0.7844	0.0255	0.8099	0.0000	2,927.9377	2,927.9377	0.1007	0.0000	2,930.4560

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	2,314.20	2,743.98	2011.15	5,386,707	5,386,707
City Park	0.95	11.38	8.37	7,463	7,463
Congregate Care (Assisted Living)	482.24	387.20	429.44	1,065,006	1,065,006
Enclosed Parking with Elevator	0.00	0.00	0.00		
Enclosed Parking with Elevator	0.00	0.00	0.00		
Strip Mall	1,007.39	955.57	464.37	1,420,551	1,420,551
Total	3,804.78	4,098.12	2,913.33	7,879,727	7,879,727

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Congregate Care (Assisted Living)	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
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 High Rise	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
City Park	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Congregate Care (Assisted Living)	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Enclosed Parking with Elevator	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Strip Mall	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740

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	630.3757	630.3757	0.0630	0.0130	635.8383

Electricity Unmitigated					0.0000	0.0000		0.0000	0.0000	0.0000	630.3757	630.3757	0.0630	0.0130	635.8383
NaturalGas Mitigated	0.0342	0.2921	0.1254	1.8600e-003	0.0236	0.0236		0.0236	0.0236	0.0000	338.0469	338.0469	6.4800e-003	6.2000e-003	340.0558
NaturalGas Unmitigated	0.0342	0.2921	0.1254	1.8600e-003	0.0236	0.0236		0.0236	0.0236	0.0000	338.0469	338.0469	6.4800e-003	6.2000e-003	340.0558

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	4.76034e+006	0.0257	0.2194	0.0933	1.4000e-003		0.0177	0.0177		0.0177	0.0177	0.0000	254.0297	254.0297	4.8700e-003	4.6600e-003	255.5393
City Park	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
Congregate Care (Assisted Living)	1.52054e+006	8.2000e-003	0.0701	0.0298	4.5000e-004		5.6600e-003	5.6600e-003		5.6600e-003	5.6600e-003	0.0000	81.1420	81.1420	1.5600e-003	1.4900e-003	81.6242
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	53879.6	2.9000e-004	2.6400e-003	2.2200e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.8752	2.8752	6.0000e-005	5.0000e-005	2.8923
Total		0.0342	0.2921	0.1254	1.8700e-003		0.0236	0.0236		0.0236	0.0236	0.0000	338.0469	338.0469	6.4900e-003	6.2000e-003	340.0558

Mitigated

[illegible]

Congregate Care (Assisted Living)	1.52054e+006	8.2000e-003	0.0701	0.0298	4.5000e-004		5.6600e-003	5.6600e-003		5.6600e-003	5.6600e-003	0.0000	81.1420	81.1420	1.5600e-003	1.4900e-003	81.6242
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	53879.6	2.9000e-004	2.6400e-003	2.2200e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.8752	2.8752	6.0000e-005	5.0000e-005	2.8923
Total		0.0342	0.2921	0.1254	1.8700e-003		0.0236	0.0236		0.0236	0.0236	0.0000	338.0469	338.0469	6.4900e-003	6.2000e-003	340.0558

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	2.27472e+006	299.2209	0.0299	6.1900e-003	301.8138
City Park	0	0.0000	0.0000	0.0000	0.0000
Congregate Care (Assisted Living)	726590	95.5769	9.5600e-003	1.9800e-003	96.4051
Enclosed Parking with Elevator	1.4459e+006	190.1966	0.0190	3.9400e-003	191.8447
Enclosed Parking with Elevator	101970	13.4133	1.3400e-003	2.8000e-004	13.5295
Strip Mall	243026	31.9681	3.2000e-003	6.6000e-004	32.2452
Total		630.3757	0.0630	0.0131	635.8383

Mitigated

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

Apartments High Rise	2.27472e+006	299.2209	0.0299	6.1900e-003	301.8138
City Park	0	0.0000	0.0000	0.0000	0.0000
Congregate Care (Assisted Living)	726590	95.5769	9.5600e-003	1.9800e-003	96.4051
Enclosed Parking with Elevator	1.4459e+006	190.1966	0.0190	3.9400e-003	191.8447
Enclosed Parking with Elevator	101970	13.4133	1.3400e-003	2.8000e-004	13.5295
Strip Mall	243026	31.9681	3.2000e-003	6.6000e-004	32.2452
Total		630.3757	0.0630	0.0131	635.8383

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	5.7606	0.1010	7.7198	4.8800e-003		0.3601	0.3601		0.3601	0.3601	33.1437	22.4432	55.5869	0.0618	2.1700e-003	57.7798
Unmitigated	5.7606	0.1010	7.7198	4.8800e-003		0.3601	0.3601		0.3601	0.3601	33.1437	22.4432	55.5869	0.0618	2.1700e-003	57.7798

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
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SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5980					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.3214					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.6774	0.0386	2.3098	4.6000e-003		0.3302	0.3302		0.3302	0.3302	33.1437	13.6137	46.7574	0.0533	2.1700e-003	48.7369
Landscaping	0.1638	0.0624	5.4100	2.9000e-004		0.0299	0.0299		0.0299	0.0299	0.0000	8.8295	8.8295	8.5400e-003	0.0000	9.0429
Total	5.7606	0.1010	7.7198	4.8900e-003		0.3601	0.3601		0.3601	0.3601	33.1437	22.4432	55.5869	0.0618	2.1700e-003	57.7798

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	0.5980					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.3214					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.6774	0.0386	2.3098	4.6000e-003		0.3302	0.3302		0.3302	0.3302	33.1437	13.6137	46.7574	0.0533	2.1700e-003	48.7369
Landscaping	0.1638	0.0624	5.4100	2.9000e-004		0.0299	0.0299		0.0299	0.0299	0.0000	8.8295	8.8295	8.5400e-003	0.0000	9.0429
Total	5.7606	0.1010	7.7198	4.8900e-003		0.3601	0.3601		0.3601	0.3601	33.1437	22.4432	55.5869	0.0618	2.1700e-003	57.7798

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	64.9720	1.6033	0.0388	116.6045
Unmitigated	64.9720	1.6033	0.0388	116.6045

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	35.8999 / 22.6325	47.3618	1.1734	0.0284	85.1497
City Park	0 / 0.595741	0.2743	3.0000e-005	1.0000e-005	0.2767
Congregate Care (Assisted Living)	11.4671 / 7.22926	15.1283	0.3748	9.0600e-003	27.1985
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.68367 / 1.03193	2.2076	0.0550	1.3300e-003	3.9797
Total		64.9720	1.6033	0.0388	116.6045

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			

Apartments High Rise	35.8999 / 22.6325	47.3618	1.1734	0.0284	85.1497
City Park	0 / 0.595741	0.2743	3.0000e-005	1.0000e-005	0.2767
Congregate Care (Assisted Living)	11.4671 / 7.22926	15.1283	0.3748	9.0600e-003	27.1985
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.68367 / 1.03193	2.2076	0.0550	1.3300e-003	3.9797
Total		64.9720	1.6033	0.0388	116.6045

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	88.9040	5.2541	0.0000	220.2558
Unmitigated	88.9040	5.2541	0.0000	220.2558

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
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Land Use	tons	MT/yr			
Apartments High Rise	253.46	51.4501	3.0406	0.0000	127.4654
City Park	0.04	8.1200e-003	4.8000e-004	0.0000	0.0201
Congregate Care (Assisted Living)	160.6	32.6004	1.9266	0.0000	80.7660
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	23.87	4.8454	0.2864	0.0000	12.0043
Total		88.9040	5.2541	0.0000	220.2558

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	253.46	51.4501	3.0406	0.0000	127.4654
City Park	0.04	8.1200e-003	4.8000e-004	0.0000	0.0201
Congregate Care (Assisted Living)	160.6	32.6004	1.9266	0.0000	80.7660
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	23.87	4.8454	0.2864	0.0000	12.0043
Total		88.9040	5.2541	0.0000	220.2558

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Attachment 3: Construction Health Risk Modeling

2300 Calle De Luna, Santa Clara, CA

DPM Emissions and Modeling Emission Rates

Construction		DPM	Area	DPM Emissions			Modeled Area	DPM Emission Rate
Year	Activity	(ton/year)	Source	(lb/yr)	(lb/hr)	(g/s)	(m ²)	(g/s/m ²)
2020	Construction	0.1552	CON_DPM	310.4	0.09449	1.19E-02	23,809	5.00E-07
2021	Construction	0.0829	CON_DPM	165.8	0.05047	6.36E-03	23,809	2.67E-07
2022	Construction	0.0206	CON_DPM	41.2	0.01254	1.58E-03	23,809	6.64E-08

Construction Hours

hr/day = 9 (7am - 4pm)

days/yr = 365

hours/year = 3285

PM2.5 Fugitive Dust Emissions for Modeling

Construction		Area	PM2.5 Emissions				Modeled Area	PM2.5 Emission Rate
Year	Activity	Source	(ton/year)	(lb/yr)	(lb/hr)	(g/s)	(m ²)	g/s/m ²
2020	Construction	CON_FUG	0.20280	405.6	0.12347	1.56E-02	23,809	6.53E-07
2021	Construction	CON_FUG	0.02390	47.8	0.01455	1.83E-03	23,809	7.70E-08
2022	Construction	CON_FUG	0.00475	9.5	0.00289	3.64E-04	23,809	1.53E-08

Construction Hours

hr/day = 9 (7am - 4pm)

days/yr = 365

hours/year = 3285

DPM Construction Emissions and Modeling Emission Rates - With Mitigation

Construction		DPM	Area	DPM Emissions			Modeled Area	DPM Emission Rate
Year	Activity	(ton/year)	Source	(lb/yr)	(lb/hr)	(g/s)	(m ²)	(g/s/m ²)
2020	Construction	0.0171	CON_DPM	34.2	0.01041	1.31E-03	23,809	5.51E-08
2021	Construction	0.0140	CON_DPM	28.0	0.00852	1.07E-03	23,809	4.51E-08
2022	Construction	0.0037	CON_DPM	7.4	0.00226	2.85E-04	23,809	1.20E-08

Construction Hours

hr/day = 9 (7am - 4pm)
days/yr = 365
hours/year = 3285

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

Construction		Area	PM2.5 Emissions				Modeled Area	PM2.5 Emission Rate
Year	Activity	Source	(ton/year)	(lb/yr)	(lb/hr)	(g/s)	(m ²)	g/s/m ²
2020	Construction	CON_FUG	0.05700	114.0	0.03470	4.37E-03	23,809	1.84E-07
2021	Construction	CON_FUG	0.02390	47.8	0.01455	1.83E-03	23,809	7.70E-08
2022	Construction	CON_FUG	0.00475	9.5	0.00289	3.64E-04	23,809	1.53E-08

Construction Hours

hr/day = 9 (7am - 4pm)
days/yr = 365
hours/year = 3285

2300 Calle De Luna, Santa Clara, CA
Construction Health Impacts Summary

Maximum Impacts at Construction MEI Location - Unmitigated

Emissions Year						
	Maximum Concentrations		Cancer Risk (per million)		Hazard Index	Maximum Annual PM2.5 Concentration
	Exhaust PM10/DPM	Fugitive PM2.5				
	(µg/m³)	(µg/m³)	Child	Adult	(-)	(µg/m³)
2020	0.1825	0.2597	32.46	0.52	0.037	0.44
2021	0.0975	0.0306	16.01	0.28	0.019	0.13
2022	0.0242	0.0061	0.69	0.07	0.005	0.03
Total	-	-	49.2	0.9	-	-
Maximum	0.1825	0.2597	-	-	0.037	0.44

Maximum Impacts at Construction MEI Location - With Mitigation

Emissions Year	Maximum Concentrations					
	Exhaust PM10/DPM (µg/m³)	Fugitive PM2.5 (µg/m³)	Cancer Risk (per million)		Hazard Index (-)	Maximum Annual PM2.5 Concentration (µg/m³)
			Child	Adult		
2020	0.0201	0.0732	3.58	0.06	0.004	0.09
2021	0.0165	0.0306	2.70	0.05	0.003	0.05
2022	0.0044	0.0061	0.12	0.01	0.001	0.01
Total	-	-	6.4	0.1	-	-
Maximum	0.0201	0.0732	-	-	0.004	0.09

2300 Calle De Luna, Santa Clara, CA

Maximum DPM Cancer Risk Calculations From Construction - Unmitigated Emissions

Impacts at Off-Site Receptors-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-day)⁻¹

ASF = Age sensitivity factor for specified age group

ED = Exposure duration (years)

AT = Averaging time for lifetime cancer risk (years)

FAH = Fraction of time spent at home (unitless)

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

Where: C_{air} = concentration in air (µg/m³)

DBR = daily breathing rate (L/kg body weight-day)

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

10⁻⁶ = Conversion factor

Values

Age --> Parameter	Infant/Child				Adult
	3rd Trimester	0 - 2	2 - 9	2 - 16	16 - 30
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

Exposure Year	Exposure Duration (years)	Infant/Child - Exposure Information					Adult - Exposure Information			Adult Cancer Risk (per million)	Fugitive PM2.5	Total PM2.5
		Age	DPM Conc (ug/m3)		Age Sensitivity Factor	Infant/Child Cancer Risk (per million)	Modeled		Age Sensitivity Factor			
			Year	Annual			DPM Conc (ug/m3)					
							Year	Annual				
0	0.25	-0.25 - 0*	2020	0.1825	10	2.48	2020	0.1825	-	-		
1	1	0 - 1	2020	0.1825	10	29.98	2020	0.1825	1	0.52	0.2597	0.442
2	1	1 - 2	2021	0.0975	10	16.01	2021	0.0975	1	0.28	0.0306	0.128
3	1	2 - 3	2022	0.0242	3	0.69	2022	0.0242	1	0.07	0.0061	0.030
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00		
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00		
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00		
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00		
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00		
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00		
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00		
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00		
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00		
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00		
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00		
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00		
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00		
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00		
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00		
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00		
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00		
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00		
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00		
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00		
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00		
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00		
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00		
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00		
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00		
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00		
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00		
Total Increased Cancer Risk							49.16			0.87		

* Third trimester of pregnancy

**2300 Calle De Luna, Santa Clara, (- Mitigated Emissions
Maximum DPM Cancer Risk Calculations From Construction
Impacts at Off-Site Receptors-1.5 meter**

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

Where: CPF = Cancer potency factor (mg/kg-day)⁻¹

ASF = Age sensitivity factor for specified age group

ED = Exposure duration (years)

AT = Averaging time for lifetime cancer risk (years)

FAH = Fraction of time spent at home (unitless)

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

Where: C_{air} = concentration in air (µg/m³)

DBR = daily breathing rate (L/kg body weight-day)

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

10⁻⁶ = Conversion factor

Values

Age --> Parameter	Infant/Child				Adult
	3rd Trimester	0 - 2	2 - 9	2 - 16	16 - 30
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

Exposure Year	Exposure Duration (years)	Infant/Child - Exposure Information					Adult - Exposure Information			Adult Cancer Risk (per million)	Fugitive PM2.5	Total PM2.5
		Age	DPM Conc (ug/m3)		Age Sensitivity Factor	Infant/Child Cancer Risk (per million)	Modeled		Age Sensitivity Factor			
			Year	Annual			DPM Conc (ug/m3)					
							Year	Annual				
0	0.25	-0.25 - 0*	2020	0	10	0.27	2020	0.0201	-	-		
1	1	0 - 1	2020	0.0201	10	3.30	2020	0.0201	1	0.06	0.0732	0.093
2	1	1 - 2	2021	0.0165	10	2.70	2021	0.0165	1	0.05	0.0306	0.047
3	1	2 - 3	2022	0.0044	3	0.12	2022	0.0044	1	0.01	0.0061	0.010
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00		
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00		
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00		
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00		
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00		
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00		
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00		
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00		
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00		
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00		
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00		
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00		
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00		
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00		
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00		
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00		
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00		
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00		
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00		
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00		
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00		
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00		
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00		
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00		
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00		
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00		
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00		
Total Increased Cancer Risk						6.4				0.12		

* Third trimester of pregnancy

Kathryn Hughes Elemenatary, Santa Clara, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk Calculations From Construction
Daycare - 1.0 meters - Child Exposure

Cancer Risk (per million) = $CPF \times \text{Inhalation Dose} \times ASF \times ED/AT \times FAH \times 1.0E6$

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

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

Where: C_{air} = concentration in air (µg/m³)
 DBR = daily breathing rate (L/kg body weight-day)
 A = Inhalation absorption factor
 EF = Exposure frequency (days/year)
 10⁻⁶ = Conversion factor

Values

Age --> Parameter	Infant/Child				Adult
	3rd Trimester	0 - 2	2 - 9	2 - 16	16 - 30
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	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

Construction Cancer Risk by Year Maximum Impact Receptor Location					
Exposure Year	Exposure Duration (years)	Child - Exposure Information			Child Cancer Risk (per million)
		DPM Conc (ug/m3)		Age* Sensitivity	
		Year	Annual	Factor	
1	1	2020	0.0679	3	2.6
2	1	2021	0.0362	3	1.4
3	1	2022	0.0090	3	0.4
					4.1

* Students assumed to be from 3 to 9 years of age

Maximum		
HI	Fugitive PM2.5	Total PM2.5
0.014	0.0915	0.159
0.007	0.0108	0.047
0.002	0.0021	0.011
0.01	0.09	0.16

2300 Calle De Luna, Santa Clara, CA

Maximum DPM Cancer Risk Calculations From Construction - Unmitigated Emissions

Impacts at Off-Site Receptors-4.5 meter

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

Where: CPF = Cancer potency factor (mg/kg-day)⁻¹

ASF = Age sensitivity factor for specified age group

ED = Exposure duration (years)

AT = Averaging time for lifetime cancer risk (years)

FAH = Fraction of time spent at home (unitless)

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

Where: C_{air} = concentration in air (µg/m³)

DBR = daily breathing rate (L/kg body weight-day)

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

10⁻⁶ = Conversion factor

Values

Age --> Parameter	Infant/Child				Adult
	3rd Trimester	0 - 2	2 - 9	2 - 16	16 - 30
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

Exposure Year	Exposure Duration (years)	Infant/Child - Exposure Information				Infant/Child Cancer Risk (per million)	Adult - Exposure Information			Adult Cancer Risk (per million)	Fugitive PM2.5	Total PM2.5
		Age	DPM Conc (ug/m3)		Age Sensitivity Factor		Modeled		Age Sensitivity Factor			
			Year	Annual			DPM Conc (ug/m3)					
							Year	Annual				
0	0.25	-0.25 - 0*	2020	0.0311	10	0.42	2020	0.0311	-	-		
1	1	0 - 1	2020	0.0311	10	5.11	2020	0.0311	1	0.09	0.0409	0.072
2	1	1 - 2	2021	0.0166	10	2.73	2021	0.0166	1	0.05	0.0048	0.021
3	1	2 - 3	2022	0.0041	3	0.12	2022	0.0041	1	0.01	0.0010	0.005
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00		
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00		
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00		
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00		
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00		
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00		
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00		
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00		
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00		
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00		
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00		
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00		
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00		
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00		
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00		
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00		
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00		
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00		
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00		
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00		
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00		
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00		
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00		
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00		
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00		
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00		
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00		
Total Increased Cancer Risk						8.4				0.15		

* Third trimester of pregnancy

Attachment 4: Screening Risk Calculations

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 PM_{2.5} annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways and the District refers the user to the Highway Screening Analysis Tool at: <http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx>.

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara
Roadway Direction	North-South
Side of the Roadway	East
Distance from Roadway	670 feet
Annual Average Daily Traffic (ADT)	30,000

Results

Santa Clara County

NORTH-SOUTH DIRECTIONAL ROADWAY

PM_{2.5} annual average

0.064 (µg/m³)

Cancer Risk

2.81 (per million)

Lafayette Street

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

Adjusted for 2015
OEHHa and EMFAC2014
for 2018

1.93

(per million)

Note that EMFAC2014 predicts DSL PM_{2.5} aggregate 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 vehicles 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-Cal3qhc air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHa toxicity values adopted in 2013.

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

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

INSTRUCTIONS:

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

- **County:** Select the County where the project is located. The calculator is only applicable for projects within the nine Bay Area counties.
- **Roadway Direction:** Select the orientation that best matches the roadway. If the roadway orientation is neither clearly north-south nor east-west, use the highest values predicted from either orientation.
- **Side of the Roadway:** Identify on which side of the roadway the project is located.
- **Distance from Roadway:** Enter the distance in feet from the nearest edge of the roadway to the project site. The calculator estimates values for distances greater than 10 feet and less than 1000 feet. For distances greater than 1000 feet, the user can choose to extrapolate values using a distribution curve or apply 1000 feet values for greater distances.
- **Annual Average Daily Traffic (ADT):** Enter the annual average daily traffic on the roadway. These data may be collected from the city or the county (if the area is unincorporated).

When the user has completed the data entries, the screening level PM_{2.5} 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	800 feet
Annual Average Daily Traffic (ADT)	15,000

Results

Santa Clara County

NORTH-SOUTH DIRECTIONAL ROADWAY

PM_{2.5} annual average

0.012 (µg/m³)

Cancer Risk

0.61 (per million)

Lick Mill Boulevard

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

Adjusted for 2015
OEHHa and EMFAC2014
for 2018

0.42

(per million)

Note that EMFAC2014 predicts DSL PM_{2.5} aggregate 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 vehicles 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-Cal3qhc 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.

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 PM_{2.5} annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways, and the District refers the user to the Highway Screening Analysis Tool at: <http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx>.

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara
Roadway Direction	East-West
Side of the Roadway	South
Distance from Roadway	60 feet
Annual Average Daily Traffic (ADT)	45,000

Results

Santa Clara County

EAST-WEST DIRECTIONAL ROADWAY

PM_{2.5} annual average

0.508 (µg/m³)

Cancer Risk

20.05 (per million)

Tasman Drive

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

Adjusted for 2015
OEHHHA and EMFAC2014
for 2018

13.78
(per million)

Note that EMFAC2014 predicts DSL PM_{2.5} aggregate 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 vehicles 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-Cal3qhc 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 OEHHHA toxicity values adopted in 2013.

Bay Area Air Quality Management District
Risk & Hazard Stationary Source Inquiry Form

This form is required when users request stationary source data from BAAQMD. This form is required for all requests for data from BAAQMD. For guidance on conducting a risk & hazard screening, including for roadways & freeways, please refer to the BAAQMD Risk & Hazard Screening Manual.

Table A: Requestor Contact Information	
Contact Name:	James Reyff
Affiliation:	Illingworth & Rodkin, Inc.
Phone:	707-794-0400
Email:	
Date of Request	
Project Name:	E. Tasman Specific Plan
Address:	
City:	Santa Clara
County:	Santa Clara
Type (residential, commercial, mixed use, industrial, etc.):	Residential/Commercial
Project size (# of units, or building square feet):	mixed
Comments:	
Used 2012 data and applied 2015 OEHHHA and distance multipliers	



Table B: Stationary Sources within 1,000 feet of Receptor that say "Contact District Staff"											
Table B Section 1: Requestor fills out these columns based on Google Earth data				Table B Section 2: BAAQMD returns form with additional information in these columns as needed							
Distance from Receptor (feet)	Plant # or Gas Dispensary #	Facility Name	Street Address	2012 Screening Level Cancer Risk (1)	2012 Screening Level Hazard Index (1)	2012 Screening Level PM2.5 (1)	2015 Screening Level Cancer Risk (w/OEHHA)	Multiplier	Distance Adjusted Cancer Risk	Distance Adjusted PM2.5 Level	Comments
onsite	5323	Coatek, Inc	2272 CALLE DE LUNA	0.41	0.001	4.390	0.56	1.00	0.56	4.39	Plant Closed
onsite	1636	Alzeta Corporation	2343 CALLE DEL MUNDO	0	0.000	0.037	0.00	1	0.00	0.04	
onsite	2527	Nu-Metal Finishing	2262 CALLE DEL MUNDO	0	0.000	0.001	0.00	1.00	0.00	0.00	
onsite	3037	Italix Company, Incorporated	2232 CALLE DEL MUNDO	0	0.005	0.066	0.00	1	0.00	0.07	
onsite	11297	Shibaura Technology International Corp	2221 CALLE DE LUNA	0	0.000	0.000	0.00	1	0.00	0.00	
onsite	1642	Megastor	5101 LAFAYETTE STREET	0	0.000	0.013	0.00	1	0.00	0.01	
500	17251	City of Santa Clara	2501 STARS & STRIPES	43.88	0.016	0.078	60.31	0.12	7.24	0.01	

Footnotes:
1. These Cancer Risk, Hazard Index, and PM2.5 columns represent the rows in the Google Earth Plant Information Table that say "Contact District Staff" (Map A above). BAAQMD will return this form to you with this screening level information entered in these columns.

Table B: Google Earth data											MEI			
Distance from Receptor (feet) or MEI ¹	Facility Name	Address	Plant No.	Cancer Risk ²	Hazard Risk ²	PM _{2.5} ²	Source No. ³	Type of Source ⁴	Fuel Code ⁵	Status/Comments	Distance Adjustment Multiplier	Adjusted Cancer Risk Estimate	Adjusted Hazard Risk	Adjusted PM2.5
>1,000	City of Santa Clara - Golf Course Storm	2501 Stars & Stripes	17251	1.921	0.0030	0.002438		emergency back-up generator			0.04	0.08	0.00	0.00
880	Megastor	5101 Lafayette Street	1642			0.007576					0.16			0.00
>1000	Alzeta Corporation	2343 Calle del Mundo	1636	0.006	0.0000	0.031571					0.13	0.00	0.00	0.00
>1,000	Italix Company, Incorporated	2232 Calle del Mundo	3037	0.004	0.0054	0.042364					0.13	0.00	0.00	0.01
950	Nu-Metal Finishing	2262 Calle Del Mundo	22529	0.047	0.0000	0.000516					0.14	0.01	0.00	0.00
480	Coatek, Inc	2272 Calle De Luna	5323	0.548	0.0005	1.846303					0.36	0.20	0.00	0.67
430	RS Alameda, LLC (	5101 Lafayette Street	20241	5.21611521	0.01460413	0.006328		Generator			0.15	0.78	0.00	0.00