Appendix A:
Air Quality and Greenhouse Gas Emissions Data

1. Air Quality

Ambient air quality standards (AAQS) have been adopted at State and federal levels for criteria air pollutants. In addition, both the State and federal government regulate the release of toxic air contaminants (TACs). The City of San Francisco is in the San Francisco Bay Area Air Basin (SFBAAB) and is subject to the rules and regulations imposed by the Bay Area Air Quality Management District (BAAQMD), as well as the California AAQS adopted by the California Air Resources Board (CARB) and national AAQS adopted by the United States Environmental Protection Agency (EPA). Federal, State, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the proposed project are summarized below. The discussion also identifies the natural factors in the air basin that affect air pollution.

1.1 REGULATORY FRAMEWORK

1.1.1 Ambient Air Quality Standards

The Clean Air Act (CAA) was passed in 1963 by the U.S. Congress and has been amended several times. The 1970 Clean Air Act amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting National AAQS and the Prevention of Significant Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The CAA allows states to adopt more stringent standards or to include other pollution species. The California Clean Air Act, signed into law in 1988, requires all areas of the State to achieve and maintain the California AAQS by the earliest practical date. The California AAQS tend to be more restrictive than the National AAQS, based on even greater health and welfare concerns.

Criteria air pollutants are the air pollutants for which AAQS have been developed that are regulated under the CAA. The National and California AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect "sensitive receptors" most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

Both California and the federal government have established health-based AAQS for seven air pollutants, which are shown in Table 1. These pollutants are ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb). In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

Table 1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard[a]	Federal Primary Standard[b]	Major Pollutant Sources
Ozone (O_3)[c]	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.070 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	0.100 ppm	
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	*	0.030 ppm	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm	
	24 hours	0.04 ppm	0.14 ppm	
Respirable Coarse Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 µg/m^3	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	50 µg/m^3	150 µg/m^3	
Respirable Fine Particulate Matter ($PM_{2.5}$)[d]	Annual Arithmetic Mean	12 µg/m^3	12 µg/m^3	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	*	35 µg/m^3	
Lead (Pb)	30-Day Average	1.5 µg/m^3	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarter	*	1.5 µg/m^3	
	Rolling 3-Month Average	*	0.15 µg/m^3	
Sulfates (SO_4)[e]	24 hours	25 µg/m^3	*	Industrial processes.
Visibility Reducing Particles	8 hours	ExCo =0.23/km visibility of 10≥ miles	No Federal Standard	Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt.

Table 1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard[a]	Federal Primary Standard[b]	Major Pollutant Sources
Hydrogen Sulfide	1 hour	0.03 ppm	No Federal Standard	Hydrogen sulfide (H_2S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation.
Vinyl Chloride	24 hours	0.01 ppm	No Federal Standard	Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.

Source: California Air Resources Board, 2016, May 4. Ambient Air Quality Standards. http://www.arb.ca.gov/research/aaqs/aaqs2.pdf.
Notes: ppm: parts per million; $\mu g/m^3$: micrograms per cubic meter
* Standard has not been established for this pollutant/duration by this entity.
a California standards for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1 and 24 hour), NO_2, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
b National standards (other than O_3, PM, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
c On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
d On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM_{10} standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
e On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. The 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

California has also adopted a host of other regulations that reduce criteria pollutant emissions, including:

- AB 1493: Pavley Fuel Efficiency Standards
- Title 20 California Code of Regulations (CCR): Appliance Energy Efficiency Standards
- Title 24, Part 6, CCR: Building and Energy Efficiency Standards
- Title 24, Part 11, CCR: Green Building Standards Code

1.1.2 Air Pollutants of Concern

A substance in the air that can cause harm to humans and the environment is known as an air pollutant. Pollutants can be in the form of solid particles, liquid droplets, or gases. In addition, they may be natural or man-made.

1.1.2.1 CRITERIA AIR POLLUTANTS

The pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and State law. Air pollutants are categorized as primary and/or secondary pollutants. Primary air pollutants are emitted directly from sources. Carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxides (NO_x), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb) are primary air pollutants. Of these, CO, SO_2, nitrogen dioxide (NO_2), PM_{10}, and $PM_{2.5}$ are "criteria air pollutants," which means that AAQS have been established for them. ROG and NO_x are criteria pollutant precursors that form secondary criteria air pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O_3) and NO_2 are the principal secondary pollutants.

A description of each of the primary and secondary criteria air pollutants and their known health effects is presented below.

- **Carbon Monoxide (CO)** is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO is a primary criteria air pollutant. CO concentrations tend to be the highest during winter mornings with little or no wind, when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, motor vehicles operating at slow speeds are the primary source of CO in the air basin. Emissions are highest during cold starts, hard acceleration, stop-and-go driving, and when a vehicle is moving at low speeds. New findings indicate that CO emissions per mile are lowest at about 45 miles per hour (mph) for the average light-duty motor vehicle and begin to increase again at higher speeds. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces its oxygen-carrying capacity.[1] This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia, as well as for fetuses. Even healthy people exposed to high CO concentrations can experience headaches, dizziness, fatigue, unconsciousness, and even death.[2] The air basin is designated under the California and National AAQS as being in attainment of CO criteria levels.[3]

- **Reactive Organic Gases (ROGs)** are compounds composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of ROGs. Other sources include evaporative emissions from paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. Adverse effects on human health are not caused directly by ROGs, but rather by reactions of ROGs to form secondary pollutants, such as O_3. There are no AAQS established for ROGs. However, because they contribute to the formation of O_3, BAAQMD has established a significance threshold for this pollutant.[4]

---

1 US Environmental Protection Agency. 2018, March 8. Criteria Air Pollutants. https://www.epa.gov/criteria-air-pollutants.

2 Bay Area Air Quality Management District. 2017, May. California Environmental Quality Act Air Quality Guidelines, Appendix C: Sample Air Quality Setting. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en.

3 California Air Resources Board, 2017, October. Area Designations Maps: State and National. http://www.arb.ca.gov/desig/adm/adm.htm.

4 Bay Area Air Quality Management District (BAAQMD). 2017, May. CEQA Air Quality Guidelines. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

- **Nitrogen Oxides (NO_x)** are a by-product of fuel combustion and contribute to the formation of O_3, PM_{10}, and $PM_{2.5}$. The two major components of NO_x are nitric oxide (NO) and NO_2. The principal component of NO_x produced by combustion is NO, but NO reacts with oxygen to form NO_2, creating the mixture of NO and NO_2 commonly called NO_x. NO_2 is an acute irritant and at equal concentrations more injurious than NO. At atmospheric concentrations, however, NO_2 is only potentially irritating. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis. Some increase in bronchitis in children (two and three years old) has also been observed at concentrations below 0.3 parts per million (ppm). NO_2 absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure.[5,6] The air basin is designated an attainment area for NO_2 under the National AAQS and California AAQS.[7]

- **Sulfur Dioxide (SO_2)** is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. It enters the atmosphere as a result of burning high-sulfur-content fuel oils and coal and from chemical processes at chemical plants and refineries. Gasoline and natural gas have very low sulfur content and do not release significant quantities of SO_2.[8] When SO_2 forms sulfates (SO_4) in the atmosphere, together these pollutants are referred to as sulfur oxides (SO_x). Thus, SO_2 is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO_2 may irritate the upper respiratory tract. At lower concentrations and when combined with particulates, SO_2 may do greater harm by injuring lung tissue.[9] The air basin is designated an attainment area for SO_2 under the California and National AAQS.[10]

- **Suspended Particulate Matter (PM_{10} and $PM_{2.5}$)** consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized and regulated. Inhalable coarse particles, or PM_{10}, include the particulate matter with an aerodynamic diameter of 10 microns (i.e., 10 millionths of a meter or 0.0004-inch) or less. Inhalable fine particles, or $PM_{2.5}$, have an aerodynamic diameter of 2.5 microns or less (i.e., 2.5 millionths of a meter or 0.0001 inch).

  Some particulate matter, such as pollen, occurs naturally. Most particulate matter in the air basin is caused by combustion, factories, construction, grading, demolition, agricultural activities, and motor vehicles. Extended exposure to particulate matter can increase the risk of chronic respiratory disease. PM_{10} bypasses the body's natural filtration system more easily than larger particles and can lodge deep in the lungs. An EPA scientific review concluded that $PM_{2.5}$ penetrates even more deeply into

---

5 Bay Area Air Quality Management District. 2017, May. California Environmental Quality Act Air Quality Guidelines, Appendix C: Sample Air Quality Setting. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en.

6 US Environmental Protection Agency. 2018, March 8. Criteria Air Pollutants. https://www.epa.gov/criteria-air-pollutants.

7 California Air Resources Board, 2017, October. Area Designations Maps: State and National. http://www.arb.ca.gov/desig/adm/adm.htm.

8 US Environmental Protection Agency. 2018, March 8. Criteria Air Pollutants. https://www.epa.gov/criteria-air-pollutants.

9 Bay Area Air Quality Management District. 2017, May. California Environmental Quality Act Air Quality Guidelines, Appendix C: Sample Air Quality Setting. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en.

10 California Air Resources Board, 2017, October. Area Designations Maps: State and National. http://www.arb.ca.gov/desig/adm/adm.htm.

the lungs, and this is more likely to contribute to health effects—at concentrations well below current PM_{10} standards. These health effects include premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, increased respiratory symptoms (e.g. irritation of the airways, coughing, or difficulty breathing). Motor vehicles are currently responsible for about half of particulates in the air basin. Wood burning in fireplaces and stoves is another large source of fine particulates.[11]

Both PM_{10} and $PM_{2.5}$ may adversely affect the human respiratory system, especially in people who are naturally sensitive or susceptible to breathing problems. These health effects include premature death and increased hospital admissions and emergency room visits (primarily the elderly and individuals with cardiopulmonary disease); increased respiratory symptoms and disease (children and individual with asthma); and alterations in lung tissue and structure and in respiratory tract defense mechanisms.[12] Diesel particulate matter (DPM) is classified a carcinogen by CARB. The air basin is designated nonattainment under the California AAQS for PM_{10} and nonattainment under both the California and National AAQS for $PM_{2.5}$.[13,14]

- **Ozone (O_3)** is commonly referred to as "smog" and is a gas that is formed when ROGs and NO_x,—both by-products of internal combustion engine exhaust—undergo photochemical reactions in the presence of sunlight. O_3 is a secondary criteria air pollutant. O_3 concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions to the formation of this pollutant. O_3 poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. O_3 levels usually build up during the day and peak in the afternoon. Short-term exposure can irritate the eyes and cause constriction of the airways. Besides causing shortness of breath, it can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema. Chronic exposure to high ozone levels can permanently damage lung tissue. O_3 can also damage plants and trees and materials such as rubber and fabrics.[15] The air basin is designated nonattainment of the 1-hour California AAQS and 8-hour California and National AAQS for O_3.[16]

- **Lead (Pb)** is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions.

---

11 Bay Area Air Quality Management District. 2017, May. California Environmental Quality Act Air Quality Guidelines, Appendix C: Sample Air Quality Setting. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en.

12 South Coast Air Quality Management District. 2005. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning.

13 California Air Resources Board, 2017, October. Area Designations Maps: State and National. http://www.arb.ca.gov/desig/adm/adm.htm.

14 On January 9, 2013, the EPA issued a final rule to determine that the SFBAAB has attained the 24-hour PM2.5 National AAQS. This action suspends federal State Implementation Plan planning requirements for the Bay Area. The SFBAAB will continue to be designated nonattainment for the National 24-hour PM2.5 standard until such time as BAAQMD elects to submit a redesignation request and a maintenance plan to EPA and EPA approves the proposed redesignation.

15 Bay Area Air Quality Management District. 2017, May. California Environmental Quality Act Air Quality Guidelines, Appendix C: Sample Air Quality Setting. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en.

16 California Air Resources Board, 2017, October. Area Designations Maps: State and National. http://www.arb.ca.gov/desig/adm/adm.htm

The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers.

Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the EPA set national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The EPA banned the use of leaded gasoline in highway vehicles in December 1995. As a result of the EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector and levels of lead in the air decreased dramatically.[17] The air basin is designated in attainment of the California and National AAQS for lead.[18] Because emissions of lead are found only in projects that are permitted by BAAQMD, lead is not an air quality of concern for the proposed project.

1.1.2.2 TOXIC AIR CONTAMINANTS

Public exposure to toxic air contaminants (TACs) is a significant environmental health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and reduce exposure to these contaminants to protect the public health. The California Health and Safety Code defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." A substance that is listed as a hazardous air pollutant pursuant to Section 112(b) of the federal Clean Air Act (42 U.S. Code Section 7412[b]) is a toxic air contaminant. Under State law, the California Environmental Protection Agency (Cal/EPA), acting through CARB, is authorized to identify a substance as a TAC if it is an air pollutant that may cause or contribute to an increase in mortality or serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987). The Tanner Air Toxics Act sets up a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an "airborne toxics control measure" for sources that emit designated TACs. If there is a safe threshold for a substance (i.e. a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions. To date, CARB has established formal control measures for 11 TACs that it identified as having no safe threshold.

Air toxics from stationary sources are also regulated in California under the Air Toxics "Hot Spot" Information and Assessment Act of 1987. Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment and, if specific thresholds are exceeded, are required to communicate the results to the public through notices and public meetings.

[17] Bay Area Air Quality Management District. 2017, May. California Environmental Quality Act Air Quality Guidelines, Appendix C: Sample Air Quality Setting. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en.

[18] California Air Resources Board, 2017, October. Area Designations Maps: State and National. http://www.arb.ca.gov/desig/adm/adm.htm.

At the time of the last update to the TAC list in December 1999, CARB had designated 244 compounds as TACs.[19] Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines.

In 1998, CARB identified DPM as a TAC. Previously, the individual chemical compounds in diesel exhaust were considered TACs. Almost all diesel exhaust particles are 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs.

CARB has promulgated the following specific rules to limit TAC emissions:

- 13 CCR Chapter 10, Section 2485, Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling
- 13 CCR Chapter 10, Section 2480, Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools
- 13 CCR Section 2477 and Article 8, Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate

In addition, to reduce exposure to TACs, CARB developed and approved the *Air Quality and Land Use Handbook: A Community Health Perspective* to provide guidance regarding the siting of sensitive land uses in the vicinity of freeways, distribution centers, rail yards, ports, refineries, chrome-plating facilities, dry cleaners, and gasoline-dispensing facilities.[20] This guidance document was developed to assess compatibility and associated health risks when placing sensitive receptors near existing pollution sources. CARB's recommendations on the siting of new sensitive land uses were based on a compilation of recent studies that evaluated data on the adverse health effects from proximity to air pollution sources. The key observation in these studies is that proximity to air pollution sources substantially increases exposure and the potential for adverse health effects. There are three carcinogenic toxic air contaminants that constitute the majority of the known health risks from motor vehicle traffic, DPM from trucks, and benzene and 1,3-butadiene from passenger vehicles. CARB recommendations are based on data that show that localized air pollution exposures can be reduced by as much as 80 percent by following CARB minimum distance separations.

1.1.3 Bay Area Air Quality Management District

BAAQMD is the agency responsible for assuring that the National and California AAQS are attained and maintained in the SFBAAB. BAAQMD is responsible for:

- Adopting and enforcing rules and regulations concerning air pollutant sources.
- Issuing permits for stationary sources of air pollutants.

[19] California Air Resources Board (CARB). 2011, April 8 (reviewed). Final Staff Report: Update to the Toxic Air Contaminant List. https://ww3.arb.ca.gov/toxics/id/finalstaffreport.htm.

[20] California Air Resources Board. 2005, April. Air Quality Handbook: A Community Health Perspective. https://ww3.arb.ca.gov/ch/handbook.pdf.

- Inspecting stationary sources of air pollutants.
- Responding to citizen complaints.
- Monitoring ambient air quality and meteorological conditions.
- Awarding grants to reduce motor vehicle emissions.
- Conducting public education campaigns.
- Air quality management planning.

Air quality conditions in the air basin have improved significantly since the BAAQMD was created in 1955.[21] The BAAQMD prepares air quality management plans (AQMPs) to attain ambient air quality standards in the SFBAAB. The BAAQMD prepares ozone attainment plans (OAPs) for the National O_3 standard and clean air plans for the California O_3 standard. The BAAQMD prepares these AQMPs in coordination with the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC). The most recent adopted comprehensive plan is the 2017 Clean Air Plan, which was adopted on April 19, 2017, and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools.

1.1.3.1 BAAQMD BAY AREA CLEAN AIR PLAN

2017 Spare the Air, Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area

BAAQMD adopted the 2017 Clean Air Plan, Spare the Air, Cool the Climate (2017 Clean Air Plan) on April 19, 2017. The 2017 Plan serves as an update to the adopted Bay Area 2010 Clean Air Plan and continues in providing the framework for SFBAAB to achieve attainment of the California and National AAQS. Similar to the Bay Area 2010 Clean Air Plan, the 2017 Clean Air Plan updates the Bay Area's ozone plan, which is based on the "all feasible measures" approach to meet the requirements of the California CAA. Additionally, it sets a goal of reducing health risk impacts to local communities by 20 percent by 2020. Furthermore, the 2017 Clean Air Plan also lays the groundwork for reducing GHG emissions in the Bay Area to meet the state's 2030 GHG reduction target and 2050 GHG reduction goal. It also includes a vision for the Bay Area in a post-carbon year 2050 that encompasses the following [22]:

- Construct buildings that are energy efficient and powered by renewable energy.
- Walk, bicycle, and use public transit for the majority of trips and use electric-powered autonomous public transit fleets.
- Incubate and produce clean energy technologies.

[21] Bay Area Air Quality Management District. 2017, May. California Environmental Quality Act Air Quality Guidelines, Appendix C: Sample Air Quality Setting. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en.

[22] Bay Area Air Quality Management District. 2017, April 19. Final 2017 Clean Air Plan, Spare the Air, Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area. http://www.baaqmd.gov/plans-and-climate/air-quality-plans/plans-under-development.

- Live a low-carbon lifestyle by purchasing low-carbon foods and goods in addition to recycling and putting organic waste to productive use.

A comprehensive multipollutant control strategy has been developed to be implemented in the next three to five years to address public health and climate change and to set a pathway to achieve the 2050 vision. The control strategy includes 85 control measures to reduce emissions of ozone, particulate matter, TACs, and GHG from a full range of emission sources. These control measures cover the following sectors: 1) stationary (industrial) sources; 2) transportation; 3) energy; 4) agriculture; 5) natural and working lands; 6) waste management; 7) water; and 8) super-GHG pollutants. Overall, the proposed control strategy is based on the following key priorities:

- Reduce emissions of criteria air pollutants and toxic air contaminants from all key sources.
- Reduce emissions of "super-GHGs" such as methane, black carbon, and fluorinated gases.
- Decrease demand for fossil fuels (gasoline, diesel, and natural gas).
- Increase efficiency of the energy and transportation systems.
- Reduce demand for vehicle travel, and high-carbon goods and services.
- Decarbonize the energy system.
- Make the electricity supply carbon-free.
- Electrify the transportation and building sectors.

1.1.3.2 BAAQMD'S COMMUNITY AIR RISK EVALUATION PROGRAM (CARE)

The BAAQMD's Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposure to outdoor TACs in the Bay Area. Based on findings of the latest report, DPM was found to account for approximately 85 percent of the cancer risk from airborne toxics. Carcinogenic compounds from gasoline-powered cars and light duty trucks were also identified as significant contributors: 1,3-butadiene contributed 4 percent of the cancer risk-weighted emissions, and benzene contributed 3 percent. Collectively, five compounds—DPM, 1,3-butadiene, benzene, formaldehyde, and acetaldehyde—were found to be responsible for more than 90 percent of the cancer risk attributed to emissions. All of these compounds are associated with emissions from internal combustion engines. The most important sources of cancer risk–weighted emissions were combustion-related sources of DPM, including on-road mobile sources (31 percent), construction equipment (29 percent), and ships and harbor craft (13 percent). A 75 percent reduction in DPM was predicted between 2005 and 2015 when the inventory accounted for CARB's diesel regulations. Overall, cancer risk from TACs dropped by more than 50 percent between 2005 and 2015, when emissions inputs accounted for State diesel regulations and other reductions.[23]

Modeled cancer risks from TAC in 2005 were highest near sources of DPM: near core urban areas, along major roadways and freeways, and near maritime shipping terminals. The highest modeled risks were found east of San Francisco, near West Oakland, and the Maritime Port of Oakland. BAAQMD has identified seven impacted communities in the Bay Area:

[23] Bay Area Air Quality Management District. 2014, April. Improving Air Quality & Health in Bay Area Communities, Community Air Risk Program (CARE) Retrospective and Path Forward (2004–2013). http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CARE%20Program/Documents/CARE_Retrospective_April2014.ashx

1. Western Contra Costa County and the cities of Richmond and San Pablo
2. Western Alameda County along the Interstate 880 (I-880) corridor and the cities of Berkeley, Alameda, Oakland, and Hayward
3. San Jose
4. Eastern side of San Francisco
5. Concord
6. Vallejo
7. Pittsburgh and Antioch

The project site is not within a CARE-program impacted community.

The major contributor to acute and chronic non-cancer health effects in the air basin is acrolein (C_3H_4O). Major sources of acrolein are on-road mobile sources and aircraft near freeways and commercial and military airports.[24] Currently CARB does not have certified emission factors or an analytical test method for acrolein. Since the appropriate tools needed to implement and enforce acrolein emission limits are not available, the BAAQMD does not conduct health risk screening analysis for acrolein emissions.[25]

1.1.3.3 REGULATION 7, ODOROUS SUBSTANCES

Sources of objectionable odors may occur within the City. BAAQMD's Regulation 7, Odorous Substances, places general limitations on odorous substances and specific emission limitations on certain odorous compounds. Odors are also regulated under BAAQMD Regulation 1, Rule 1-301, Public Nuisance, which states that "no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or the public; or which endangers the comfort, repose, health or safety of any such persons or the public, or which causes, or has a natural tendency to cause, injury or damage to business or property." Under BAAQMD's Rule 1-301, a facility that receives three or more violation notices within a 30-day period can be declared a public nuisance.

1.1.3.4 OTHER BAAQMD REGULATIONS

In addition to the plans and programs described above, BAAQMD administers a number of specific regulations on various sources of pollutant emissions that would apply to individual development projects allowed under the proposed General Plan, including:

---

[24] Bay Area Air Quality Management District. 2006, September. Community Air Risk Evaluation Program, Phase I Findings and Policy Recommendations Related to Toxic Air Contaminants in the San Francisco Bay Area. http://www.baaqmd.gov/Divisions/Planning-and-Research/%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20Planning-Programs-and-Initiatives/CARE-Program/~/media/54D434A0EB8348B78A71C4DE32831544.ashx.

[25] Bay Area Air Quality Management District. 2016, December. Air Toxics NSR Program, Health Risk Screening Analysis Guidelines. http://www.baaqmd.gov/~/media/files/planning-and-research/permit-modeling/hra_guidelines_12_7_2016_clean-pdf.pdf?la=en.

- BAAQMD, Regulation 2, Rule 2, New Source Review
- BAAQMD, Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants
- BAAQMD Regulation 6, Rule 1, General Requirements
- BAAQMD Regulation 6, Rule 2, Commercial Cooking Equipment
- BAAQMD Regulation 8, Rule 3, Architectural Coatings
- BAAQMD Regulation 8, Rule 4, General Solvent and Surface Coatings Operations
- BAAQMD Regulation 8, Rule 7, Gasoline Dispensing Facilities
- BAAQMD Regulation 11, Rule 2, Asbestos, Demolition, Renovation and Manufacturing)

1.1.4 Santa Clara Valley Transportation Authority

The Santa Clara Valley Transportation Authority (VTA) is the congestion management agency for Santa Clara County. VTA is tasked with developing a comprehensive transportation improvement program among local jurisdictions that will reduce traffic congestion and improve land use decision making and air quality. VTA's latest congestion management program (CMP) is the *2015 Congestion Management Program*. VTA's countywide transportation model must be consistent with the regional transportation model developed by the MTC with ABAG data. The countywide transportation model is used to help evaluate cumulative transportation impacts of local land use decisions on the CMP system. In addition, VTA's updated CMP includes multi-modal performance standards and trip reduction and transportation demand management strategies consistent with the goal of reducing regional VMT in accordance with Senate Bill 375 (SB 375). Strategies identified in the 2015 CMP for Santa Clara County, where local jurisdictions are responsible agencies, include:[26]

- **Traffic Level of Service:** Monitor and submit report on the level of service (LOS) on CMP roadway network intersections using CMP software and procedures.
- **Transportation Model and Database:** Certify that member agency models are consistent with the CMP model.
- **Community Form and Impact Analysis:** Prepare a transportation impact analysis (TIA) for projects that generate 100 or more peak hour trips and submit to the CMP according to TIA Guidelines schedule.
- **Community Form and Impact Analysis:** Submit relevant conditions of approval to VTA for projects generating TIAs.
- **Community Form and Impact Analysis:** Prepare and submit land use monitoring data to the CMP on all land use projects approved from July 1 to June 30 of the previous year.

[26] Santa Clara Valley Transportation Authority (VTA). 2017, December. 2017 Congestion Management Program. http://vtaorgcontent.s3-us-west-1.amazonaws.com/Site_Content/2017_CMP_Document.pdf.

- **Community Form and Impact Analysis:** Submit an annual statement certifying that the member agency has complied with the CMP Land Use Impact Analysis Program.
- **Monitoring and Conformance:** Outline the requirements and procedures established for conducting annual traffic LOS and land use monitoring efforts. Support the Traffic Level of Service and Community Form and Impact Analysis Elements.
- **Capital Improvement Program:** Develop a list of projects intended to maintain or improve the level of service on the designated system and to maintain transit performance standards.
- **Deficiency Plan:** Prepare deficiency plans for facilities that violate CMP traffic LOS standards or that are projected to violate LOS standards using the adopted deficiency plan requirements.
- **Deficiency Plan:** Submit a deficiency plan implementation status report as part of annual monitoring.

ENVIRONMENTAL SETTING

1.1.5 San Francisco Bay Area Air Basin

The BAAQMD is the regional air quality agency for the SFBAAB, which comprises all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties; the southern portion of Sonoma County; and the southwestern portion of Solano County. Air quality in this area is determined by such natural factors as topography, meteorology, and climate, in addition to the presence of existing air pollution sources and ambient conditions.[27]

1.1.5.1 METEOROLOGY

The SFBAAB is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys, and bays, which distort normal wind flow patterns. The Coast Range splits, resulting in a western coast gap, Golden Gate, and an eastern coast gap, Carquinez Strait, which allow air to flow in and out of the SFBAAB and the Central Valley.

The climate is dominated by the strength and location of a semi-permanent, subtropical high-pressure cell. During the summer, the Pacific high-pressure cell is centered over the northeastern Pacific Ocean, resulting in stable meteorological conditions and a steady northwesterly wind flow. Upwelling of cold ocean water from below the surface because of the northwesterly flow produces a band of cold water off the California coast.

The cool and moisture-laden air approaching the coast from the Pacific Ocean is further cooled by the presence of the cold water band, resulting in condensation and the presence of fog and stratus clouds along the Northern California coast. In the winter, the Pacific high-pressure cell weakens and shifts southward, resulting in wind flow offshore, the absence of upwelling, and the occurrence of storms. Weak inversions coupled with moderate winds result in a low air pollution potential.

[27] Bay Area Air Quality Management District. 2017, May. Appendix C: Sample Air Quality Setting, in *California Environmental Quality Act Air Quality Guidelines*. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en.

1.1.5.2 WIND PATTERNS

During the summer, winds flowing from the northwest are drawn inland through the Golden Gate and over the lower portions of the San Francisco Peninsula. Immediately south of Mount Tamalpais, the northwesterly winds accelerate considerably and come more directly from the west as they stream through the Golden Gate. This channeling of wind through the Golden Gate produces a jet that sweeps eastward and splits off to the northwest toward Richmond and to the southwest toward San Jose when it meets the East Bay hills.

Wind speeds may be strong locally in areas where air is channeled through a narrow opening, such as the Carquinez Strait, the Golden Gate, or the San Bruno gap. For example, the average wind speed at San Francisco International Airport in July is about 17 knots (from 3:00 p.m. to 4:00 p.m.), compared with only 7 knots at San Jose and less than 6 knots at the Farallon Islands.

The air flowing in from the coast to the Central Valley, called the sea breeze, begins developing at or near ground level along the coast in late morning or early afternoon. As the day progresses, the sea breeze layer deepens and increases in velocity while spreading inland. The depth of the sea breeze depends in large part upon the height and strength of the inversion. If the inversion is low and strong, and hence stable, the flow of the sea breeze will be inhibited and stagnant conditions are likely to result.

In the winter, the SFBAAB frequently experiences stormy conditions with moderate to strong winds, as well as periods of stagnation with very light winds. Winter stagnation episodes are characterized by nighttime drainage flows in coastal valleys. Drainage is a reversal of the usual daytime air-flow patterns; air moves from the Central Valley toward the coast and back down toward the Bay from the smaller valleys within the SFBAAB.

1.1.5.3 TEMPERATURE

Summertime temperatures in the SFBAAB are determined in large part by the effect of differential heating between land and water surfaces. Because land tends to heat up and cool off more quickly than water, a large-scale gradient (differential) in temperature is often created between the coast and the Central Valley, and small-scale local gradients are often produced along the shorelines of the ocean and bays. The temperature gradient near the ocean is also exaggerated, especially in summer, because of the upwelling of cold water from the ocean bottom along the coast. On summer afternoons the temperatures at the coast can be 35 degrees Fahrenheit (ºF) cooler than temperatures 15 to 20 miles inland. At night this contrast usually decreases to less than 10 ºF.

In the winter, the relationship of minimum and maximum temperatures is reversed. During the daytime the temperature contrast between the coast and inland areas is small, whereas at night the variation in temperature is large.

1.1.5.4 PRECIPITATION

The SFBAAB is characterized by moderately wet winters and dry summers. Winter rains (November through March) account for about 75 percent of the average annual rainfall. The amount of annual precipitation can vary greatly from one part of the SFBAAB to another, even within short distances. In general, total annual rainfall can reach 40 inches in the mountains, but it is often less than 16 inches in sheltered valleys.

During rainy periods, ventilation (rapid horizontal movement of air and injection of cleaner air) and vertical mixing (an upward and downward movement of air) are usually high, and thus pollution levels tend to be low (i.e. air pollutants are dispersed more readily into the atmosphere rather than accumulate under stagnant conditions). However, during the winter, frequent dry periods do occur, when mixing and ventilation are low and pollutant levels build up.

1.1.5.5 WIND CIRCULATION

Low wind speed contributes to the buildup of air pollution because it allows more pollutants to be emitted into the air mass per unit of time. Light winds occur most frequently during periods of low sun (fall and winter, and early morning) and at night. These are also periods when air pollutant emissions from some sources are at their peak, namely, commuter traffic (early morning) and wood-burning appliances (nighttime). The problem can be compounded in valleys, when weak flows carry the pollutants up-valley during the day, and cold air drainage flows move the air mass down-valley at night. Such restricted movement of trapped air provides little opportunity for ventilation and leads to buildup of pollutants to potentially unhealthful levels.

1.1.5.6 INVERSIONS

An inversion is a layer of warmer air over a layer of cooler air. Inversions affect air quality conditions significantly because they influence the mixing depth, i.e. the vertical depth in the atmosphere available for diluting air contaminants near the ground. There are two types of inversions that occur regularly in the SFBAAB. Elevation inversions are more common in the summer and fall, and radiation inversions are more common during the winter. The highest air pollutant concentrations in the SFBAAB generally occur during inversions.

1.1.6 Existing Ambient Air Quality

1.1.6.1 ATTAINMENT STATUS OF THE SFBAAB

Areas that meet AAQS are classified attainment areas, and areas that do not meet these standards are classified nonattainment areas. Severity classifications for O_3 range from marginal, moderate, and serious to severe and extreme. The attainment status for the air basin is shown in Table 2. The air basin is currently designated a nonattainment area for California and National O_3, California and National $PM_{2.5}$, and California PM_{10} AAQS.

Table 2 Attainment Status of Criteria Pollutants in the San Francisco Bay Area Air Basin

Pollutant	State	Federal
Ozone – 1-hour	Nonattainment	Classification revoked (2005)
Ozone – 8-hour	Nonattainment (serious)	Nonattainment
PM_{10}	Nonattainment	Unclassified/Attainment
$PM_{2.5}$	Nonattainment	Unclassified/Attainment[a]
CO	Attainment	Attainment
NO_2	Attainment	Unclassified
SO_2	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	Attainment	Unclassified/Attainment

Table 2 Attainment Status of Criteria Pollutants in the San Francisco Bay Area Air Basin

Pollutant	State	Federal
All others	Unclassified/Attainment	Unclassified/Attainment

Source: California Air Resources Board, 2017, October. Area Designations Maps: State and National. http://www.arb.ca.gov/desig/adm/adm.htm.

[a] In December 2014, US EPA issued final area designations for the 2012 primary annual $PM_{2.5}$ National AAQS. Areas designated "unclassifiable/attainment" must continue to take steps to prevent their air quality from deteriorating to unhealthy levels. The effective date of this standard is April 15, 2015 (Bay Area Air Quality Management District. 2017, January 5. Air Quality Standards and Attainment Status. http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status).

1.1.6.2 EXISTING AMBIENT AIR QUALITY

Existing levels of ambient air quality and historical trends and projections in the vicinity of the project site are best documented by measurements made by the BAAQMD. The BAAQMD monitoring stations closest to the project site is the Los Gatos, Los Gatos – 306 University Ave, Cupertino-22601 Voss Ave, and San Jose – 156B Jackson Street Monitoring Stations. Data from this station is summarized in Table 3. The data show occasional violations of the State and federal O_3 standards, as well as state PM_{10} and federal $PM_{2.5}$ standards. The State and federal CO and NO_2 standards have not been exceeded in the last five years in the vicinity of the project site.

Table 3 Ambient Air Quality Monitoring Summary

	Number of Days Threshold Were Exceeded and Maximum Levels during Such Violations				
Pollutant/Standard	**2014**	**2015**	**2016**	**2017**	**2018**
Ozone (O_3)					
State 1-Hour ≥ 0.09 ppm	0	1	0	0	0
State 8-hour ≥ 0.07 ppm	2	4	0	3	0
Federal 8-Hour > 0.075 ppm	1	2	0	0	0
Maximum 1-Hour Conc. (ppm)	0.090	0.100	0.091	0.093	0.082
Maximum 8-Hour Conc. (ppm)	0.077	0.084	0.065	0.075	0.067
Carbon Monoxide (CO)					
State 8-Hour > 9.0 ppm	*	*	*	*	*
Federal 8-Hour ≥ 9.0 ppm	*	*	*	*	*
Maximum 8-Hour Conc. (ppm)	*	*	*	*	*
Nitrogen Dioxide (NO_2)					
State 1-Hour ≥ 0.18 (ppm)	0	0	0	0	0
Maximum 1-Hour Conc. (ppb)	58.4	49.3	51.1	67.5	86.1
Coarse Particulates (PM_{10})					
State 24-Hour > 50 µg/m3	1	1	0	6	4
Federal 24-Hour > 150 µg/m3	0	0	0	0	1
Maximum 24-Hour Conc. (µg/m3)	56.4	58.8	41.0	69.8	155.8
Fine Particulates ($PM_{2.5}$)					
Federal 24-Hour > 35 µg/m^3	2	2	0	6	15
Maximum 24-Hour Conc. (µg/m^3)	60.4	49.4	22.6	49.7	133.9

Source: California Air Resources Board, 2015, Air Pollution Data Monitoring Cards (2011, 2012, 2013, 2014, and 2015), Accessed May 4, 2016, http://www.arb.ca.gov/adam/index.html. Data from Cupertino Monitoring Station for years 2010–2013. Data from the San Jose Jackson Street Monitoring Station for years 2014-2015.

Notes: ppm: parts per million; ppb: parts per billion; µg/m^3: or micrograms per cubic meter

* = insufficient data

1.1.6.3 EXISTING EMISSIONS

The existing neighborhood retail center and residential uses onsite currently generate criteria air pollutant emissions and GHG emissions from transportation sources, energy use (electricity and natural gas), area sources (consumer products, landscaping equipment, etc.), and indirect GHG emissions from water use and wastewater generation and solid waste disposal.

1.1.7 Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases. Residential areas are also considered sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Other sensitive receptors include retirement facilities, hospitals, and schools. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial, commercial, retail, and office areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, since the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the population.

The nearest sensitive receptors are single-family homes surrounding the project site. Single family homes to the north, south and west are adjacent to the project property and single-family homes to the east are approximately 50 feet away, across Stevens Canyon Road.

1.2 METHODOLOGY

The BAAQMD "CEQA Air Quality Guidelines" were prepared to assist in the evaluation of air quality impacts of projects and plans proposed in the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process, consistent with CEQA requirements, and include recommended thresholds of significance, mitigation measures, and background air quality information. They also include recommended assessment methodologies for air toxics, odors, and greenhouse gas emissions. In June 2010, the BAAQMD's Board of Directors adopted CEQA thresholds of significance and an update of the CEQA Guidelines. In May 2011, the updated BAAQMD CEQA Air Quality Guidelines were amended to include a risk and hazards threshold for new receptors and modified procedures for assessing impacts related to risk and hazard impacts; however, this later amendment regarding risk and hazards was the subject of the December 17, 2015 Supreme Court decision (*California Building Industry Association v BAAQMD*), which clarified that CEQA does not require an evaluation of impacts of the environment on a project.[28]

[28] On March 5, 2012, the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted the thresholds of significance in the BAAQMD CEQA Air Quality Guidelines. The court did not determine whether the thresholds of significance were valid on their merits, but found that the adoption of the thresholds was a project under CEQA. The court issued a writ of mandate ordering the BAAQMD to set aside the thresholds and cease

1.2.1 Criteria Air Pollutant Emissions

The proposed project qualifies as a project-level project under BAAQMD's criteria. For project-level analyses, BAAQMD has adopted screening criteria and significance criteria that would be applicable to the proposed project. If a project exceeds the screening level, it would be required to conduct a full analysis using BAAQMD's significance criteria.

Regional Significance Criteria

BAAQMD's criteria for regional significance for projects that exceed the screening thresholds are shown in Table 4. Criteria for both construction and operational phases of the project are shown.

Table 4 BAAQMD Regional (Mass Emissions) Criteria Air Pollutant Significance Thresholds

	Construction Phase	Operational Phase	
Pollutant	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	Maximum Annual 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
PM_{10} and $PM_{2.5}$ Fugitive Dust	Best Management Practices	None	None

Source: Bay Area Air Quality Management District. 2017, May. California Environmental Quality Act Air Quality Guidelines, Appendix D: Threshold of Significance Justification. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en.

Local CO Hotspots

Congested intersections have the potential to create elevated concentrations of CO, referred to as CO hotspots. The significance criteria for CO hotspots are based on the California AAQS for CO, which is 9.0 ppm (8-hour average) and 20.0 ppm (1-hour average). However, with the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology, the SFBAAB is in attainment of the California and National AAQS, and CO concentrations in the SFBAAB have steadily declined. Because CO concentrations have improved, BAAQMD does not require a CO hotspot analysis if the following criteria are met:

- Project is consistent with an applicable congestion management program established by the County Congestion Management Agency for designated roads or highways, the regional transportation plan, and local congestion management agency plans.

dissemination of them until the BAAQMD complied with CEQA. Following the court's order, the BAAQMD released revised CEQA Air Quality Guidelines in May of 2012 that include guidance on calculating air pollution emissions, obtaining information regarding the health impacts of air pollutants, and identifying potential mitigation measures, and which set aside the significance thresholds. The Alameda County Superior Court, in ordering BAAQMD to set aside the thresholds, did not address the merits of the science or evidence supporting the thresholds, and in light of the subsequent case history discussed below, the science and reasoning contained in the BAAQMD 2011 CEQA Air Quality Guidelines provide the latest state-of-the-art guidance available. On August 13, 2013, the First District Court of Appeal ordered the trial court to reverse the judgment and upheld the BAAQMD's CEQA Guidelines. (*California Building Industry Association versus BAAQMD, Case No. A135335 and A136212 (Court of Appeal, First District, August 13, 2013*).)

- The project would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- The project traffic would not increase traffic volumes at affected intersection to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g. tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).[29]

Odors

BAAQMD's thresholds for odors are qualitative based on BAAQMD's Regulation 7, Odorous Substances. This rule places general limitations on odorous substances and specific emission limitations on certain odorous compounds. In addition, odors are also regulated under BAAQMD Regulation 1, Rule 1-301, Public Nuisance, which states that no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or the public; or which endangers the comfort, repose, health or safety of any such persons or the public, or which causes, or has a natural tendency to cause, injury or damage to business or property. Under BAAQMD's Rule 1-301, a facility that receives three or more violation notices within a 30-day period can be declared a public nuisance. BAAQMD has established odor screening thresholds for land uses that have the potential to generate substantial odor complaints, including wastewater treatment plants, landfills or transfer stations, composting facilities, confined animal facilities, food manufacturing, and chemical plants.[30]

1.2.2 Community Risk and Hazards

The BAAQMD's significance thresholds for local community risk and hazard impacts apply to the siting of a new source. Local community risk and hazard impacts are associated with TACs and $PM_{2.5}$ because emissions of these pollutants can have significant health impacts at the local level. The purpose of this environmental evaluation is to identify the significant effects of the proposed project on the environment, not the significant effects of the environment on the proposed project (*California Building Industry Association v. Bay Area Air Quality Management District [2015] 62 Cal.4th 369 [Case No. S213478]*). CEQA does not require an environmental evaluation to analyze the environmental effects of attracting development and people to an area. However, the environmental evaluation must analyze the impacts of environmental hazards on future users when the proposed project exacerbates an existing environmental hazard or condition or if there is an exception to this exemption identified in the Public Resources Code. Schools, residential, commercial, and office uses do not use substantial quantities of TACs and typically do not exacerbate existing hazards, so these thresholds are typically applied to new industrial projects.

[29] Bay Area Air Quality Management District. 2017, May. California Environmental Quality Act Air Quality Guidelines, Appendix D: Threshold of Significance Justification. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

[30] Bay Area Air Quality Management District. 2017, May. California Environmental Quality Act Air Quality Guidelines. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

For assessing community risk and hazards, sources within a 1,000-foot radius are considered. Sources are defined as freeways, high volume roadways (with volume of 10,000 vehicles or more per day or 1,000 trucks per day), and permitted sources.[31,32]

The proposed project would generate TACs and $PM_{2.5}$ during construction activities that could elevate concentrations of air pollutants at the surrounding residential receptors. The BAAQMD has adopted screening tables for air toxics evaluation during construction.[33] Construction-related TAC and $PM_{2.5}$ impacts should be addressed on a case-by-case basis, taking into consideration the specific construction-related characteristics of each project and proximity to off-site receptors, as applicable.[34]

The project threshold identified below is applied to the proposed project's construction phase emissions:

Community Risk and Hazards – Project

Project-level construction emissions of TACs or $PM_{2.5}$ from the proposed project to individual sensitive receptors within 1,000 feet of the project site that exceed any of the thresholds listed below are considered a potentially significant community health risk:

- Non-compliance with a qualified Community Risk Reduction Plan;
- An excess cancer risk level of more than 10 in one million, or a non-cancer (i.e. chronic or acute) hazard index greater than 1.0 would be a significant cumulatively considerable contribution;
- An incremental increase of greater than 0.3 micrograms per cubic meter ($\mu g/m^3$) annual average $PM_{2.5}$ from a single source would be a significant, cumulatively considerable contribution.[35]

Community Risk and Hazards – Cumulative

Cumulative sources represent the combined total risk values of each of the individual sources within the 1,000-foot evaluation zone.

A project would have a cumulative considerable impact if the aggregate total of all past, present, and foreseeable future sources within a 1,000-foot radius from the fence line of a source or location of a receptor, plus the contribution from the project, exceeds the following:

- Non-compliance with a qualified Community Risk Reduction Plan; or

[31] Bay Area Air Quality Management District. 2017, May. California Environmental Quality Act Air Quality Guidelines, Appendix D: Threshold of Significance Justification. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

[32] Bay Area Air Quality Management District. 2012. Recommended Methods for Screening and Modeling Local Risks and Hazards.

[33] Bay Area Air Quality Management District. 2010. Screening Tables for Air Toxics Evaluations during Construction.

[34] Bay Area Air Quality Management District. 2017, May. California Environmental Quality Act Air Quality Guidelines, Appendix D: Threshold of Significance Justification. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

[35] Bay Area Air Quality Management District. 2017, May. California Environmental Quality Act Air Quality Guidelines, Appendix D: Threshold of Significance Justification. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

- An excess cancer risk levels of more than 100 in one million or a chronic non-cancer hazard index (from all local sources) greater than 10.0; or

- 0.8 μg/m^3 annual average $PM_{2.5}$.[36]

Current BAAQMD guidance recommends the determination of cancer risks using the Office of Environmental Health Hazard Assessment's (OEHHA) methodology, which was originally adopted in 2003.[37,38] In February 2015, OEHHA adopted new health risk assessment guidance which includes several efforts to be more protective of children's health. These updated procedures include the use of age sensitivity factors to account for the higher sensitivity of infants and young children to cancer causing chemicals, and age-specific breathing rates.[39] However, BAAQMD has not formally adopted the new OEHHA methodology into their CEQA guidance. To be conservative, the cancer risks associated with project implementation and significance conclusions were determined using the new 2015 OEHHA guidance for risk assessments.

[36] Bay Area Air Quality Management District. 2017, May. California Environmental Quality Act Air Quality Guidelines, Appendix D: Threshold of Significance Justification. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

[37] Bay Area Air Quality Management District. 2012, Recommended Methods for Screening and Modeling Local Risks and Hazards.

[38] Office of Environmental Health Hazard Assessment. 2003. Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments.

[39] Office of Environmental Health Hazard Assessment. 2015. Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments.

2. Greenhouse Gas Emissions

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as GHG, to the atmosphere. The primary source of these GHG is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHG—water vapor, carbon dioxide (CO_2), methane (CH_4), and ozone (O_3)—that are the likely cause of an increase in global average temperatures observed within the 20th and 21st centuries. Other GHG identified by the IPCC that contribute to global warming to a lesser extent include nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons.[40,41,42] The major GHG are briefly described below.

- **Carbon dioxide (CO_2)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (e.g. manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.

- **Methane (CH_4)** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in municipal landfills and water treatment facilities.

- **Nitrous oxide (N_2O)** is emitted during agricultural and industrial activities as well as during combustion of fossil fuels and solid waste.

- **Fluorinated gases** are synthetic, strong GHGs that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances. These gases are typically emitted in smaller quantities, but because they are potent GHGs, they are sometimes referred to as high global warming potential (GWP) gases.

    - ***Chlorofluorocarbons (CFCs)*** are GHGs covered under the 1987 Montreal Protocol and used for refrigeration, air conditioning, packaging, insulation, solvents, or aerosol propellants. Since they are not destroyed in the lower atmosphere (troposphere, stratosphere), CFCs drift into the upper atmosphere where, given suitable conditions, they break down ozone. These gases are also ozone-depleting gases and are therefore being replaced by other compounds that are GHGs covered under the Kyoto Protocol.

[40] Intergovernmental Panel on Climate Change, 2001. Third Assessment Report: Climate Change 2001, New York: Cambridge University Press.

[41] Water vapor (H_2O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant because it is considered part of the feedback loop of changing radiative forcing rather than a primary cause of change.

[42] Black carbon contributes to climate change both directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most strongly light-absorbing component of particulate matter (PM) emitted from burning fuels such as coal, diesel, and biomass. Reducing black carbon emissions globally can have immediate economic, climate, and public health benefits. California has been an international leader in reducing emissions of black carbon, with close to 95 percent control expected by 2020 due to existing programs that target reducing PM from diesel engines and burning activities. However, state and national GHG inventories do not include black carbon yet due to ongoing work related to resolving the precise global warming potential of black carbon. Guidance for CEQA documents does not yet include black carbon.

- ***Hydrofluorocarbons (HFCs)*** contain only hydrogen, fluorine, and carbon atoms. They were introduced as alternatives to ozone-depleting substances to serve many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are also used in manufacturing. They do not significantly deplete the stratospheric ozone layer, but they are strong GHGs.

- ***Perfluorocarbons (PFCs)*** are a group of human-made chemicals composed of carbon and fluorine only. These chemicals (predominantly perfluoromethane [CF_4] and perfluoroethane [C_2F_6]) were introduced, along with HFCs, as alternatives to the ozone-depleting substances. In addition, PFCs are emitted as by-products of industrial processes and are used in manufacturing. PFCs do not harm the stratospheric ozone layer, but they have a high global warming potential.

- ***Sulfur Hexafluoride (SF_6)*** is a colorless gas, soluble in alcohol and ether and slightly soluble in water. SF_6 is a strong GHG used primarily in electrical transmission and distribution systems as an insulator.

- ***Hydrochlorofluorocarbons (HCFCs)*** contain hydrogen, fluorine, chlorine, and carbon atoms. Although ozone-depleting substances, they are less potent at destroying stratospheric ozone than CFCs. They have been introduced as temporary replacements for CFCs and are also GHGs. [43,44]

GHGs are dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Some GHGs have a stronger greenhouse effect than others. These are referred to as high global warming potential (GWP) gases. Table 5 lists the GHG and their relative GWP compared to CO_2. The GWP is used to convert GHGs to CO_2-equivalent (CO_2e) to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. For example, under IPCC's Fourth Assessment Report (AR4) GWP values for CH_4 are such that a project generating 10 metric tons (MT) of CH_4 would be equivalent to 250 MT of CO_2.

[43] United States Environmental Protection Agency. 2015. Overview of Greenhouse Gases. http://www3.epa.gov/climatechange/ghgemissions/gases.html.

[44] Intergovernmental Panel on Climate Change. 2001. Third Assessment Report: Climate Change 2001, New York: Cambridge University Press.

Table 5 GHG Emissions and their Relative Global Warming Potential Compared to CO_2

GHGs	Second Assessment Report Atmospheric Lifetime (Years)	Fourth Assessment Report Atmospheric Lifetime (Years)	Second Assessment Report Global Warming Potential Relative to CO_2[a]	Fourth Assessment Report Global Warming Potential Relative to CO_2[a]
Carbon Dioxide (CO_2)	50 to 200	50 to 200	1	1
Methane[b] (CH_4)	12 (±3)	12	21	25
Nitrous Oxide (N_2O)	120	114	310	298
Hydrofluorocarbons:				
HFC-23	264	270	11,700	14,800
HFC-32	5.6	4.9	650	675
HFC-125	32.6	29	2,800	3,500
HFC-134a	14.6	14	1,300	1,430
HFC-143a	48.3	52	3,800	4,470
HFC-152a	1.5	1.4	140	124
HFC-227ea	36.5	34.2	2,900	3,220
HFC-236fa	209	240	6,300	9,810
HFC-4310mee	17.1	15.9	1,300	1,030
Perfluoromethane: CF_4	50,000	50,000	6,500	7,390
Perfluoroethane: C_2F_6	10,000	10,000	9,200	12,200
Perfluorobutane: C_4F_{10}	2,600	NA	7,000	8,860
Perfluoro-2-methylpentane: C_6F_{14}	3,200	NA	7,400	9,300
Sulfur Hexafluoride (SF_6)	3,200	NA	23,900	22,800

Source: Intergovernmental Panel on Climate Change, 1996, Second Assessment Report: Climate Change 1996, New York: Cambridge University Press; and Intergovernmental Panel on Climate Change, 2007, Fourth Assessment Report: Climate Change 2001, New York: Cambridge University Press.

Notes: The IPCC has published updated global warming potential (GWP) values in its Fifth Assessment Report (2013) that reflect new information on atmospheric lifetimes of GHGs and an improved calculation of the radiative forcing of CO_2. However, GWP values identified in the Second Assessment Report are still used by SCAQMD to maintain consistency in GHG emissions modeling. In addition, the 2008 Scoping Plan was based on the GWP values in the Second Assessment Report.

[a] Based on 100-year time horizon of the GWP of the air pollutant relative to CO_2.

[b] The methane GWP includes direct effects and indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO_2 is not included.

2.1 CALIFORNIA'S GREENHOUSE GAS SOURCES AND RELATIVE CONTRIBUTION

California is the 20th largest GHG emitter in the world and the second largest emitter of GHG in the United States, only surpassed by Texas.[45] However, California also has over 12 million more people than the State of Texas. Because of more stringent air emission regulations, in 2015, California ranked third lowest in energy-related carbon emissions per capita.[46]

In 2019, the statewide GHG emissions inventory was updated for 2000 to 2017 emissions using the GWPs in IPCC's AR4.[47] Based on these GWPs, California produced 424.10 $MMTCO_2e$ GHG emissions in 2017.

[45] California Air Resources Board. 2014, March. California Greenhouse Gas Inventory for 2000-2012 - by Category as Defined in the 2008 Scoping Plan. https://www.arb.ca.gov/cc/inventory/pubs/reports/2000_2012/ghg_inventory_scopingplan_00-12_2014-03-24.pdf.

[46] US Energy Information Administration (USEIA). 2018, January 22. Energy-Related Carbon Dioxide Emissions at the State Level, 2000-2015. https://www.eia.gov/environment/emissions/state/analysis/.

[47] Methodology for determining the statewide GHG inventory is not the same as the methodology used to determine statewide GHG emissions under Assembly Bill 32 (2006).

California's transportation sector was the single largest generator of GHG emissions, producing 40.1 percent of the state's total emissions. Industrial sector emissions made up 21.1 percent, and electric power generation made up 14.7 percent of the state's emissions inventory. Other major sectors of GHG emissions include commercial and residential (9.7 percent), agriculture and forestry (7.6 percent) high GWP (4.7 percent), and recycling and waste (2.1 percent).[48]

California's GHG emissions have followed a declining trend since 2007. In 2017, emissions from routine GHG emitting activities statewide were 424 $MMTCO_2e$, 5 $MMTCO_2e$ lower than 2016 levels. This represents an overall decrease of 14 percent since peak levels in 2004 and 7 $MMTCO_2e$ below the 1990 level and the state's 2020 GHG target. During the 2000 to 2017 period, per capita GHG emissions in California have continued to drop from a peak in 2001 of 14.0 $MTCO_2e$ per capita to 10.7 $MTCO_2e$ per capita in 2017, a 24 percent decrease. Overall trends in the inventory also demonstrate that the carbon intensity of California's economy (the amount of carbon pollution per million dollars of gross domestic product (GDP)) is declining, representing a 41 percent decline since the 2001 peak, while the state's GDP has grown 52 percent during this period. For the first time since California started to track GHG emissions, California uses more electricity from zero-GHG sources (hydro, solar, wind, and nuclear energy). [49]

2.2 HUMAN INFLUENCE ON CLIMATE CHANGE

For approximately 1,000 years before the Industrial Revolution, the amount of GHG in the atmosphere remained relatively constant. During the 20th century, however, scientists observed a rapid change in the climate and the quantity of climate change pollutants in the Earth's atmosphere that are attributable to human activities. The amount of CO_2 in the Earth's atmosphere has increased by more than 35 percent since preindustrial times, and the concentration of CO_2 in the atmosphere has increased at an average rate of 1.4 parts per million (ppm) per year since 1960, mainly due to combustion of fossil fuels and deforestation.[50] These recent changes in the quantity and concentration of climate change pollutants far exceed the extremes of the ice ages, and the global mean temperature is warming at a rate that cannot be explained by natural causes alone.[51] Human activities are directly altering the chemical composition of the atmosphere through the buildup of climate change pollutants.[52] In the past, gradual changes in the earth's temperature changed the distribution of species, availability of water, etc. However, human activities are accelerating this process so that environmental impacts associated with climate change no longer occur in a geologic time frame but within a human lifetime.[53]

Like the variability in the projections of the expected increase in global surface temperatures, the environmental consequences of gradual changes in the Earth's temperature are also hard to predict.

[48] California Air Resources Board (CARB). 2019, August 26. 2019 Edition California Greenhouse Gas Inventory for 2000-2017: By Category as Defined in the 2008 Scoping Plan. https://www.arb.ca.gov/cc/inventory/data/data.htm.

[49] 2019, August 26. California Greenhouse Emissions for 2000 to 2017: Trends of Emissions and Other Indicators. https://www.arb.ca.gov/cc/inventory/data/data.htm.

[50] Intergovernmental Panel on Climate Change. 2007. Fourth Assessment Report: Climate Change 2007, New York: Cambridge University Press.

[51] At the end of the last ice age, the concentration of CO2 increased by around 100 ppm (parts per million) over about 8,000 years, or approximately 1.25 ppm per century. Since the start of the industrial revolution, the rate of increase has accelerated markedly. The rate of CO_2 accumulation currently stands at around 150 ppm/century—more than 200 times faster than the background rate for the past 15,000 years.

[52] California Climate Action Team. 2006. Climate Action Team Report to Governor Schwarzenegger and the Legislature, March.

[53] Intergovernmental Panel on Climate Change. 2007. Fourth Assessment Report: Climate Change 2007, New York: Cambridge University Press.

Projections of climate change depend heavily upon future human activity. Therefore, climate models are based on different emission scenarios that account for historic trends in emissions and on observations of the climate record that assess the human influence of the trend and projections for extreme weather events. Climate-change scenarios are affected by varying degrees of uncertainty. For example, there are varying degrees of certainty on the magnitude of the trends for:

- Warmer and fewer cold days and nights over most land areas;
- Warmer and more frequent hot days and nights over most land areas;
- An increase in frequency of warm spells/heat waves over most land areas;
- An increase in frequency of heavy precipitation events (or proportion of total rainfall from heavy falls) over most areas;
- Areas affected by drought increases;
- Intense tropical cyclone activity increases;
- Increased incidence of extreme high sea level (excluding tsunamis).

2.3 POTENTIAL CLIMATE CHANGE IMPACTS FOR CALIFORNIA

Observed changes over the last several decades across the western United States reveal clear signals of climate change. Statewide average temperatures increased by about 1.7°F from 1895 to 2011, and warming has been greatest in the Sierra Nevada. By 2050, California is projected to warm by approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 4.1–8.6°F, depending on emissions levels.[54]

In California and western North America, observations of the climate have shown: 1) a trend toward warmer winter and spring temperatures, 2) a smaller fraction of precipitation falling as snow, 3) a decrease in the amount of spring snow accumulation in the lower and middle elevation mountain zones, 4) an advance snowmelt of 5 to 30 days earlier in the springs, and 5) a similar shift (5 to 30 days earlier) in the timing of spring flower blooms.[55] According to the California Climate Action Team, even if actions could be taken to immediately curtail climate change emissions, the potency of emissions that have already built up, their long atmospheric lifetimes (see Table 5), and the inertia of the Earth's climate system could produce as much as 0.6°C (1.1°F) of additional warming. Consequently, some impacts from climate change are now considered unavoidable. Global climate change risks to California are shown in Table 6 and include public health impacts, water resources impacts, agricultural impacts, coastal sea level impacts, forest and biological resource impacts, and energy impacts.

[54] California Climate Change Center. 2012. Our Changing Climate 2012, Vulnerability & Adaptation to the Increasing Risks from Climate Change in California. https://ww2.energy.ca.gov/2012publications/CEC-500-2012-007/CEC-500-2012-007.pdf.

[55] California Environmental Protection Agency. 2006, March. Climate Action Team Report to Governor Schwarzenegger and the Legislature. https://www.climatechange.ca.gov/climate_action_team/reports/2006report/2006-04-03_FINAL_CAT_REPORT.PDF.

Table 6 Summary of GHG Emissions Risks to California

Impact Category	Potential Risk
Public Health Impacts	Heat waves will be more frequent, hotter, and longer Fewer extremely cold nights Poor air quality made worse Higher temperatures increase ground-level ozone levels
Water Resources Impacts	Decreasing Sierra Nevada snow pack Challenges in securing adequate water supply Potential reduction in hydropower Loss of winter recreation
Agricultural Impacts	Increasing temperature Increasing threats from pests and pathogens Expanded ranges of agricultural weeds Declining productivity Irregular blooms and harvests
Coastal Sea Level Impacts	Accelerated sea level rise Increasing coastal floods Shrinking beaches Worsened impacts on infrastructure
Forest and Biological Resource Impacts	Increased risk and severity of wildfires Lengthening of the wildfire season Movement of forest areas Conversion of forest to grassland Declining forest productivity Increasing threats from pest and pathogens Shifting vegetation and species distribution Altered timing of migration and mating habits Loss of sensitive or slow-moving species
Energy Demand Impacts	Potential reduction in hydropower Increased energy demand

Sources: California Energy Commission, 2006, Our Changing Climate: Assessing the Risks to California, 2006 Biennial Report, California Climate Change Center, CEC-500-2006-077; California Energy Commission, 2008, The Future Is Now: An Update on Climate Change Science, Impacts, and Response Options for California, CEC-500-2008-0077. California Climate Change Center. 2012. Our Changing Climate 2012, Vulnerability & Adaptation to the Increasing Risks from Climate Change in California. July.

Specific climate change impacts that could affect the project include:

- ***Water Resources Impacts.*** By late-century, all projections show drying, and half of the projections suggest 30-year average precipitation will decline by more than 10 percent below the historical average. This drying trend is caused by an apparent decline in the frequency of rain and snowfall. Even in projections with relatively small or no declines in precipitation, central and southern parts of the State can be expected to be drier from the warming effects alone as the spring snowpack will melt sooner, and the moisture contained in soils will evaporate during long dry summer months.[56]

- ***Wildfire Risks***. Earlier snowmelt, higher temperatures and longer dry periods over a longer fire season will directly increase wildfire risk. Indirectly, wildfire risk will also be influenced by potential climate-related changes in vegetation and ignition potential from lightning. Human activities will

[56] California Climate Change Center. 2012, July. Our Changing Climate 2012, Vulnerability & Adaptation to the Increasing Risks from Climate Change in California. https://ww2.energy.ca.gov/2012publications/CEC-500-2012-007/CEC-500-2012-007.pdf

continue to be the biggest factor in ignition risk. The number of large fires statewide are estimated to increase from 58 percent to 128 percent above historical levels by 2085. Under the same emissions scenario, estimated burned area will increase by 57 percent to 169 percent, depending on location.[57]

- ***Health Impacts.*** Many of the gravest threats to public health in California stem from the increase of extreme conditions, principally more frequent, more intense, and longer heat waves. Particular concern centers on the increasing tendency for multiple hot days in succession, and heat waves occurring simultaneously in several regions throughout the State. Public health could also be affected by climate change impacts on air quality, food production, the amount and quality of water supplies, energy pricing and availability, and the spread of infectious diseases. Higher temperatures also increase ground-level ozone levels. Furthermore, wildfires can increase particulate air pollution in the major air basins of California.[58]

- ***Increase Energy Demand.*** Increases in average temperature and higher frequency of extreme heat events combined with new residential development across the State will drive up the demand for cooling in the increasingly hot and longer summer season and decrease demand for heating in the cooler season. Warmer, drier summers also increase system losses at natural gas plants (reduced efficiency in the electricity generation process from higher temperatures) and hydropower plants (lower reservoir levels). Transmission of electricity will also be affected by climate change. Transmission lines lose 7 percent to 8 percent of transmitting capacity in high temperatures while needing to transport greater loads. This means that more electricity needs to be produced to make up for the loss in capacity and the growing demand.[59]

2.1 REGULATORY FRAMEWORK

2.1.1 Federal Laws

The U.S. Environmental Protection Agency (EPA) announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat. The EPA's final findings respond to the 2007 U.S. Supreme Court decision that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings do not in and of themselves impose any emission reduction requirements, but allow the EPA to finalize the GHG standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation.[60]

---

[57] California Environmental Protection Agency. 2006, March. Climate Action Team Report to Governor Schwarzenegger and the Legislature. https://www.climatechange.ca.gov/climate_action_team/reports/2006report/2006-04-03_FINAL_CAT_REPORT.PDF.

[58] California Environmental Protection Agency. 2006, March. Climate Action Team Report to Governor Schwarzenegger and the Legislature. https://www.climatechange.ca.gov/climate_action_team/reports/2006report/2006-04-03_FINAL_CAT_REPORT.PDF.

[59] California Environmental Protection Agency. 2006, March. Climate Action Team Report to Governor Schwarzenegger and the Legislature. https://www.climatechange.ca.gov/climate_action_team/reports/2006report/2006-04-03_FINAL_CAT_REPORT.PDF.

[60] United States Environmental Protection Agency. 2009, December. EPA: Greenhouse Gases Threaten Public Health and the Environment. Science overwhelmingly shows greenhouse gas concentrations at unprecedented levels due to human activity. https://archive.epa.gov/epapages/newsroom_archive/newsreleases/08d11a451131bca585257685005bf252.html.

The EPA's endangerment finding covers emissions of six key GHGs—CO_2, CH_4, N_2O, hydrofluorocarbons, perfluorocarbons, and SF_6—that have been the subject of scrutiny and intense analysis for decades by scientists in the United States and around the world. The first three are applicable to the proposed project because they constitute the majority of GHG emissions from the onsite land uses, and per BAAQMD guidance are the GHG emissions that should be evaluated as part of a GHG emissions inventory.

2.1.1.1 US MANDATORY REPORTING RULE FOR GREENHOUSE GASES (2009)

In response to the endangerment finding, the EPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (large stationary sources, etc.) to report GHG emissions data. Facilities that emit 25,000 metric tons (MT) or more of CO_2 per year are required to submit an annual report.

2.1.1.2 UPDATE TO CORPORATE AVERAGE FUEL ECONOMY STANDARDS (2010/2012)

The current Corporate Average Fuel Economy (CAFE) standards (for model years 2011 to 2016) incorporate stricter fuel economy requirements promulgated by the federal government and California into one uniform standard. Additionally, automakers are required to cut GHG emissions in new vehicles by roughly 25 percent by 2016 (resulting in a fleet average of 35.5 miles per gallon [mpg] by 2016). Rulemaking to adopt these new standards was completed in 2010. California agreed to allow automakers who show compliance with the national program to also be considered to be in compliance with State requirements. The federal government issued new standards in 2012 for model years 2017–2025, which will require a fleet average of 54.5 mpg in 2025.

While the EPA is reexamining the 2017–2025 emissions and CAFE standards, a consortium of automakers and California have agreed on a voluntary framework to reduce emissions that can serve as an alternative path forward for clean vehicle standards nationwide. Automakers who agreed to the framework are Ford, Honda, BMW of North America and Volkswagen Group of America. The framework supports continued annual reductions of vehicle greenhouse gas emissions through the 2026 model year, encourages innovation to accelerate the transition to electric vehicles, and provides industry the certainty needed to make investments and create jobs. This commitment means that the auto companies party to the voluntary agreement will only sell cars in the United States that meet these standards.[61]

2.1.1.3 EPA REGULATION OF STATIONARY SOURCES UNDER THE CLEAN AIR ACT (ONGOING)

Pursuant to its authority under the Clean Air Act (CAA), the EPA has been developing regulations for new stationary sources such as power plants, refineries, and other large sources of emissions. Pursuant to President Obama's 2013 Climate Action Plan, the EPA was directed to also develop regulations for existing stationary sources. However, the EPA is reviewing the Clean Power Plan under President Trump's Energy Independence Executive Order.

[61] California Air Resources Board. 2019, September 5 (accessed). California and major automakers reach groundbreaking framework agreement on clean emission standards. https://ww2.arb.ca.gov/news/california-and-major-automakers-reach-groundbreaking-framework-agreement-clean-emission.

2.1.2 State Laws

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Executive Order S-03-05, Executive Order B-30-15, Assembly Bill 32, Senate Bill 32, and Senate Bill 375.

2.1.2.1 EXECUTIVE ORDER S-03-05

Executive Order S-03-05, signed June 1, 2005. Executive Order S-03-05 set the following GHG reduction targets for the State:

- 2000 levels by 2010
- 1990 levels by 2020
- 80 percent below 1990 levels by 2050

2.1.2.2 ASSEMBLY BILL 32, THE GLOBAL WARMING SOLUTIONS ACT

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in AB 32. AB 32 was passed by the California state legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in Executive Order S-03-05.

2.1.2.3 CARB 2008 SCOPING PLAN

The final Scoping Plan was adopted by CARB on December 11, 2008. The *2008 Scoping Plan* identified that GHG emissions in California are anticipated to be 596 $MMTCO_2e$ in 2020. In December 2007, CARB approved a 2020 emissions limit of 427 $MMTCO_2e$ (471 million tons) for the state.[62] In order to effectively implement the emissions cap, AB 32 directed CARB to establish a mandatory reporting system to track and monitor GHG emissions levels for large stationary sources that generate more than 25,000 $MTCO_2e$ per year, prepare a plan demonstrating how the 2020 deadline can be met, and develop appropriate regulations and programs to implement the plan by 2012.

2.1.2.4 FIRST UPDATE TO THE SCOPING PLAN

CARB completed a five-year update to the 2008 Scoping Plan, as required by AB 32. The First Update to the Scoping Plan, adopted at the May 22, 2014, board hearing, highlights California's progress toward meeting the near-term 2020 GHG emission reduction goals defined in the 2008 Scoping Plan. As part of the update, CARB recalculated the 1990 GHG emission levels with the updated AR4 GWPs, and the 427 $MMTCO_2e$ 1990 emissions level and 2020 GHG emissions limit, established in response to AB 32, are slightly higher at 431 $MMTCO_2e$.[63]

As identified in the Update to the Scoping Plan, California is on track to meeting the goals of AB 32. However, the update also addresses the state's longer-term GHG goals in a post-2020 element. The post-2020 element provides a high level view of a long-term strategy for meeting the 2050 GHG goals, including a

[62] California Air Resources Board. 2008, October. Climate Change Proposed Scoping Plan, a Framework for Change. https://ww3.arb.ca.gov/cc/scopingplan/document/psp.pdf

[63] California Air Resources Board. 2014, March 24. California Greenhouse Gas Inventory for 2000–2012: By Category as Defined by the Scoping Plan, http://www.arb.ca.gov/cc/inventory/data/data.htm.

recommendation for the state to adopt a midterm target. According to the Update to the Scoping Plan, local government reduction targets should chart a reduction trajectory that is consistent with or exceeds the trajectory created by statewide goals.[64] CARB identified that reducing emissions to 80 percent below 1990 levels will require a fundamental shift to efficient, clean energy in every sector of the economy. Progressing toward California's 2050 climate targets will require significant acceleration of GHG reduction rates. Emissions from 2020 to 2050 will have to decline several times faster than the rate needed to reach the 2020 emissions limit.[65]

2.1.2.5 EXECUTIVE ORDER B-30-15

Executive Order B-30-15, signed April 29, 2015, sets a goal of reducing GHG emissions within the state to 40 percent of 1990 levels by year 2030. Executive Order B-30-15 also directs CARB to update the Scoping Plan to quantify the 2030 GHG reduction goal for the state and requires state agencies to implement measures to meet the interim 2030 goal as well as the long-term goal for 2050 in Executive Order S-03-05. It also requires the Natural Resources Agency to conduct triennial updates of the California adaption strategy, Safeguarding California, in order to ensure climate change is accounted for in state planning and investment decisions.

2.1.2.6 SENATE BILL 32 AND ASSEMBLY BILL 197

In September 2016, Governor Brown signed Senate Bill 32 and Assembly Bill 197 into law, making the Executive Order goal for year 2030 into a statewide mandated legislative target. AB 197 established a joint legislative committee on climate change policies and requires the CARB to prioritize direction emissions reductions rather than the market-based cap-and-trade program for large stationary, mobile, and other sources.

2017 Climate Change Scoping Plan Update

Executive Order B-30-15 and SB 32 required CARB to prepare another update to the Scoping Plan to address the 2030 target for the state. On December 14, 2017, CARB adopted the *2017 Climate Change Scoping Plan Update*. The *2017 Climate Change Scoping Plan Update* includes the regulations and programs to achieve the 2030 target, including strategies consistent with AB 197 requirements. The 2017 Scoping Plan establishes a new emissions limit of 260 $MMTCO_2e$ for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030.[66]

California's climate strategy will require contributions from all sectors of the economy, including enhanced focus on zero- and near-zero emission (ZE/NZE) vehicle technologies; continued investment in renewables, such as solar roofs, wind, and other types of distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (methane, black carbon, and fluorinated gases); and an increased focus on integrated land use planning, to support livable, transit-connected communities and conservation of agricultural and

[64] California Air Resources Board. 2014, March 24. California Greenhouse Gas Inventory for 2000–2012: By Category as Defined by the Scoping Plan, http://www.arb.ca.gov/cc/inventory/data/data.htm.

[65] California Air Resources Board. 2014, March 24. California Greenhouse Gas Inventory for 2000–2012: By Category as Defined by the Scoping Plan, http://www.arb.ca.gov/cc/inventory/data/data.htm.

[66] California Air Resources Board. 2017, November. California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target. https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf.

other lands. Requirements for GHG reductions at stationary sources complement efforts by the local air districts to tighten criteria air pollutants and TACs emissions limits on a broad spectrum of industrial sources. Major elements of the 2017 Scoping Plan framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing ZEV buses and trucks.
- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030).
- Implementation of SB 350, which expands the Renewables Portfolio Standard (RPS) to 50 percent RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency and utilizes NZE technology and deployment of ZEV trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy, which focuses on reducing methane and hydroflurocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.
- Continued implementation of SB 375.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

In addition to the statewide strategies listed above, the 2017 Climate Change Scoping Plan also identified local governments as essential partners in achieving the state's long-term GHG reduction goals and identified local actions to reduce GHG emissions. As part of the recommended actions, CARB recommends statewide targets of no more than 6 $MTCO_2e$ or less per capita by 2030 and 2 $MTCO_2e$ or less per capita by 2050. CARB recommends that local governments evaluate and adopt robust and quantitative locally appropriate goals that align with the statewide per capita targets and the state's sustainable development objectives, and develop plans to achieve the local goals. The statewide per capita goals were developed by applying the percent reductions necessary to reach the 2030 and 2050 climate goals (i.e., 40 percent and 80 percent, respectively) to the state's 1990 emissions limit established under AB 32. For CEQA projects, CARB states that lead agencies have the discretion to develop evidence-based numeric thresholds (mass emissions, per capita, or per service population) consistent with the Scoping Plan and the state's long-term GHG goals. To the degree a project relies on GHG mitigation measures, CARB recommends that lead agencies prioritize on-site design features that reduce emissions, especially from vehicle miles traveled (VMT), and direct investments in GHG reductions in the project's region that contribute potential air quality, health, and economic co-benefits. Where further project design or regional investments are infeasible or not proven to be

effective, CARB recommends mitigating potential GHG impacts through purchasing and retiring carbon credits.[67]

The Scoping Plan scenario is set against what is called the business-as-usual yardstick—that is, what GHG emissions would look like if the state did nothing beyond the existing policies that are required and already in place to achieve the 2020 limit, as shown in Table 7, *2017 Climate Change Scoping Plan Emissions Reductions Gap*. It includes the existing renewables requirements, advanced clean cars, the "10 percent" LCFS, and the SB 375 program for more vibrant communities, among others. However, it does not include a range of new policies or measures that have been developed or put into statute over the past two years. As shown in the table, the known commitments are expected to result in emissions that are 60 $MMTCO_2e$ above the target in 2030. If the estimated GHG reductions from the known commitments are not realized due to delays in implementation or technology deployment, the post-2020 Cap-and-Trade Program would deliver the additional GHG reductions in the sectors it covers to ensure the 2030 target is achieved.

Table 7 2017 Climate Change Scoping Plan Emissions Reductions Gap

Modeling Scenario	2030 GHG Emissions $MMTCO_2e$
Reference Scenario (Business-as-Usual)	389
With Known Commitments	320
2030 GHG Target	**260**
Gap to 2030 Target with Known Commitments	**60**

Source: California Air Resources Board. 2017, November. California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target. https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf.

Table 8, *2017 Scoping Plan Emissions Changes by Sector to Achieve the 2030 Target*, provides estimated GHG emissions by sector compared to 1990 levels, and the range of GHG emissions for each sector estimated for 2030.

Table 8 2017 Scoping Plan Emissions Changes by Sector to Achieve the 2030 Target

Scoping Plan Sector	1990 $MMTCO_2e$	2030 Proposed Plan Ranges $MMTCO_2e$	% Change from 1990
Agricultural	26	24-25	-8% to -4%
Residential and Commercial	44	38-40	-14% to -9%
Electric Power	108	30-53	-72% to -51%
High GWP	3	8-11	267% to 367%
Industrial	98	83-90	-15% to -8%
Recycling and Waste	7	8-9	14% to 29%
Transportation (including TCU)	152	103-111	-32% to -27%
Net Sink[a]	-7	TBD	TBD
Sub Total	431	294-339	-32% to -21%
Cap-and-Trade Program	NA	24-79	NA
Total	431	260	-40%

[67] California Air Resources Board. 2017, November. California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target. https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf.

Table 8 2017 Scoping Plan Emissions Changes by Sector to Achieve the 2030 Target

Scoping Plan Sector	1990 $MMTCO_2e$	2030 Proposed Plan Ranges $MMTCO_2e$	% Change from 1990

Source: California Air Resources Board. 2017, November. California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target. https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf.

Notes: TCU = Transportation, Communications, and Utilities; TBD: To Be Determined.

[a] Work is underway through 2017 to estimate the range of potential sequestration benefits from the natural and working lands sector.

2.1.2.7 SENATE BILL 1383

On September 19, 2016, the Governor signed SB 1383 to supplement the GHG reduction strategies in the Scoping Plan to consider short-lived climate pollutants, including black carbon and CH_4. Black carbon is the light-absorbing component of fine particulate matter produced during incomplete combustion of fuels. SB 1383 requires the state board, no later than January 1, 2018, to approve and begin implementing that comprehensive strategy to reduce emissions of short-lived climate pollutants to achieve a reduction in methane by 40 percent, hydrofluorocarbon gases by 40 percent, and anthropogenic black carbon by 50 percent below 2013 levels by 2030, as specified. The bill also establishes targets for reducing organic waste in landfill. On March 14, 2017, CARB adopted the "Final Proposed Short-Lived Climate Pollutant Reduction Strategy," which identifies the state's approach to reducing anthropogenic and biogenic sources of short-lived climate pollutants. Anthropogenic sources of black carbon include on- and off-road transportation, residential wood burning, fuel combustion (charbroiling), and industrial processes. According to CARB, ambient levels of black carbon in California are 90 percent lower than in the early 1960s despite the tripling of diesel fuel use.[68] In-use on-road rules are expected to reduce black carbon emissions from on-road sources by 80 percent between 2000 and 2020.

2.1.2.8 SENATE BILL 375/SUSTAINABLE COMMUNITIES STRATEGY

In 2008, SB 375, the Sustainable Communities and Climate Protection Act, was adopted to connect the GHG emissions reductions targets established in the 2008 Scoping Plan for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce VMT and vehicle trips. Specifically, SB 375 required CARB to establish GHG emissions reduction targets for each of the 18 metropolitan planning organizations (MPOs). The Metropolitan Transportation Commission (MTC) is the MPO for the nine-county San Francisco Bay Area region. Pursuant to the recommendations of the Regional Transportation Advisory Committee (RTAC), CARB adopted per capita reduction targets for each of the MPOs rather than a total magnitude reduction target.

2017 Update to the SB 375 Targets

CARB is required to update the targets for the MPOs every eight years. CARB adopted revised SB 375 targets for the MPOs in March 2018. The updated targets become effective on October 1, 2018. The targets consider the need to further reduce VMT, as identified in the 2017 Scoping Plan Update (for SB 32), while balancing the need for additional and more flexible revenue sources to incentivize positive planning and

[68] CARB. 2017, March 14. Final Proposed Short-Lived Climate Pollutant Reduction Strategy. https://www.arb.ca.gov/cc/shortlived/shortlived.htm.

action toward sustainable communities. Like the 2010 targets, the updated SB 375 targets are in units of percent per capita reduction in GHG emissions from automobiles and light trucks relative to 2005; this excludes reductions anticipated from implementation of state technology and fuels strategies, and any potential future state strategies, such as statewide road user pricing.

The proposed targets call for greater per-capita GHG emission reductions from SB 375 than are currently in place, which for 2035 translate into proposed targets that either match or exceed the emission reduction levels in the MPOs' currently adopted SCS to achieve the SB 375 targets. For next SCS update, CARB's updated targets for the MTC/ABAG region are a 10 percent per capita GHG reduction in 2020 from 2005 levels (compared to 7 percent under the 2010 target) and a 19 percent per capita GHG reduction in 2035 from 2005 levels (compared to the 2010 target of 15 percent). CARB foresees that the additional GHG emissions reductions in 2035 may be achieved from land use changes, transportation investment, and technology strategies.

Plan Bay Area, Strategy for a Sustainable Region

Plan Bay Area 2040 is the Bay Area's RTP/SCS and was adopted jointly by ABAG and MTC on July 26, 2017. It lays out a development scenario for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce GHG emissions from transportation (excluding goods movement) beyond the per capita reduction targets identified by CARB. Plan Bay Area 2040 is a limited and focused update to the 2013 Plan Bay Area, with updated planning assumptions that incorporate key economic, demographic, and financial trends from the last several years.

As part of the implementing framework for Plan Bay Area, local governments have identified Priority Development Areas (PDAs) to focus growth. PDAs are transit-oriented, infill development opportunity areas in existing communities. Overall, well over two-thirds of all regional growth in the Bay Area by 2040 is allocated in PDAs. Per the Final Plan Bay Area 2040, while the projected number of new housing units and new jobs within PDAs would increase to 629,000 units and 707,000 jobs compared to the adopted Plan Bay Area 2013, its overall share would be reduced to 77 percent and 55 percent.[69] However, Plan Bay Area 2040 remains on track to meet a 16 percent per capita reduction of GHG emissions by 2035 and a 10 percent per capita reduction by 2020 from 2005 conditions.[70] The proposed project site is not within a PPA.[71]

2.1.2.9 ASSEMBLY BILL 1493

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG

[69] Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG). 2017, March. Plan Bay Area 2040 Plan.

[70] Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG). 2017, March. Plan Bay Area 2040 Plan.

[71] Associated Bay Area Governments (ABAG). July 2015. Priority Development Area Showcase, http://gis.abag.ca.gov/website/PDAShowcase/.

emissions standards for model year 2017 through 2025 light-duty vehicles.[72] In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.[73]

2.1.2.10 EXECUTIVE ORDER S-1-07

On January 18, 2007, the State set a new Low Carbon Fuel Standard (LCFS) for transportation fuels sold in California. Executive Order S-1-07 sets a declining standard for GHG emissions measured in carbon dioxide equivalent gram per unit of fuel energy sold in California. The LCFS requires a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The LCFS applies to refiners, blenders, producers, and importers of transportation fuels and would use market-based mechanisms to allow these providers to choose how they reduce emissions during the "fuel cycle," using the most economically feasible methods.

2.1.2.11 EXECUTIVE ORDER B-16-2012

On March 23, 2012, the State identified that CARB, the California Energy Commission (CEC), the Public Utilities Commission, and other relevant agencies worked with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate zero-emissions vehicles in major metropolitan areas, including infrastructure to support them (e.g. electric vehicle charging stations). The executive order also directs the number of zero-emission vehicles in California's State vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are zero-emission by 2015 and at least 25 percent by 2020. The executive order also establishes a target for the transportation sector of reducing GHG emissions from the transportation sector 80 percent below 1990 levels.

2.1.2.12 SENATE BILLS 1078 AND 107 AND EXECUTIVE ORDER S-14-08

A major component of California's Renewable Energy Program is the renewable portfolio standard (RPS) established under Senate Bills 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. Executive Order S-14-08 was signed in November 2008, which expanded the State's Renewable Energy Standard to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SBX1-2). The increase in renewable sources for electricity

[72] See also the discussion on the update to the CAFE standards under federal laws, above. In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.

[73] See also the discussion on the update to the CAFE standards under Federal Laws, above. In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.

production will decrease indirect GHG emissions from development projects because electricity production from renewable sources is generally considered carbon neutral.

2.1.2.13 SENATE BILL 350

Senate Bill 350 (de Leon), was signed into law September 2015. SB 350 establishes tiered increases to the RPS of 40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

2.1.2.14 CALIFORNIA BUILDING STANDARDS CODE – BUILDING ENERGY EFFICIENCY STANDARDS

Energy conservation standards for new residential and non-residential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 and most recently revised in 2016 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On June 10, 2015, the CEC adopted the 2016 Building Energy Efficiency Standards, which went into effect on January 1, 2017.

The 2016 Standards continues to improve upon the previous 2013 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. Under the 2016 Standards, residential and nonresidential buildings are 28 and 5 percent more energy efficient than the 2013 Standards, respectively (CEC 2015a). Buildings that are constructed in accordance with the 2013 Building Energy Efficiency Standards are 25 percent (residential) to 30 percent (nonresidential) more energy efficient than the prior 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features. While the 2016 standards do not achieve zero net energy, they do get very close to the state's goal and make important steps toward changing residential building practices in California. The 2019 standards will take the final step to achieve zero net energy for newly constructed residential buildings throughout California.[74]

The 2019 standards move towards cutting energy use in new homes by more than 50 percent and will require installation of solar photovoltaic systems for single-family homes and multi-family buildings of 3 stories and less. Four key areas the 2019 standards will focus on include 1) smart residential photovoltaic systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); 3) residential and nonresidential ventilation requirements; 4) and nonresidential lighting requirements (CEC 2018a). Under the 2019 standards, nonresidential buildings will be 30 percent more energy efficient compared to the 2016 standards while single-family homes will be 7 percent more energy efficient (CEC 2018b). When accounting for the electricity generated by the solar photovoltaic system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards.[75]

[74] California Energy Commission (CEC). 2015. 2016 Building Energy and Efficiency Standards Frequently Asked Questions. http://www.energy.ca.gov/title24/2016standards/rulemaking/documents/2016_Building_Energy_Efficiency_Standards_FAQ.pdf.

[75] CEC. 2018. 2019 Building Energy and Efficiency Standards Frequently Asked Questions. http://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf

2.1.2.15 CALIFORNIA GREEN BUILDING STANDARDS CODE – CALGREEN

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11, Title 24, known as "CALGreen") was adopted as part of the California Building Standards Code (Title 24, CCR). CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.[76] The mandatory provisions of the California Green Building Code Standards became effective January 1, 2011, was last updated in 2016. The CEC adopted the 2019 CALGreen on May 9, 2018. The 2019 CALGreen standards become effective January 1, 2020.

2.1.2.16 2006 APPLIANCE ENERGY EFFICIENCY REGULATIONS

The 2006 Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608) were adopted by the California Energy Commission on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances. Though these regulations are now often viewed as "business-as-usual," they exceed the standards imposed by all other states, and they reduce GHG emissions by reducing energy demand.

2.1.2.17 SOLID WASTE REGULATIONS

California's Integrated Waste Management Act of 1989 (AB 939; Public Resources Code §§ 40050 et seq.) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per capita requirement rather than tonnage. To help achieve this, the act requires that each city and county prepare and submit a source reduction and recycling element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

AB 341 (Chapter 476, Statutes of 2011) increased the statewide goal for waste diversion to 75 percent by 2020 and requires recycling of waste from commercial and multifamily residential land uses.

The California Solid Waste Reuse and Recycling Access Act (AB 1327; Public Resources Code §§ 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own.

Section 5.408 of the 2016 and 2019 CALGreen also requires that at least 65 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

In October of 2014 Governor Brown signed AB 1826, requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling

[76] The green building standards became mandatory in the 2010 edition of the code.

program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste.

2.1.2.18 WATER EFFICIENCY REGULATIONS

The 20x2020 Water Conservation Plan was issued by the Department of Water Resources (DWR) in 2010 pursuant to Senate Bill 7, which was adopted during the 7th Extraordinary Session of 2009–2010 and therefore dubbed "SBX7-7." SBX7-7 mandated urban water conservation and authorized the DWR to prepare a plan implementing urban water conservation requirements (20x2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 requires urban water providers to adopt a water conservation target of 20 percent reduction in urban per capita water use by 2020 compared to 2005 baseline use.

The Water Conservation in Landscaping Act of 2006 (AB 1881) requires local agencies to adopt the updated DWR model ordinance or equivalent. AB 1881 also requires the CEC to consult with the DWR to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water

2.1.3 Local Regulations

2.1.3.1 CITY OF CUPERTINO CLIMATE ACTION PLAN

The City of Cupertino published the public draft Climate Action Plan (CAP) in December, 2014 to achieve the GHG reduction target of AB 32 for target year 2020. The CAP serves to support California's statewide climate change efforts through identification of actions that can be taken locally, by residents, businesses, and the City itself, to ensure the State's ambitious reduction goals can be achieved. The strategies outlined in the CAP seek to not only reduce GHG emissions, but also provide energy, water, fuel, and cost savings for the City.[77] The goals established by the City's CAP are the following:

- Goal 1 – Reduce Energy Use: Increase energy efficiency in existing homes and buildings and increase use of renewable energy community-wide.
- Goal 2 – Encourage Alternative Transportation: Support transit, carpooling, walking, and bicycling as viable transportation modes to decrease the number of single-occupancy vehicle trips within the community.
- Goal 3 – Conserve Water: Promote the efficient use and conservation of water in buildings and landscapes.
- Goal 4 – Reduce Solid Waste: Strengthen waste reduction efforts through recycling and organics collection and reduced consumption of materials that otherwise end up in landfills.

[77] City of Cupertino, 2015. Climate Action Plan. 2015, January. http://www.cupertino.org/home/showdocument?id=13531.

- Goal 5 – Expand Green Infrastructure: Enhance the City's existing urban forest on public and private lands.

2.2 ENVIRONMENTAL SETTING

2.2.1 Existing Emissions

The project site is currently developed with surface parking and two structures, one operational restaurant and one vacant office building. Existing site uses generate greenhouse gas emissions from mobile, area, and energy sources.

2.3 METHODOLOGY

The BAAQMD CEQA Air Quality Guidelines were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential GHG emissions impacts during the environmental review process, consistent with CEQA requirements, and include recommended thresholds of significance, mitigation measures, and background information.

2.3.1 Greenhouse Gas Emissions

BAAQMD has a tiered approach for assessing GHG emissions impacts of a project. If a project is within the jurisdiction of an agency that has a "qualified" GHG reduction strategy, the project can assess consistency of its GHG emissions impacts with the reduction strategy.

BAAQMD has adopted screening criteria and significance criteria for development projects that would be applicable for the proposed project. If a project exceeds the Guidelines' GHG screening-level sizes, the project would be required to conduct a full GHG analysis using the following BAAQMD significance criteria:

- 1,100 MT of CO_2e per year; or
- 4.6 MT of CO_2e per service population (SP) for year 2020

AB 32 requires the statewide GHG emission be reduced to 1990 levels by 2020. On a per-capita basis, that means reducing the annual emissions of 14 tons of carbon dioxide for every man, woman, and child in California down to about 10 tons per person by 2020.[78] Hence, BAAQMD's per capita significance threshold is calculated based on the State's land use sector emissions inventory prepared by CARB and the demographic forecasts for the 2008 Scoping Plan. The land use sector GHG emissions for 1990 were estimated by BAAQMD, as identified in Appendix D of the BAAQMD CEQA Guidelines, to be 295.53 $MMTCO_2e$and the 2020 California service population (SP) to be 64.3 million. Therefore, the significance threshold that would ensure consistency with the GHG reduction goals of AB 32 is estimated at 4.6 $MTCO_2e$/SP for year 2020.[79]

[78] California Air Resources Board, 2008. Climate Change Scoping Plan: A Framework for Change.
[79] Bay Area Air Quality Management District, 2017, May, California Environmental Quality Act Air Quality Guidelines.

Land use development projects include residential, commercial, industrial, and public land use facilities. Direct sources of emissions may include on-site combustion of energy, such as natural gas used for heating and cooking, emissions from industrial processes (not applicable for most land use development projects), and fuel combustion from mobile sources. Indirect emissions are emissions produced off-site from energy production, water conveyance due to a project's energy use and water consumption, and non-biogenic emissions from waste disposal. Biogenic CO_2 emissions are not included in the quantification of a project's GHG emissions, because biogenic CO_2 is derived from living biomass (e.g. organic matter present in wood, paper, vegetable oils, animal fat, food, animal, and yard waste) as opposed to fossil fuels. Although GHG emissions from waste generation are included in the GHG inventory for the proposed project, the efficiency threshold of 4.6 $MTCO_2e$ per service population for 2020 identified above does not include the waste sector, and it is therefore not considered in the evaluation.

BAAQMD does not have thresholds of significance for construction-related GHG emissions, but requires quantification and disclosure of construction-related GHG emissions.[80] For operational phases, if projects exceed the bright line and per capita efficiency targets, GHG emissions would be considered potentially significant in the absence of mitigation measures.

Post-2020 GHG Thresholds

For projects that would be implemented beyond year 2020, the efficiency targets have been adjusted based on the GHG reduction targets of Senate Bill 32, which set a goal of 40 percent below 1990 levels by 2030. Executive Order B-30-15 and SB 32 required CARB to prepare another update to the Scoping Plan to address the 2030 target for the state. On December 14, 2017, CARB adopted the 2017 Climate Change Scoping Plan Update, which includes the regulations and programs to achieve the 2030 target. The 2017 Scoping Plan establishes a new emissions limit of 260 $MMTCO_2e$ for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030.[81] As shown in Table 9, *2030 GHG Reduction Targets,* using the latest land use emissions inventory developed for the 2017 Scoping Plan, the estimated 2030 GHG project-level efficiency target would be 3.1 $MTCO_2e$ per service population per year.

[80] Bay Area Air Quality Management District, 2017, May, California Environmental Quality Act Air Quality Guidelines.

[81] California Air Resources Board. 2017, November. California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target. https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf.

Table 9 2030 GHG Reduction Targets

GHG Sector[a]	Scoping Plan Scenario GHG Emissions $MMTCO_2e$
2017 Scoping Plan End Use Sector 2030 – Land Use Only Sectors	
Residential – residential energy consumption	41.4
Commercial – commercial energy consumption	30.1
Transportation – transportation energy consumption	105.1
Transportation Communications and Utilities – energy that supports public infrastructure like street lighting and waste treatment facilities	5
Solid Waste Non-Energy GHGs	9.1
Total 2017 Scoping Plan Land Use Sector Target	260
2030 Project-Level Efficiency Target	
2030 Population[b]	44,085,600
2030 Employment[c]	19,210,760
2030 Service Population	63,296,360
2030 Efficiency Target	3.1 $MTCO_2e$/SP

Sources:

[a] California Air Resources Board. 2017, November. California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target. https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf.

[b] California Department of Finance. 2016. Report P-2: State and County Population Projections by Race/Ethnicity and Age (5-year groups). http://www.dof.ca.gov/Forecasting/Demographics/projections/documents/P-2_Age5yr_CAProj_2010-2060.xls..

[c] California Department of Transportation (Caltrans). 2016. Traffic Census Program. Year 2015 Truck Traffic. http://www.dot.ca.gov/trafficops/census/. Without industrial and agricultural sectors.

Criteria Air Pollutant Emissions Summary - Construction

	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total Unmitigated		0.24	1.81	1.35	0.00	0.09	0.07	0.16	0.03	0.07	0.10
Total Mitigated		0.15	1.22	1.54	0.00	0.09	0.01	0.10	0.03	0.01	0.04

UNMITIGATED

	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total Onsite		0.22	1.39	1.18	0.00	0.04	0.07	0.11	0.02	0.07	0.08
Total Offsite		0.02	0.42	0.18	0.00	0.05	0.00	0.05	0.01	0.00	0.02
check		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

FOR CONSTRUCTION RISK ASSESSMENT - Unmitigated Run

	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2020 Onsite		0.11	1.06	0.85	0.00	0.04	0.05	0.09	0.02	0.05	0.07
2020 Offsite		0.02	0.39	0.14	0.00	0.04	0.00	0.04	0.01	0.00	0.01
2021 Onsite		0.11	0.33	0.33	0.00	0.00	0.02	0.02	0.00	0.02	0.02
2021 Offsite		0.00	0.03	0.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00

FOR CONSTRUCTION REGIONAL EMISSIONS - Unmitigated Run

	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total 2020		0.13	1.45	0.99	0.00	0.08	0.06	0.14	0.03	0.05	0.08
Total 2021		0.11	0.36	0.36	0.00	0.01	0.02	0.03	0.00	0.02	0.02
Check		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Mitigated

	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total Onsite		0.13	0.80	1.37	0.00	0.04	0.01	0.05	0.02	0.01	0.03
Total Offsite		0.02	0.42	0.18	0.00	0.05	0.00	0.05	0.01	0.00	0.02
check		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

FOR CONSTRUCTION RISK ASSESSMENT - Mitigated Run

	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2020 Onsite		0.04	0.58	1.00	0.00	0.04	0.01	0.05	0.02	0.01	0.02
2020 Offsite		0.02	0.39	0.14	0.00	0.04	0.00	0.04	0.01	0.00	0.01
2021 Onsite		0.09	0.22	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021 Offsite		0.00	0.03	0.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00

FOR CONSTRUCTION REGIONAL EMISSIONS - Mitigated Run

	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total 2020		0.06	0.97	1.14	0.00	0.08	0.01	0.09	0.03	0.01	0.04
Total 2021		0.09	0.26	0.40	0.00	0.01	0.00	0.01	0.00	0.00	0.01
Check		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.2 Demolition Equipment - 2020

Unmitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust						0.00	0.00	0.00	0.00	0.00	0.00
Off-Road		0.01	0.13	0.09	0.00		0.01	0.01		0.01	0.01
Total		0.01	0.13	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category tons/yr										
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category tons/yr										
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.05	0.09	0.00		0.00	0.00		0.00	0.00
Total	0.00	0.05	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category tons/yr										
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.3 Building Demolition Haul - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category tons/yr										
Fugitive Dust					0.01	0.00	0.01	0.00	0.00	0.00
Off-Road	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00
Total	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category tons/yr										
Hauling	0.00	0.04	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.04	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category tons/yr										
Fugitive Dust					0.01	0.00	0.01	0.00	0.00	0.00
Off-Road	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00
Total	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category tons/yr										
Hauling	0.00	0.04	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.04	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00

3.4 Asphalt Demolition Haul - 2020

Unmitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust						0.00	0.00	0.00	0.00	0.00	0.00
Off-Road		0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Unmitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Mitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust						0.00	0.00	0.00	0.00	0.00	0.00
Off-Road		0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Mitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.5 Utility Installation - 2020

Unmitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road		0.02	0.20	0.21	0.00		0.01	0.01		0.01	0.01
Total		0.02	0.20	0.21	0.00		0.01	0.01		0.01	0.01

Unmitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Mitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road		0.01	0.16	0.30	0.00		0.00	0.00		0.00	0.00
Total		0.01	0.16	0.30	0.00		0.00	0.00		0.00	0.00

Mitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.6 Site Preparation - 2020

Unmitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust						0.02	0.00	0.02	0.01	0.00	0.01
Off-Road		0.01	0.15	0.06	0.00		0.01	0.01		0.01	0.01
Total		0.01	0.15	0.06	0.00	0.02	0.01	0.03	0.01	0.01	0.02

Unmitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Mitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust						0.02	0.00	0.02	0.01	0.00	0.01
Off-Road		0.00	0.04	0.08	0.00		0.00	0.00		0.00	0.00
Total		0.00	0.04	0.08	0.00	0.02	0.00	0.02	0.01	0.00	0.01

Mitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.7 Site Preparation Haul - 2020

Unmitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust						0.00	0.00	0.00	0.00	0.00	0.00
Off-Road		0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Unmitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.11	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.11	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00

Mitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust						0.00	0.00	0.00	0.00	0.00	0.00
Off-Road		0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Mitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.11	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.11	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00

3.6 Rough Grading - 2020

Unmitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust						0.01	0.00	0.01	0.00	0.00	0.00
Off-Road		0.00	0.04	0.02	0.00		0.00	0.00		0.00	0.00
Total		0.00	0.04	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00

Unmitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Mitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust						0.01	0.00	0.01	0.00	0.00	0.00
Off-Road		0.00	0.01	0.02	0.00		0.00	0.00		0.00	0.00
Total		0.00	0.01	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00

Mitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.9 Rough Grading Haul - 2020

Unmitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust						0.00	0.00	0.00	0.00	0.00	0.00
Off-Road		0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Unmitigated Construction Off-Site

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr										
Hauling		0.00	0.15	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.15	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00

Mitigated Construction On-Site

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr										
Fugitive Dust						0.00	0.00	0.00	0.00	0.00	0.00
Off-Road		0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Mitigated Construction Off-Site

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr										
Hauling		0.00	0.15	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.15	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00

310 Fine Grading - 2020

Unmitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust						0.01	0.00	0.01	0.00	0.00	0.00
Off-Road		0.00	0.04	0.02	0.00		0.00	0.00		0.00	0.00
Total		0.00	0.04	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00

Unmitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Mitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Dust						0.01	0.00	0.01	0.00	0.00	0.00
Off-Road		0.00	0.01	0.02	0.00		0.00	0.00		0.00	0.00
Total		0.00	0.01	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00

Mitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.11 Building Construction - 2020

Unmitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road		0.06	0.51	0.45	0.00		0.03	0.03		0.03	0.03
Total		0.06	0.51	0.45	0.00		0.03	0.03		0.03	0.03

Unmitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.01	0.00	0.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Total		0.01	0.07	0.06	0.00	0.02	0.00	0.02	0.00	0.00	0.01

Mitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road		0.03	0.31	0.49	0.00		0.01	0.01		0.01	0.01
Total		0.03	0.31	0.49	0.00		0.01	0.01		0.01	0.01

Mitigated Construction Off-Site

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr										
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.01	0.00	0.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Total		0.01	0.07	0.06	0.00	0.02	0.00	0.02	0.00	0.00	0.01

3.11 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
Category	tons/yr										
Off-Road		0.03	0.24	0.23	0.00		0.01	0.01		0.01	0.01
Total		0.03	0.24	0.23	0.00		0.01	0.01		0.01	0.01

Unmitigated Construction Off-Site

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr										
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Total		0.00	0.03	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00

Mitigated Construction On-Site

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr										
Off-Road		0.01	0.16	0.26	0.00		0.00	0.00		0.00	0.00
Total		0.01	0.16	0.26	0.00		0.00	0.00		0.00	0.00

Mitigated Construction Off-Site

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr										
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00
Total		0.00	0.03	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00

3.12 Asphalt Paving - 2021

Unmitigated Construction On-Site

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr										
Off-Road		0.00	0.04	0.05	0.00		0.00	0.00		0.00	0.00
Paving		0.00					0.00	0.00		0.00	0.00
Total		0.00	0.04	0.05	0.00		0.00	0.00		0.00	0.00

Unmitigated Construction Off-Site

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr										
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Mitigated Construction On-Site

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr										
Off-Road		0.00	0.03	0.06	0.00		0.00	0.00		0.00	0.00
Paving		0.00					0.00	0.00		0.00	0.00
Total		0.00	0.03	0.06	0.00		0.00	0.00		0.00	0.00

Mitigated Construction Off-Site

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr										
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.13 Architectural Coating - 2021

Unmitigated Construction On-Site

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr										
Archit. Coating		0.07					0.00	0.00		0.00	0.00
Off-Road		0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00
Total		0.07	0.01	0.01	0.00		0.00	0.00		0.00	0.00

Unmitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Mitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Archit. Coating		0.07					0.00	0.00		0.00	0.00
Off-Road		0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00
Total		0.07	0.01	0.01	0.00		0.00	0.00		0.00	0.00

Mitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.14 Finish/Landscaping - 2021

Unmitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road		0.00	0.03	0.04	0.00		0.00	0.00		0.00	0.00
Total		0.00	0.03	0.04	0.00		0.00	0.00		0.00	0.00

Unmitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Mitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Off-Road		0.00	0.02	0.04	0.00		0.00	0.00		0.00	0.00
Total		0.00	0.02	0.04	0.00		0.00	0.00		0.00	0.00

Mitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Hauling		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Criteria Air Pollutant Emissions Summary - Construction Unmitigated

Annual emissions divided by total construction duration to obtain average daily emissions. Average construction emissions accounts for the duration of each construction phase and the time each piece of construction equipment is onsite.

Total Construction Days	2020	2021	Calendar Days
209	154	55	291

Unmigated Run - with Best Control Measures for Fugitive Dust

average lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total	2	17	13	0	1	1	2	0	1	1
BAAQMD Threshold	54	54	NA	NA	BMP	82	54	BMP	54	NA
Exceeds Threshold	No	No	NA	NA	NA	No	No	NA	No	NA

avg lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
TOTAL 2020	2	19	13	0	1	1	2	0	1	1
TOTAL 2021	4	13	13	0	0	1	1	0	1	1
	3									

avg lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total Onsite	2.10	13.29	11.24	0.02	0.38	0.68	1.06	0.16	0.65	0.81
Total Offsite	0.23	4.02	1.69	0.01	0.48	0.02	0.50	0.13	0.02	0.15
	0	0			0	0		0	0	

FOR CONSTRUCTION RISK ASSESSMENT

Onsite Details

avg lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2020 Onsite	1.46	13.78	10.99	0.02	0.51	0.70	1.21	0.22	0.66	0.88
2021 Onsite	3.90	11.89	11.97	0.02	0.00	0.63	0.63	0.00	0.60	0.60
	3.26	12.39								

Offsite Details

avg lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2020 Offsite	0.26	5.00	1.84	0.02	0.52	0.027	0.54	0.14	0.026	0.17
2021 Offsite	0.17	1.26	1.28	0.01	0.38	0.004	0.39	0.10	0.004	0.11

Criteria Air Pollutant Emissions Summary - Construction Mitigated

Annual emissions divided by total construction duration to obtain average daily emissions. Average construction emissions accounts for the duration of each construction phase and the time each piece of construction equipment is onsite.

Total Construction Days	2020	2021	Calendar Days
209	154	55	291

Mitigated - Tier 4 Interim Engines for Eq. > 50 hp; with Best Control Measures for Fugitive Dust

average lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total	1	12	15	0	1	0	1	0	0	0
BAAQMD Threshold	54	54	NA	NA	BMP	82	54	BMP	54	NA
Exceeds Threshold	No	No	NA	NA	NA	No	No	NA	No	NA

avg lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
TOTAL 2020	1	13	15	0	1	0	1	0	0	0
TOTAL 2021	3	9	14	0	0	0	0	0	0	0
check	3	10	15	0	1	0	1	0	0	0

avg lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total Onsite	1.24	7.70	13.07	0.02	0.38	0.09	0.46	0.16	0.09	0.25
Total Offsite	0.23	4.02	1.69	0.01	0.48	0.02	0.50	0.13	0.02	0.15
check	0	0	0	0	0	0	0	0	0	0

FOR CONSTRUCTION RISK ASSESSMENT

Onsite Details

avg lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2020 Onsite	0.55	7.58	13.03	0.02	0.51	0.08	0.60	0.22	0.08	0.30
2021 Onsite	3.17	8.03	13.19	0.02	0.00	0.09	0.09	0.00	0.09	0.09
check	2.48	7.91	13.14	0.02	0.13	0.09	0.22	0.06	0.09	0.15

Offsite Details

avg lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2020 Offsite	0.26	5.00	1.84	0.02	0.52	0.027	0.54	0.14	0.026	0.17
2021 Offsite	0.17	1.26	1.28	0.01	0.38	0.004	0.39	0.10	0.004	0.11

Criteria Air Pollutant Emissions Summary - Operations

Existing 2019

Mitigated Operational	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category tons/yr										
Area	0.06	0.00	0.01	0.00		0.00	0.00		0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00
Mobile	0.16	0.71	2.03	0.01	0.52	0.01	0.53	0.14	0.01	0.15
Waste						0.00	0.00		0.00	0.00
Water						0.00	0.00		0.00	0.00
Total	0.23	0.71	2.04	0.01	0.52	0.01	0.53	0.14	0.01	0.15
BAAQMD Threshold (T/YR)	10	10	NA	NA	NA	NA	15	NA	NA	10
Exceeds thresholds	No	No					No			No

Existing at Buildout

Mitigated Operational	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category tons/yr										
Area	0.06	0.00	0.01	0.00		0.00	0.00		0.00	0.00
Energy	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00
Mobile	0.14	0.59	1.70	0.01	0.52	0.00	0.53	0.14	0.00	0.14
Waste						0.00	0.00		0.00	0.00
Water						0.00	0.00		0.00	0.00
Total	0.20	0.60	1.71	0.01	0.52	0.01	0.53	0.14	0.00	0.14
BAAQMD Threshold (T/YR)	10	10	NA	NA	NA	NA	15	NA	NA	10
Exceeds thresholds	No	No					No			No

Project at Buildout

Mitigated Operational	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category tons/yr										
Area	0.19	0.00	0.14	0.00		0.00	0.00		0.00	0.00
Energy	0.00	0.02	0.01	0.00		0.00	0.00		0.00	0.00
Mobile	0.08	0.33	0.95	0.00	0.29	0.00	0.29	0.08	0.00	0.08
Waste						0.00	0.00		0.00	0.00
Water						0.00	0.00		0.00	0.00
Total	0.27	0.35	1.09	0.00	0.29	0.00	0.29	0.08	0.00	0.08
BAAQMD Threshold (T/YR)	10	10	NA	NA	NA	NA	15	NA	NA	10
Exceeds thresholds	No	No					No			No

Net

Mitigated Operational											
		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	tons/yr										
Area		0.13	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Energy		0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile		-0.06	-0.26	-0.75	0.00	-0.23	0.00	-0.23	-0.06	0.00	-0.06
Waste		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.07	-0.25	-0.62	0.00	-0.23	0.00	-0.23	-0.06	0.00	-0.06
BAAQMD Threshold (T/YR)		10	10	NA	NA	NA	NA	15	NA	NA	10
Exceeds thresholds		No	No					No			No

Criteria Air Pollutant Emissions Summary - Operations

Annual emissions divided by 365 days/year to obtain average daily emissions.

Existing 2019

lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Area	0	0	0	0	0	0	0	0	0	0
Energy	0	0	0	0	0	0	0	0	0	0
Mobile	1	4	11	0	3	0	3	1	0	1
Waste	0	0	0	0	0	0	0	0	0	0
Water	0	0	0	0	0	0	0	0	0	0
Total	1	4	11	0	3	0	3	1	0	1
BAAQMD Threshold (Daily)	54	54					82			54
Exceeds Threshold	No	No					No			No

Existing at Buildout

lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Area	0	0	0	0	0	0	0	0	0	0
Energy	0	0	0	0	0	0	0	0	0	0
Mobile	1	3	9	0	3	0	3	1	0	1
Waste	0	0	0	0	0	0	0	0	0	0
Water	0	0	0	0	0	0	0	0	0	0
Total	1	3	9	0	3	0	3	1	0	1
BAAQMD Threshold (Daily)	54	54					82			54
Exceeds Threshold	No	No					No			No

Project At Buildout

lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Area	1	0	1	0	0	0	0	0	0	0
Energy	0	0	0	0	0	0	0	0	0	0
Mobile	0	2	5	0	2	0	2	0	0	0
Waste	0	0	0	0	0	0	0	0	0	0
Water	0	0	0	0	0	0	0	0	0	0
Total	1	2	6	0	2	0	2	0	0	0
BAAQMD Threshold (Daily)	54	54					82			54
Exceeds Threshold	No	No					No			No

Net

lbs/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Area	1	0	1	0	0	0	0	0	0	0
Energy	0	0	0	0	0	0	0	0	0	0
Mobile	0	-1	-4	0	-1	0	-1	0	0	0
Waste	0	0	0	0	0	0	0	0	0	0
Water	0	0	0	0	0	0	0	0	0	0
Total	0	-1	-3	0	-1	0	-1	0	0	0
BAAQMD Threshold (Daily)	54	54					82			54
Exceeds Threshold	No	No					No			No

GHG Emissions Inventory

Existing Conditions 2019

Area	0	$MTCO_2e$/Year**
Energy	5	$MTCO_2e$/Year
Mobile	335	$MTCO_2e$/Year
Solid Waste	7	$MTCO_2e$/Year
Water	1	$MTCO_2e$/Year
Total	**347**	**$MTCO_2e$/Year**

Proposed Project Buildout

Construction

	$MTCO_2e$ Total Project*
2020	253
2021	63
Total Construction	**316**

*CalEEMod, Version 2016.3.2.

Area	2	$MTCO_2e$/Year**
Energy	20	$MTCO_2e$/Year
Mobile	294	$MTCO_2e$/Year
Solid Waste	7	$MTCO_2e$/Year
Water	1	$MTCO_2e$/Year
30-Yr Amortized Construction Emissions	11	$MTCO_2e$/Year
Total	**334**	**$MTCO_2e$/Year**

Net Emissions

Area	2	$MTCO_2e$/Year**
Energy	16	$MTCO_2e$/Year
Mobile	-41	$MTCO_2e$/Year
Solid Waste	0	$MTCO_2e$/Year
Water	0	$MTCO_2e$/Year
Amortized Construction Emissions***	11	$MTCO_2e$/Year
Net Emissions	**-13**	
BAAQMD Bright-Line Screening Threshold	1,100	$MTCO_2e$/Year
Exceed Threshold?	**No**	

*CalEEMod, Version 2016.3.2.

** $MTCO_2e$=metric tons of carbon dioxide equivalent.

CalEEMod Inputs (Construction Run) - COCU-15

Name:	Canyon Crossings Mixed-Use Project
Project Location:	10625 South Foothill Boulevard, Cupertino 95014
County/Air Basin:	Santa Clara County/ SFBAAB
Climate Zone:	4
Land Use Setting:	Urban
Operational Year:	2021
Utility Company:	Silicon Valley Clean Energy (SVCE)

Total Site Acreage:	1.57
Disturbed Site Acreage:	1.57

Site Plan 4/11/2019	SQFT	Acreage	Units
Residential	40851		18
Mixed-Use Flat (Apartments)	7851	0	5
Single Family	13170	0.30	5
Townhouses	19830	0.23	8
Retail	4536	0.10	
Landscaping	24,000	0.55	
Hardscaping	14,000	0.32	
Parking Structure	16922	NA	
Surface Parking	2613.6	0.06	
		1.57	

CalEEMod Land Use Inputs

Land Use Type	Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Square Feet
Mixed-Use Flat (Apartments)	Residential	Apartments Low Rise	5	dwelling units	0.00	7,851
Single Family	Residential	Single Family Housing	5	dwelling units	0.30	13,170
Townhouses	Residential	Condo/Townhouse	8	dwelling units	0.23	19,830
Retail	Retail	Strip Mall	4.54	1000 sqft	0.10	4,536
Landscaping + Hardscaping	Parking	Other Non-Asphalt Surface	38.00	1000 sqft	0.87	38000
Parking Structure	Parking	Enclosed Parking Structure	16.92	1000 sqft	0.00	16,922
Surface Parking	Parking	Parking Lot	2.61	1000 sqft	0.06	2,614
					1.57	

Demolition Haul

Component	Amount to be Demolished (SQFT)	Amount to be Demolished (Tons)	Haul Truck Capacity (tons)**	Haul Distance (miles)*	Total Trip Ends**	Duration (days)	Trips Ends/Day
Asphalt	-	294	5	20	118	2	58.8
Buildings	13,225	1616	5	20	646	11	59
		1,910			**764**		

*CalEEMod Default. The Newby Island Landfill is 17.6 miles away; and therefore, modeling is conservative.

** Applicant provided the building SQFT and Tonnage of Demo and Haul Truck Capacity. 5 ton trucks are MHDT.

Soil Haul

	Total Volume (CY) Export**	Haul Truck Capacity (CY)*	Haul Distance (miles)*	Total Trip Ends	Total Days	Trip Ends/Day
Site Preparation	6,000	16	20	**750**	6	125
Rough Grading	8,100	16	20	**1,013**	5	203

*CalEEMod Default.

** Applicant provided the grading haul (export

Architectural Coating

VOC Content	Provided by the Applicant
Interior Paint VOC content:	25
Exterior Paint VOC content:	25
Architectural Coating %	* CalEEMod Default
Percentage of Buildings' Interior Painted:	100%
Percentage of Buildings' Exterior Painted:	100%

Structures	Land Use Square Feet	CalEEMod Paintable Surface Area Multiplier[2]	Total Paintable Surface Area	Paintable Interior Area[1]	Paintable Exterior Area[1]
Residential					
Apartments Low Rise	7,851	2.7	21,198	15,898	5,299
Single Family Housing	13,170	2.7	35,559	26,669	8,890
Condo/Townhouse	19,830	2.7	53,541	40,156	13,385
		Residential Total	**110,298**	**82,723**	**27,574**
Non-Residential					
Retail	4,536	2	9,072	6,804	2,268
		Non-Residential Totals	**9,072**	**6,804**	**2,268**
Parking Structure	16,922	0.06	1,015	-	1,015
Surface Parking	2,614	0.06	157	-	157
		Striping Totals	**1,172**	**0**	**1,172**

Notes:

[1] CalEEMod methodology calculates the paintable interior and exterior areas by multiplying the total paintable surface area by 75 and 25 percent, respectively.

[2] The program assumes the total surface for painting equals 2.7 times the floor square footage for residential and 2 times that for nonresidential square footage defined by the user. Architectural coatings for the parking lot is based on CalEEMod methodology applied to a surface parking lot (i.e., striping), in which 6% of surface area is painted.

Construction BMPs

Replace Ground Cover	PM10:	5	% Reduction
	PM25:	5	% Reduction
Water Exposed Area	Frequency:	2	per day
	PM10:	55	% Reduction
	PM25:	55	% Reduction
Unpaved Roads	Vehicle Speed:	15	mph
Clean Paved Road		9	% PM Reduction

CalEEMod Construction Phase Inputs*

5-Day Work Week/8 hours per day

Phase 1	Phase Type	Start Date	End Date	CalEEMod Total Days	Total Days
Demolition Equipment	Demolition	6/1/2020	6/16/2020	12	15
Building Demolition Haul	*Demolition*	*6/1/2020*	*6/15/2020*	*11*	*14*
Asphalt Demolition Haul	*Demolition*	*6/15/2020*	*6/16/2020*	*2*	*1*
Utility Installation	Trenching	6/16/2020	8/7/2020	39	52
Site Preparation Equipment	Site Preparation	6/17/2020	7/8/2020	16	21
Site Preparation Haul	*Site Preparation*	*7/1/2020*	*7/8/2020*	*6*	*7*
Rough Grading Equipment	Grading	7/9/2020	7/15/2020	5	6
Rough Grading Haul	*Grading*	*7/9/2020*	*7/15/2020*	*5*	*6*
Fine Grading	Grading	8/8/2020	8/15/2020	5	7
Building Construction	Building Construction	8/16/2020	3/15/2021	151	211
Asphalt Paving	Asphalt Paving	2/17/2021	3/3/2021	11	14
Architectural Coating	Architectural Coating	2/17/2021	3/3/2021	11	14
Finishing/Landscaping	Building Construction	3/4/2021	3/18/2021	11	14

Year	Start Date	End Date	Days
2020	6/1/2020	12/31/2020	154
2021	1/1/2021	3/18/2021	55
		Total	**209**

*Based on construction schedule CalEEmod defaults.

Assumes rough grading haul occurs during the rought grading phase

Assumes same duration and schedule for architectural coating as asphalt paving

CalEEMod Construction Off-Road Equipment Inputs*

Phase	Equipment Type	Unit Amount	Hours/Day	HP	LF	Trips
Demolition						
	Concrete/Industrial Saws	1	8	81	0.73	
	Rubber Tired Dozers	1	8	247	0.4	
	Tractors/Loaders/Backhoes	3	8	97	0.37	
	Water Truck**					4
	Worker Trips					13
	Vendor Trips					4
	Haul Trips - building					646
	Haul Trips - apshalt					118
Site Preparation						
	Graders	1	8	187	0.41	
	Rubber Tired Dozers	1	7	247	0.4	
	Tractor/Loader/Backhoes	1	8	97	0.37	
	Water Truck**					4
	Worker Trips					8
	Vendor Trips					4
	Haul Trips					**750**
Utility Installation						
	Excavators	2	8	158	0.038	
	Tractors/Loaders/Backhoes	1	8	97	0.37	
	Bore/Drill Rigs	1	8	221	0.5	
	Worker Trips					0
	Vendor Trips					0
	Haul Trips					0
Rough Grading						
	Graders	1	6	187	0.41	
	Rubber Tired Dozers	1	6	247	0.4	
	Tractor/Loader/Backhoe	1	7	97	0.37	
	Water Truck**					4
	Worker Trips					8
	Vendor Trips					4
	Haul Trips					**1,013**
Fine Grading						
	Graders	1	6	187	0.41	
	Rubber Tired Dozers	1	6	247	0.4	
	Tractor/Loader/Backhoe	1	7	97	0.37	
	Water Truck**					4
	Worker Trips					8
	Vendor Trips					4
Building Construction						
	Cranes[1]	1	4	231	0.29	
	Forklifts	1	6	89	0.2	
	Generator Sets	1	8	84	0.74	
	Tractors/Loaders/Backhoes	1	6	97	0.37	
	Welders[1]	1	8	46	0.45	
	Vendor Trips					37
	Worker Trips					12
Paving						
	Cement and Mortar Mixers	1	6	9	0.56	
	Pavers	1	6	130	0.42	
	Paving Equipment	1	8	137	0.36	
	Rollers	1	7	80	0.38	
	Tractors/Loaders/Backhoes	1	8	97	0.37	
	Worker Trips					13
	Vendor Trips					0
Architectural Coating						
	Air Compressors	1	6	78	0.48	
	Worker Trips					7
	Vendor Trips					0
Landscaping						
	Skip Loader (Tractor/Loader/backhoes)	2	8	97	0.37	
	Skid Steer (Tractor/Loader/backhoes)	1	8	97	0.37	
	Worker Trips					18
	Vendor Trips					0

*CalEEMod defaults.

**Assume 4 vendor trips for water trucks.

CalEEMod Inputs--Existing

Name:	Canyon Crossings Mixed-Use Project
Project Location:	10625 South Foothill Boulevard, Cupertino 95014
County/Air Basin:	Santa Clara County/ SFBAAB
Climate Zone:	4
Land Use Setting:	Urban
Operational Year:	2021
Utility Company:	Silicon Valley Clean Energy (SVCE)

Total Site Acreage: 1.57

Existing Components	Existing SQFT	Acreage
Retail*	12,125	
Residential*	1,100	
Parking**	10,070	
Other Asphalt Surfaces	29,518	
Other Non-asphalt surfaces	3,841	
Additional Area	11,735	
	68,389	1.57

*Estimating 1,100 of the 13,225 sqft provided by applicant is associated with residential land use
** Google Earth Estimate, site plan did not include parking sqft

Existing CalEEMod Land Use Inputs

Land Use	Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Square Feet
Retail	Retail	Strip Mall	12.13	1000 sqft	0.278	12,125
Residential	Residential	Single Family	1.00	DU	0.025	1,100
Parking	Parking	Parking Lot	10.07	1000 sqft	0.231	10,070
Other Asphalt Surfaces	Parking	Other Asphalt Surfaces	29.52	1000 sqft	0.678	29,518
Other Non-asphalt surfaces	Parking	Other Non-asphalt surfaces	3.84	1000 sqft	0.088	3,841
Additional Area	Parking	Other Asphalt Surfaces	11.74	1000 sqft	0.269	11,735
				Total	**1.57**	**68,389**

Carbon Intensity of Electricity for Proposed Project

CO_2**	CH_4**	N_2O**	CO_2e
lbs/Mwh	lbs/Mwh	lbs/Mwh	lbs/Mwh
10.84	0.0000332	0.0000044	10.8430

**Global Warming Potentials from the Climate Change 2007, IPCC Fourth Assessment Report (AR4).*
***Monterey Bay Community Power, Power Mix. Accessed April 4, 2019. https://www.mbcommunitypower.org/our-power-mix/.*

Trip Generations

*Weekday Trips based on the Traffic Impact Analysis provided by TJKM. The TJKM Daily trip generation is based on a 11,100 SQFT retail shop and not a 12,125 SQFT retail shop. Daily trips for this use are adjusted based on the trip rate provided in the study.

	Weekday		CalEEMod Default Trip Purpose (%)		
	Average Daily Trips	CalEEMod Rate	Primary Trip (PR)	Diverted (DV)	Passby (PB)
Retail	518	42.70	86%	11%	3%
Residential	6	5.81	86%	11%	3%
Total Trips	**524**				

	Saturday		Sunday	
	Average Daily Trips	CalEEMod Rate	Average Daily Trips	CalEEMod Rate
Retail	538	44.41	471	38.86
Residential	6	6.04	5	5.29
Total Trips	**544**		**476**	

VMT (Weekday)

CalEEMod Default Trip Length (by socio-economic trip types)

RESIDENTIAL	CalEEMod Default Trip Length (miles)	% of Trips	NON-RESIDENTIAL	CalEEMod Default Trip Length (miles)	% of Trips
Home-Work (HW)	**10.4**	31%	Commercial-Commercial (CC)	7.3	64%
Home-School (HS)	4.8	15%	Commcerial-Work (CW)	**7.9**	17%
Home-Other (HO)	5.7	54%	Commerical-NonWork (CNW)	7.3	19%

Home to Work and Commercial to Work trips based on the trip length provided by TJKM.

	Annual	Daily
VMT	1,399,880	3,835

Energy Use

Existing buildings were constructed prior to the 2005 Building Energy Efficiency Standards; and therefore, the "historic" rates in CalEEMod, which are based on the 2005 Standards, were used to estimate existing building energy use.

Hearth Emissions

BAAQMD Regulation 6, Rule 3, Wood-Burning Devices, prohobits installation of new wood-burning devices. All Fireplaces would be gas fireplaces.

	# Conventional	# Caltalytic	# Non-Catalytic	#Pellet
Assumes no woodstoves	0	0	0	0

	# Wood	# Gas	# Propane	# No Fireplace	Hours/Day	Days/Year
Single Family	0	1	0	0	3.5	11.14

Solid Waste *CalEEMod Default

Land Use	Solid Waste Generation Rate (tons/year)
Single Family House	1.26
Retail	12.74

Water Use *CalEEMod Default

Land Use	Indoor Water (gal/year)	Outdoor Water (Gal/year)
Single Family House	65,154	41,075
Retail	898,500	550,693

Septic Tank	0%
Aerobic	100%
Facultative Lagoons	0%

Architectural Coating

Interior Paint VOC content:	100
Exterior Paint VOC content:	150
Percentage of Buildings' Interior Painted:	100%
Percentage of Buildings' Exterior Painted:	100%

Structures	Land Use Square Feet	CalEEMod Paintable Surface Area Multiplier[2]	Total Paintable Surface Area	Paintable Interior Area[1]	Paintable Exterior Area[1]
Residential					
Single Family House	1,100	2.7	2,970	2,228	743
		Residential Total	**2,970**	**2,228**	**743**
Non-Residential					
Retail	12,125	2	24,250	18,188	6,063
		Non-Residential Totals	**24,250**	**18,188**	**6,063**
Parking Lot	10,070	0.06	604	-	604
		Striping Totals	**604**	**0**	**604**

Notes:

[1] CalEEMod methodology calculates the paintable interior and exterior areas by multiplying the total paintable surface area by 75 and 25 percent, respectively.

[2] The program assumes the total surface for painting equals 2.7 times the floor square footage for residential and 2 times that for nonresidential square footage defined by the user. Architectural coatings for the parking lot is based on CalEEMod methodology applied to a surface parking lot (i.e., striping), in which 6% of surface area is painted.

CalEEMod Inputs Project

Name:	Canyon Crossings Mixed-Use Project
Project Location:	10625 South Foothill Boulevard, Cupertino 95014
County/Air Basin:	Santa Clara County/ SFBAAB
Climate Zone:	4
Land Use Setting:	Urban
Operational Year:	2021
Utility Company:	Silicon Valley Clean Energy (SVCE)

Total Site Acreage:	1.57	Total SF	68,389
Disturbed Site Acreage:	1.57	Total Disturbed SF	68,389

CalEEMod Land Use Inputs

Land Use Type	Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Square Feet
Mixed-Use Flat (Apartments)	Residential	Apartments Low Rise	5	dwelling units	0.00	7,851
Single Family	Residential	Single Family Housing	5	dwelling units	0.30	13,170
Townhouses	Residential	Condo/Townhouse	8	dwelling units	0.23	19,830
Retail	Retail	Stip Mall	4.54	1000 sqft	0.10	4,536
Landscaping + Hardscaping	Parking	Other Non-Asphalt Surface	38.00	1000 sqft	0.87	38,000
Parking Structure	Parking	Enclosed Parking Structure w/Elevator	16.92	1000 sqft	0.00	16,922
Surface Parking	Parking	Parking Lot	2.61	1000 sqft	0.06	2,614
					1.57	

Carbon Intensity of Electricity for Proposed Project

CO_2**	CH_4**	N_2O**	CO_2e
lbs/Mwh	lbs/Mwh	lbs/Mwh	lbs/Mwh
10.84	0.0000332	0.0000044	10.85

**Global Warming Potentials from the Climate Change 2007, IPCC Fourth Assessment Report (AR4).*

***Silicon Valley Clean Energy Power Mix from California Department of Energy. Utility Annual Power Content Labels for 2017. 2017 Silicon Valley Clean Energy Power Content Label.*

Trip Generation

*Weekday Trips based on the Traffic Impact Analysis provided by TJKM. The TJKM Daily trip generation is based on a 5,000 SQFT retail shop and not a 4,540 SQFT retail shop. Daily trips for this use are adjusted based on the trip rate provided in the study.

	Weekday		CalEEMod Default Trip Purpose (%)		
	Average Daily Trips	CalEEMod Rate	Primary Trip (PR)	Diverted (DV)	Passby (PB)
Mixed-Use Flat (Apartments)	33	6.65	86%	11%	3%
Single Family	29	5.81	86%	11%	3%
Townhouses	46	5.81	86%	11%	3%
Retail (IITE Code 820)	194	42.70	45%	40%	15%
Total Trips	**302**				

	Saturday		Sunday	
	Average Daily Trips	CalEEMod Rate	Average Daily Trips	CalEEMod Rate
Mixed-Use Flat (Apartments)	35	6.92	30	6.05
Single Family	30	6.04	26	5.29
Townhouses	48	6.04	42	5.29
Retail (IITE Code 820)	250	55.08	87	19.22
Total Trips	**363**		**186**	

VMT (Weekday)

CalEEMod Default Trip Length (by socio-economic trip types)

RESIDENTIAL	CalEEMod Trip Length (miles)	% of Trips	NON-RESIDENTIAL	CalEEMod Trip Length (miles)	% of Trips
Home-Work (HW)	10.4	31%	Commercial-Commercial (CC)	7.3	64%
Home-School (HS)	4.8	15%	Commcerial-Work (CW)	7.9	17%
Home-Other (HO)	5.7	54%	Commerical-NonWork (CNW)	7.3	19%

Home to Work and Commercial to Work trips based on the trip length provided by TJKM.

	Annual	Daily
VMT	522,660	1,432

Solid Waste *CalEEMod Default

	Rate*	Unit	ton/year
Mixed-Use Flat (Apartments)	0.46	ton/unit/year	2.3
Single Family	0.46	ton/unit/year	2.3
Townhouses	0.46	ton/unit/year	3.7
Retail	1.05	ton/1000 sqft/year	4.8
			13

Water Use

*CalEEMod User's Guide Default

	Indoor Water Rate*	Outdoor Water Rate*	Unit	Indoor Water (gpy)	Outdoor Water (gpy)
Mixed-Use Flat (Apartments)	65,154	41,075	gal/unit/year	325,770	205,375
Single Family	65,154	41,075	gal/unit/year	325,770	205,375
Townhouses	65,154	41,075	gal/unit/year	521,232	328,600
Retail	74,073	45,399	gal/1000 sqft/year	335,995	205,930
				1,508,767	945,280

Septic Tank	0%
Aerobic	100%
Facultative Lagoons	0%

Water Mitigation - Water Efficient Landscape Ordinance Requirements

Install Low Flow Bathroom Faucet	32	% Reduction in flow
Install Low Flow Kitchen Faucet	18	% Reduction in flow
Install Low Flow Toilet	20	% Reduction in flow
Install Low Flow Shower	20	% Reduction in flow
Use Water Efficiency Irrigation System	6.1	% Reduction in flow

Hearth Emissions

BAAQMD Regulation 6, Rule 3, Wood-Burning Devices, prohibits installation of new wood-burning devices. All Fireplaces would be gas fireplaces.

	# Conventional	# Caltalytic	# Non-Catalytic	#Pellet
Assumes no woodstoves	0	0	0	0

	# Wood	# Gas	# Propane	# No Fireplace
Mixed-Use Flat (Apartments)	0	0	0	5
Townhouses	0	5	0	0
Single Family	0	8	0	0

Architectural Coating

See architectural coating calculations for construction

Energy

Buildings constructed after January 1, 2020 are required to meet the 2019 Building and Energy Efficiency Standards. The 2019 Standards are 30% more energy efficient for non-residential buildings and 7% more energy efficient for residential buildings than the 2016 Building and Energy Efficiency Standards.

Residential Exceed Title 24*	7%	Improvement over 2016
Non-Residential Exceed Title 24	30%	Improvement over 2016

Sources:

[1] California Energy Commission (CEC). 2018. 2019 Building Energy and Efficiency Standards Frequently Asked Questions. Accessed on April 3, 2019. http://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf

**Residential improvement over 2016 is for single-family homes only.*
**Multi-family of 4 stories and higher are treated as non-residential for the Building and Energy Efficiency Standards.*

Traffic Mitigation

Land Use & Site Enhancement

Project Setting	0

Commute

Implement Trip Reduction Program

% employee eligible	0
Program Type	0

PROPOSED METHODOLOGY

PROPOSED OPERATIONS

	TJKM Weekday Trips	TJKM Weekday VMT	Home to Work Trips*	Miles/Trip	CalEEMod Default Commute Trip Length
Residential Trips	109	352	**34**	10.4	10.8
Non-Residential Trips	**Trips**	**VMT**	**Employee Trips**	**Miles/Trip**	
	214	279	**36**	7.9	9.5
* Based on the CalEEMod Percentage of Trips					

CALEEMOD DEFAULTS	Residential Trip Lengths			Percentage of Residential Trips		
Land Use Subtype	**Home to Work**	**Home to Shop**	**Home to Other Land Use**	**Home to Work**	**Home to Shop**	**Home to Other Land Use**
Residential	10.8	4.8	5.7	31%	15%	54%
Modified	**Residential Trip Lengths**			**Percentage of Residential Trips**		
Land Use Subtype	**Home to Work**	**Home to Shop**	**Home to Other**	**Home to Work**	**Home to Shop**	**Home to Other Land Use**
Residential	10.4	4.8	5.7	**31%**	15%	54%

CALEEMOD DEFAULTS	Commercial Use Trip Lengths			Percentage of Commercial Trips		
Land Use Subtype	**Customer to Commercial**	**Employee to Commercial**	**Other to Commercial**	**Customer to Commercial**	**Employee to Commercial**	**Other to Commercial**
Strip Mall	7.3	9.5	7.3	64%	17%	19%
Modified	**Commercial Use Trip Lengths**			**Percentage of Commercial Trips**		
Land Use Subtype	**Customer to Commercial**	**Employee to Commercial**	**Other to Commercial**	**Customer to Commercial**	**Employee to Commercial**	**Other to Commercial**
Strip Mall	7.3	7.9	7.3	64%	**17%**	19%

City of Cupertino Carbon Intensity Factor Calculator

(SVCE) by consulting the most recent data from the US EPA's Emissions & Generation Resource Integrated Database (eGRID). This database includes records of GHG emissions and power generation by all power plants in the United States. Using this information, the team determined the electricity emissions factor for all power plants within California by fuel source, since it is not feasible to identify the specific power plants that supply SVCE. The team consulted SVCE's Power Content Label, which identifies the percent of SVCE's electricity generated by various fuel sources. Using the average emissions factor for power plants by fuel source, in combination with SVCE's specific fuel mix, the team was able to calculate an emissions factor that accurately reflects SVCE's particular sources of electricity.

$MTCO_2e$

Source	Percent	Adjusted percent	$MTCO_2e$/kWh Emission factor
Coal	0.00%	0.00%	0.00052518
Large hydro	45.00%	45.00%	0.00000000
Natural gas	0.00%	0.00%	0.00040027
Nuclear	0.00%	0.00%	0.00000000
Oil	0.00%	0.00%	0.00061190
Other/unspecified	0.00%	0.00%	0.00042800
Biomass	6.00%	6.00%	0.00006741
Geothermal	1.00%	1.00%	0.00008747
Small hydro	2.00%	2.00%	0.00000000
Solar	10.00%	10.00%	0.00000000
Wind	36.00%	36.00%	0.00000000
	100.00%	100.00%	

MTCO2e/kWh

Emission factor	**0.000004919**
Calculation check	0.000004919

MTCO2e/MWh
0.0049192942
lbsCO2e/MWh
10.845

City of Cupertino Carbon Intensity Factor Calculator

The project team calculated a custom electricity emissions factor for Silicon Valley Clean Energy (SVCE) by consulting the most recent data from the US EPA's Emissions & Generation Resource Integrated Database (eGRID). This database includes records of GHG emissions and power generation by all power plants in the United States. Using this information, the team determined the electricity emissions factor for all power plants within California by fuel source, since it is not feasible to identify the specific power plants that supply SVCE. The team consulted SVCE's Power Content Label, which identifies the percent of SVCE's electricity generated by various fuel sources. Using the average emissions factor for power plants by fuel source, in combination with SVCE's specific fuel mix, the team was able to calculate an emissions factor that accurately reflects SVCE's particular sources of electricity.

$MTCO_2$

Source	Percent	Adjusted percent	$MTCO_2$/kWh Emission factor
Coal	0.00%	0.00%	0.000525182
Large hydro	45.00%	45.00%	0
Natural gas	0.00%	0.00%	0.000400274
Nuclear	0.00%	0.00%	0
Oil	0.00%	0.00%	0.0006119
Other/unspecified	0.00%	0.00%	0.00042508
Biomass	6.00%	6.00%	6.7393E-05
Geothermal	1.00%	1.00%	8.74747E-05
Small hydro	2.00%	2.00%	0
Solar	10.00%	10.00%	0
Wind	36.00%	36.00%	0
	100.00%	100.00%	

MTCO2/kWh

Emission factor	**0.0000049183**

MTCO2/MWh
0.004918328266
lbsCO2/MWh
10.843

City of Cupertino Carbon Intensity Factor Calculator

by consulting the most recent data from the US EPA's Emissions & Generation Resource Integrated Database (eGRID). This database includes records of GHG emissions and power generation by all power plants in the United States. Using this information, the team determined the electricity emissions factor for all power plants within California by fuel source, since it is not feasible to identify the specific power plants that supply SVCE. The team consulted SVCE's Power Content Label, which identifies the percent of SVCE's electricity generated by various fuel sources. Using the average emissions factor for power plants by fuel source, in combination with SVCE's specific fuel mix, the team was able to calculate an emissions factor that accurately reflects SVCE's particular sources of electricity.

$MTCH_4$

Source	Percent	Adjusted percent	$MTCO_4$/kWh Emission factor
Coal	0.00%	0.00%	5.89676E-12
Large hydro	45.00%	45.00%	0
Natural gas	0.00%	0.00%	7.52558E-12
Nuclear	0.00%	0.00%	0
Oil	0.00%	0.00%	2.00932E-11
Other/unspecified	0.00%	0.00%	0.00000005
Biomass	6.00%	6.00%	2.51224E-10
Geothermal	1.00%	1.00%	0
Small hydro	2.00%	2.00%	0
Solar	10.00%	10.00%	0
Wind	36.00%	36.00%	0
	100.00%	100.00%	

MTCH4/kWh

Emission factor	**0.000000000015**

MTCH4/MWh
0.0000000150734142
lbsCH4/MWh
0.000033

City of Cupertino Carbon Intensity Factor Calculator

The project team calculated a custom electricity emissions factor for Silicon Valley Clean Energy (SVCE) by consulting the most recent data from the US EPA's Emissions & Generation Resource Integrated Database (eGRID). This database includes records of GHG emissions and power generation by all power plants in the United States. Using this information, the team determined the electricity emissions factor for all power plants within California by fuel source, since it is not feasible to identify the specific power plants that supply SVCE. The team consulted SVCE's Power Content Label, which identifies the percent of SVCE's electricity generated by various fuel sources. Using the average emissions factor for power plants by fuel source, in combination with SVCE's specific fuel mix, the team was able to calculate an emissions factor that accurately reflects SVCE's particular sources of electricity.

MTN_2O

Source	Percent	Adjusted percent	MTN_2O/kWh Emission factor
Coal	0.00%	0.00%	8.61834E-12
Large hydro	45.00%	45.00%	0
Natural gas	0.00%	0.00%	8.14808E-13
Nuclear	0.00%	0.00%	0
Oil	0.00%	0.00%	3.97229E-12
Other/unspecified	0.00%	0.00%	0.00
Biomass	6.00%	6.00%	3.29476E-11
Geothermal	1.00%	1.00%	0
Small hydro	2.00%	2.00%	0
Solar	10.00%	10.00%	0
Wind	36.00%	36.00%	0
	100.00%	100.00%	

MTN2O/kWh

Emission factor	**0.000000000**

MTN2O/MWh
0.0000000197685409
lbsN2O/MWh
0.00000436

Canyon Crossings Operations Run

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	16.92	1000sqft	0.00	16,920.00	0
Other Non-Asphalt Surfaces	38.00	1000sqft	0.87	38,000.00	0
Parking Lot	2.61	1000sqft	0.06	2,610.00	0
Apartments Low Rise	5.00	Dwelling Unit	0.00	7,851.00	14
Condo/Townhouse	8.00	Dwelling Unit	0.23	19,830.00	23
Single Family Housing	5.00	Dwelling Unit	0.30	13,170.00	14
Strip Mall	4.54	1000sqft	0.10	4,540.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	10.84	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Note: Utility company is Silicon Valley Clean Energy

Land Use - data provided by applicant

Construction Phase -

Vehicle Trips - trip rates provided by TJKM, assuming 100% primary trips

Woodstoves - Assuming no wood stoves

Area Coating - see assumptions file, data provided by applicant

Energy Use -

Water And Wastewater - calculated based on CalEEMod Appendix D Defaults, assumes 100% aerobic treatment

Solid Waste - calculated from CalEEMod Appendix D Defaults

Mobile Land Use Mitigation -

Mobile Commute Mitigation -

Energy Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	150	25
tblAreaCoating	Area_EF_Nonresidential_Interior	100	25
tblAreaCoating	Area_EF_Parking	150	25
tblAreaCoating	Area_EF_Residential_Exterior	150	25
tblAreaCoating	Area_EF_Residential_Interior	100	25
tblAreaCoating	Area_Nonresidential_Exterior	2270	2268
tblAreaCoating	Area_Nonresidential_Interior	6810	6804
tblAreaCoating	Area_Parking	3452	1172
tblFireplaces	NumberGas	0.75	0.00
tblFireplaces	NumberGas	1.20	5.00
tblFireplaces	NumberGas	1.25	8.00
tblFireplaces	NumberNoFireplace	0.20	5.00
tblFireplaces	NumberNoFireplace	0.32	0.00
tblFireplaces	NumberNoFireplace	0.40	0.00
tblFireplaces	NumberWood	0.85	0.00
tblFireplaces	NumberWood	1.36	0.00
tblFireplaces	NumberWood	2.15	0.00
tblLandUse	LandUseSquareFeet	5,000.00	7,851.00
tblLandUse	LandUseSquareFeet	8,000.00	19,830.00
tblLandUse	LandUseSquareFeet	9,000.00	13,170.00
tblLandUse	LotAcreage	0.39	0.00

tblLandUse	LotAcreage	0.31	0.00
tblLandUse	LotAcreage	0.50	0.23
tblLandUse	LotAcreage	1.62	0.30
tblProjectCharacteristics	CH4IntensityFactor	0.029	0
tblProjectCharacteristics	CO2IntensityFactor	641.35	10.84
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblSolidWaste	SolidWasteGenerationRate	3.68	3.70
tblSolidWaste	SolidWasteGenerationRate	5.88	2.30
tblSolidWaste	SolidWasteGenerationRate	4.77	4.80
tblVehicleTrips	CW_TL	9.50	7.90
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	40.00	0.00
tblVehicleTrips	HW_TL	10.80	10.40
tblVehicleTrips	HW_TL	10.80	10.40
tblVehicleTrips	HW_TL	10.80	10.40
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	45.00	100.00
tblVehicleTrips	ST_TR	7.16	6.92
tblVehicleTrips	ST_TR	5.67	6.04
tblVehicleTrips	ST_TR	9.91	6.04
tblVehicleTrips	ST_TR	42.04	55.08
tblVehicleTrips	SU_TR	6.07	6.05
tblVehicleTrips	SU_TR	4.84	5.29

tblVehicleTrips	SU_TR	8.62	5.29
tblVehicleTrips	SU_TR	20.43	19.22
tblVehicleTrips	WD_TR	6.59	6.65
tblVehicleTrips	WD_TR	9.52	5.81
tblVehicleTrips	WD_TR	44.32	42.70
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	IndoorWaterUseRate	325,770.13	325,770.00
tblWater	IndoorWaterUseRate	521,232.20	521,232.00
tblWater	IndoorWaterUseRate	325,770.13	325,770.00
tblWater	IndoorWaterUseRate	336,289.25	335,995.00
tblWater	OutdoorWaterUseRate	205,376.82	205,375.00
tblWater	OutdoorWaterUseRate	328,602.91	328,600.00
tblWater	OutdoorWaterUseRate	205,376.82	205,375.00
tblWater	OutdoorWaterUseRate	206,112.76	205,930.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	0.10	0.00
tblWoodstoves	NumberCatalytic	0.16	0.00
tblWoodstoves	NumberCatalytic	0.20	0.00
tblWoodstoves	NumberNoncatalytic	0.10	0.00
tblWoodstoves	NumberNoncatalytic	0.16	0.00
tblWoodstoves	NumberNoncatalytic	0.20	0.00

tblWoodstoves	WoodstoveWoodMass	582.40	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00
tblWoodstoves	WoodstoveWoodMass	956.80	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1923	2.9500e-003	0.1351	2.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	1.8423	1.8423	2.5000e-004	3.0000e-005	1.8574
Energy	1.9200e-003	0.0165	7.2300e-003	1.0000e-004		1.3300e-003	1.3300e-003		1.3300e-003	1.3300e-003	0.0000	20.2785	20.2785	3.7000e-004	3.5000e-004	20.3917
Mobile	0.0772	0.3325	0.9505	3.2100e-003	0.2896	2.7600e-003	0.2924	0.0775	2.5800e-003	0.0801	0.0000	293.6855	293.6855	9.9900e-003	0.0000	293.9352
Waste						0.0000	0.0000		0.0000	0.0000	2.6592	0.0000	2.6592	0.1572	0.0000	6.5880
Water						0.0000	0.0000		0.0000	0.0000	0.5338	0.0564	0.5902	1.8400e-003	1.1600e-003	0.9821
Total	**0.2714**	**0.3519**	**1.0929**	**3.3300e-003**	**0.2896**	**4.9400e-003**	**0.2946**	**0.0775**	**4.7600e-003**	**0.0823**	**3.1930**	**315.8627**	**319.0557**	**0.1696**	**1.5400e-003**	**323.7543**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1923	2.9500e-003	0.1351	2.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	1.8423	1.8423	2.5000e-004	3.0000e-005	1.8574
Energy	1.9200e-003	0.0165	7.2300e-003	1.0000e-004		1.3300e-003	1.3300e-003		1.3300e-003	1.3300e-003	0.0000	20.2785	20.2785	3.7000e-004	3.5000e-004	20.3917
Mobile	0.0772	0.3325	0.9505	3.2100e-003	0.2896	2.7600e-003	0.2924	0.0775	2.5800e-003	0.0801	0.0000	293.6855	293.6855	9.9900e-003	0.0000	293.9352
Waste						0.0000	0.0000		0.0000	0.0000	2.6592	0.0000	2.6592	0.1572	0.0000	6.5880
Water						0.0000	0.0000		0.0000	0.0000	0.4270	0.0474	0.4744	1.4700e-003	9.3000e-004	0.7879
Total	**0.2714**	**0.3519**	**1.0929**	**3.3300e-003**	**0.2896**	**4.9400e-003**	**0.2946**	**0.0775**	**4.7600e-003**	**0.0823**	**3.0862**	**315.8537**	**318.9399**	**0.1692**	**1.3100e-003**	**323.5601**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**3.34**	**0.00**	**0.04**	**0.22**	**14.94**	**0.06**

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	0.0772	0.3325	0.9505	3.2100e-003	0.2896	2.7600e-003	0.2924	0.0775	2.5800e-003	0.0801	0.0000	293.6855	293.6855	9.9900e-003	0.0000	293.9352
Unmitigated	0.0772	0.3325	0.9505	3.2100e-003	0.2896	2.7600e-003	0.2924	0.0775	2.5800e-003	0.0801	0.0000	293.6855	293.6855	9.9900e-003	0.0000	293.9352

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	33.25	34.60	30.25	84,385	84,385
Condo/Townhouse	46.48	48.32	42.32	117,956	117,956
Enclosed Parking with Elevator	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Single Family Housing	29.05	30.20	26.45	73,723	73,723
Strip Mall	193.86	250.06	87.26	502,757	502,757
Total	302.64	363.18	186.28	778,821	778,821

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 Low Rise	10.40	4.80	5.70	31.00	15.00	54.00	100	0	0
Condo/Townhouse	10.40	4.80	5.70	31.00	15.00	54.00	100	0	0
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.40	4.80	5.70	31.00	15.00	54.00	100	0	0
Strip Mall	7.90	7.30	7.30	16.60	64.40	19.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
Condo/Townhouse	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
Enclosed Parking with Elevator	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
Other Non-Asphalt Surfaces	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
Parking Lot	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
Single Family Housing	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
Strip Mall	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1.2349	1.2349	0.0000	0.0000	1.2349
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1.2349	1.2349	0.0000	0.0000	1.2349
NaturalGas Mitigated	1.9200e-003	0.0165	7.2300e-003	1.0000e-004		1.3300e-003	1.3300e-003		1.3300e-003	1.3300e-003	0.0000	19.0436	19.0436	3.7000e-004	3.5000e-004	19.1568
NaturalGas Unmitigated	1.9200e-003	0.0165	7.2300e-003	1.0000e-004		1.3300e-003	1.3300e-003		1.3300e-003	1.3300e-003	0.0000	19.0436	19.0436	3.7000e-004	3.5000e-004	19.1568

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 Low Rise	50994.3	2.7000e-004	2.3500e-003	1.0000e-003	1.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.7213	2.7213	5.0000e-005	5.0000e-005	2.7374
Condo/Townhouse	149784	8.1000e-004	6.9000e-003	2.9400e-003	4.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004	0.0000	7.9931	7.9931	1.5000e-004	1.5000e-004	8.0406
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
Other Non-Asphalt Surfaces	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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	145325	7.8000e-004	6.7000e-003	2.8500e-003	4.0000e-005		5.4000e-004	5.4000e-004		5.4000e-004	5.4000e-004	0.0000	7.7551	7.7551	1.5000e-004	1.4000e-004	7.8012
Strip Mall	10759.8	6.0000e-005	5.3000e-004	4.4000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.5742	0.5742	1.0000e-005	1.0000e-005	0.5776
Total		**1.9200e-003**	**0.0165**	**7.2300e-003**	**9.0000e-005**		**1.3300e-003**	**1.3300e-003**		**1.3300e-003**	**1.3300e-003**	**0.0000**	**19.0436**	**19.0436**	**3.6000e-004**	**3.5000e-004**	**19.1568**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	50994.3	2.7000e-004	2.3500e-003	1.0000e-003	1.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.7213	2.7213	5.0000e-005	5.0000e-005	2.7374
Condo/Townhouse	149784	8.1000e-004	6.9000e-003	2.9400e-003	4.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004	0.0000	7.9931	7.9931	1.5000e-004	1.5000e-004	8.0406
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
Other Non-Asphalt Surfaces	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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	145325	7.8000e-004	6.7000e-003	2.8500e-003	4.0000e-005		5.4000e-004	5.4000e-004		5.4000e-004	5.4000e-004	0.0000	7.7551	7.7551	1.5000e-004	1.4000e-004	7.8012
Strip Mall	10759.8	6.0000e-005	5.3000e-004	4.4000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.5742	0.5742	1.0000e-005	1.0000e-005	0.5776
Total		**1.9200e-003**	**0.0165**	**7.2300e-003**	**9.0000e-005**		**1.3300e-003**	**1.3300e-003**		**1.3300e-003**	**1.3300e-003**	**0.0000**	**19.0436**	**19.0436**	**3.6000e-004**	**3.5000e-004**	**19.1568**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	21744	0.1069	0.0000	0.0000	0.1069
Condo/Townhouse	40363.4	0.1985	0.0000	0.0000	0.1985
Enclosed Parking with Elevator	99151.2	0.4875	0.0000	0.0000	0.4875
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	913.5	4.4900e-003	0.0000	0.0000	4.4900e-003
Single Family Housing	40452.9	0.1989	0.0000	0.0000	0.1989
Strip Mall	48532.6	0.2386	0.0000	0.0000	0.2386
Total		**1.2349**	**0.0000**	**0.0000**	**1.2349**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	21744	0.1069	0.0000	0.0000	0.1069
Condo/Townhouse	40363.4	0.1985	0.0000	0.0000	0.1985
Enclosed Parking with Elevator	99151.2	0.4875	0.0000	0.0000	0.4875
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	913.5	4.4900e-003	0.0000	0.0000	4.4900e-003
Single Family Housing	40452.9	0.1989	0.0000	0.0000	0.1989
Strip Mall	48532.6	0.2386	0.0000	0.0000	0.2386
Total		**1.2349**	**0.0000**	**0.0000**	**1.2349**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1923	2.9500e-003	0.1351	2.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	1.8423	1.8423	2.5000e-004	3.0000e-005	1.8574
Unmitigated	0.1923	2.9500e-003	0.1351	2.0000e-005		8.5000e-004	8.5000e-004		8.5000e-004	8.5000e-004	0.0000	1.8423	1.8423	2.5000e-004	3.0000e-005	1.8574

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	6.9800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1810					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.6000e-004	1.4000e-003	6.0000e-004	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	1.6229	1.6229	3.0000e-005	3.0000e-005	1.6326
Landscaping	4.1100e-003	1.5500e-003	0.1345	1.0000e-005		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	0.2194	0.2194	2.1000e-004	0.0000	0.2248
Total	**0.1922**	**2.9500e-003**	**0.1351**	**2.0000e-005**		**8.5000e-004**	**8.5000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**1.8423**	**1.8423**	**2.4000e-004**	**3.0000e-005**	**1.8573**

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	6.9800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1810					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.6000e-004	1.4000e-003	6.0000e-004	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	1.6229	1.6229	3.0000e-005	3.0000e-005	1.6326
Landscaping	4.1100e-003	1.5500e-003	0.1345	1.0000e-005		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	0.2194	0.2194	2.1000e-004	0.0000	0.2248
Total	**0.1922**	**2.9500e-003**	**0.1351**	**2.0000e-005**		**8.5000e-004**	**8.5000e-004**		**8.5000e-004**	**8.5000e-004**	**0.0000**	**1.8423**	**1.8423**	**2.4000e-004**	**3.0000e-005**	**1.8573**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.4744	1.4700e-003	9.3000e-004	0.7879
Unmitigated	0.5902	1.8400e-003	1.1600e-003	0.9821

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	0.32577 / 0.205375	0.1275	4.0000e-004	2.5000e-004	0.2121
Condo/Townhouse	0.521232 / 0.3286	0.2039	6.3000e-004	4.0000e-004	0.3393
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.32577 / 0.205375	0.1275	4.0000e-004	2.5000e-004	0.2121
Strip Mall	0.335995 / 0.20593	0.1314	4.1000e-004	2.6000e-004	0.2186
Total		**0.5902**	**1.8400e-003**	**1.1600e-003**	**0.9821**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	0.260616 / 0.192847	0.1025	3.2000e-004	2.0000e-004	0.1702
Condo/Townhouse	0.416986 / 0.308555	0.1639	5.1000e-004	3.2000e-004	0.2722
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.260616 / 0.192847	0.1025	3.2000e-004	2.0000e-004	0.1702
Strip Mall	0.268796 / 0.193368	0.1056	3.3000e-004	2.1000e-004	0.1754
Total		**0.4744**	**1.4800e-003**	**9.3000e-004**	**0.7879**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.6592	0.1572	0.0000	6.5880
Unmitigated	2.6592	0.1572	0.0000	6.5880

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	2.3	0.4669	0.0276	0.0000	1.1567
Condo/Townhouse	3.7	0.7511	0.0444	0.0000	1.8607
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	2.3	0.4669	0.0276	0.0000	1.1567
Strip Mall	4.8	0.9744	0.0576	0.0000	2.4139
Total		**2.6592**	**0.1572**	**0.0000**	**6.5880**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	2.3	0.4669	0.0276	0.0000	1.1567
Condo/Townhouse	3.7	0.7511	0.0444	0.0000	1.8607
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	2.3	0.4669	0.0276	0.0000	1.1567
Strip Mall	4.8	0.9744	0.0576	0.0000	2.4139
Total		**2.6592**	**0.1572**	**0.0000**	**6.5880**

9.0 Operational Offroad

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

COCU-15, Canyon Crossing, Construction

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	16.92	1000sqft	0.00	16,922.00	0
Other Non-Asphalt Surfaces	38.00		0.87	38,000.00	0
Parking Lot	2.61	1000sqft	0.06	2,614.00	0
Apartments Low Rise	5.00	Dwelling Unit	0.00	7,851.00	14
Condo/Townhouse	8.00	Dwelling Unit	0.23	19,830.00	23
Single Family Housing	5.00	Dwelling Unit	0.30	13,170.00	14
Strip Mall	4.54	1000sqft	0.11	4,536.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	10.85	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Assumptions

Land Use - See assumptions

Construction Phase - See assumptions

Off-road Equipment -

Off-road Equipment - Hauls not applicable

Off-road Equipment -

Off-road Equipment - See assumptions, based on similar projects

Off-road Equipment - Hauls not applicable

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - See Assumptions

Off-road Equipment -

Off-road Equipment - Haul not applicable

Off-road Equipment -

Off-road Equipment - Haul not applicable

Off-road Equipment - See Assumptions - based on similar project mix

Trips and VMT - See Assumptions

Demolition -

Grading -

Architectural Coating - See Assumptions

Woodstoves - BAAQMD Regulation 6, Rule 3, Wood-Burning Devices, prohobits installation of new wood-burning devices

Energy Use -

Water And Wastewater - 100% Tertiary treated wastewater

Solid Waste - See Assumptions

Construction Off-road Equipment Mitigation - See Assumptions

Energy Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	3,452.00	1,172.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	25.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	25.00
tblArchitecturalCoating	EF_Parking	150.00	25.00
tblArchitecturalCoating	EF_Residential_Exterior	150.00	25.00
tblArchitecturalCoating	EF_Residential_Interior	100.00	25.00
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9

tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	12.00
tblConstructionPhase	NumDays	20.00	11.00
tblConstructionPhase	NumDays	20.00	2.00
tblConstructionPhase	NumDays	2.00	16.00
tblConstructionPhase	NumDays	2.00	6.00
tblConstructionPhase	NumDays	4.00	5.00
tblConstructionPhase	NumDays	4.00	5.00
tblConstructionPhase	NumDays	4.00	5.00
tblConstructionPhase	NumDays	200.00	151.00
tblConstructionPhase	NumDays	10.00	11.00
tblConstructionPhase	NumDays	10.00	11.00
tblConstructionPhase	NumDays	200.00	11.00
tblFireplaces	NumberGas	0.75	0.00
tblFireplaces	NumberGas	1.20	8.00
tblFireplaces	NumberGas	1.25	5.00
tblFireplaces	NumberNoFireplace	0.20	5.00
tblFireplaces	NumberNoFireplace	0.32	0.00
tblFireplaces	NumberNoFireplace	0.40	0.00
tblFireplaces	NumberWood	0.85	0.00
tblFireplaces	NumberWood	1.36	0.00
tblFireplaces	NumberWood	2.15	0.00
tblGrading	MaterialExported	0.00	6,000.00
tblGrading	MaterialExported	0.00	8,100.00
tblLandUse	LandUseSquareFeet	16,920.00	16,922.00
tblLandUse	LandUseSquareFeet	2,610.00	2,614.00
tblLandUse	LandUseSquareFeet	5,000.00	7,851.00
tblLandUse	LandUseSquareFeet	8,000.00	19,830.00
tblLandUse	LandUseSquareFeet	9,000.00	13,170.00
tblLandUse	LandUseSquareFeet	4,540.00	4,536.00
tblLandUse	LotAcreage	0.39	0.00

tblLandUse	LotAcreage	0.31	0.00
tblLandUse	LotAcreage	0.50	0.23
tblLandUse	LotAcreage	1.62	0.30
tblLandUse	LotAcreage	0.10	0.11
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0
tblProjectCharacteristics	CO2IntensityFactor	641.35	10.85
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblSolidWaste	SolidWasteGenerationRate	5.88	3.70
tblTripsAndVMT	HaulingTripNumber	160.00	646.00
tblTripsAndVMT	HaulingTripNumber	29.00	118.00
tblTripsAndVMT	HaulingVehicleClass	HHDT	MHDT

tblTripsAndVMT	HaulingVehicleClass	HHDT	MHDT
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	12.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	37.00	18.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	0.10	0.00
tblWoodstoves	NumberCatalytic	0.16	0.00
tblWoodstoves	NumberCatalytic	0.20	0.00
tblWoodstoves	NumberNoncatalytic	0.10	0.00
tblWoodstoves	NumberNoncatalytic	0.16	0.00

tblWoodstoves	NumberNoncatalytic	0.20	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.1324	1.4468	0.9877	2.7900e-003	0.1348	0.0562	0.1910	0.0513	0.0530	0.1043	0.0000	252.1871	252.1871	0.0382	0.0000	253.1409
2021	0.1118	0.3614	0.3644	7.1000e-004	0.0113	0.0174	0.0288	3.0600e-003	0.0166	0.0197	0.0000	62.2691	62.2691	0.0102	0.0000	62.5245
Maximum	**0.1324**	**1.4468**	**0.9877**	**2.7900e-003**	**0.1348**	**0.0562**	**0.1910**	**0.0513**	**0.0530**	**0.1043**	**0.0000**	**252.1871**	**252.1871**	**0.0382**	**0.0000**	**253.1409**

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	0.1324	1.4468	0.9877	2.7900e-003	0.0790	0.0562	0.1352	0.0280	0.0530	0.0809	0.0000	252.1869	252.1869	0.0382	0.0000	253.1407
2021	0.1118	0.3614	0.3644	7.1000e-004	0.0105	0.0174	0.0279	2.8500e-003	0.0166	0.0195	0.0000	62.2690	62.2690	0.0102	0.0000	62.5245
Maximum	**0.1324**	**1.4468**	**0.9877**	**2.7900e-003**	**0.0790**	**0.0562**	**0.1352**	**0.0280**	**0.0530**	**0.0809**	**0.0000**	**252.1869**	**252.1869**	**0.0382**	**0.0000**	**253.1407**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**38.74**	**0.00**	**25.76**	**43.31**	**0.00**	**18.99**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**6-1-2020**	**8-31-2020**	1.1255	1.1255
2	**9-1-2020**	**11-30-2020**	0.4278	0.4278
3	**12-1-2020**	**2-28-2021**	0.4976	0.4976
4	**3-1-2021**	**5-31-2021**	0.1230	0.1230
		Highest	1.1255	1.1255

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 Equipment	Demolition	6/1/2020	6/16/2020	5	12	
2	Building Demolition Haul	Demolition	6/1/2020	6/15/2020	5	11	
3	Asphalt Demolition Haul	Demolition	6/15/2020	6/16/2020	5	2	
4	Utility Installation	Trenching	6/16/2020	8/7/2020	5	39	
5	Site Preparation	Site Preparation	6/17/2020	7/8/2020	5	16	
6	Site Preperation Haul	Site Preparation	7/1/2020	7/8/2020	5	6	
7	Rough Grading	Grading	7/9/2020	7/15/2020	5	5	
8	Rough Grading Haul	Grading	7/9/2020	7/15/2020	5	5	
9	Fine Grading	Grading	8/8/2020	8/15/2020	5	5	
10	Building Construction	Building Construction	8/16/2020	3/15/2021	5	151	
11	Asphalt Paving	Paving	2/17/2021	3/3/2021	5	11	
12	Architectural Coating	Architectural Coating	2/17/2021	3/3/2021	5	11	
13	Finish/Landscaping	Building Construction	3/4/2021	3/18/2021	5	11	

Acres of Grading (Site Preparation Phase): 8

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.93

Residential Indoor: 82,723; Residential Outdoor: 27,574; Non-Residential Indoor: 6,804; Non-Residential Outdoor: 2,268; Striped Parking

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition Equipment	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition Equipment	Rubber Tired Dozers	1	8.00	247	0.40
Demolition Equipment	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Demolition Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Building Demolition Haul	Rubber Tired Dozers	0	8.00	247	0.40

Building Demolition Haul	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Asphalt Demolition Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Asphalt Demolition Haul	Rubber Tired Dozers	0	8.00	247	0.40
Asphalt Demolition Haul	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Utility Installation	Bore/Drill Rigs	1	8.00	221	0.50
Utility Installation	Excavators	2	8.00	158	0.38
Utility Installation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preperation Haul	Graders	0	8.00	187	0.41
Site Preperation Haul	Rubber Tired Dozers	0	7.00	247	0.40
Site Preperation Haul	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Rough Grading	Graders	1	6.00	187	0.41
Rough Grading	Rubber Tired Dozers	1	6.00	247	0.40
Rough Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Rough Grading Haul	Graders	0	6.00	187	0.41
Rough Grading Haul	Rubber Tired Dozers	0	6.00	247	0.40
Rough Grading Haul	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Fine Grading	Graders	1	6.00	187	0.41
Fine Grading	Rubber Tired Dozers	1	6.00	247	0.40
Fine Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Asphalt Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Asphalt Paving	Pavers	1	6.00	130	0.42
Asphalt Paving	Paving Equipment	1	8.00	132	0.36
Asphalt Paving	Rollers	1	7.00	80	0.38

Asphalt Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Finish/Landscaping	Cranes	0	6.00	231	0.29
Finish/Landscaping	Forklifts	0	6.00	89	0.20
Finish/Landscaping	Generator Sets	0	8.00	84	0.74
Finish/Landscaping	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Finish/Landscaping	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition Equipment	5	13.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Demolition Haul	0	0.00	0.00	646.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	MHDT
Asphalt Demolition Haul	0	0.00	0.00	118.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	MHDT
Utility Installation	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preperation Haul	0	0.00	0.00	750.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Rough Grading	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Rough Grading Haul	0	0.00	0.00	1,013.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	3	8.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	37.00	12.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Asphalt Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	7.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Finish/Landscaping	3	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition Equipment - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0128	0.1257	0.0879	1.4000e-004		6.9100e-003	6.9100e-003		6.4600e-003	6.4600e-003	0.0000	12.6406	12.6406	3.2500e-003	0.0000	12.7218
Total	**0.0128**	**0.1257**	**0.0879**	**1.4000e-004**	**0.0000**	**6.9100e-003**	**6.9100e-003**	**0.0000**	**6.4600e-003**	**6.4600e-003**	**0.0000**	**12.6406**	**12.6406**	**3.2500e-003**	**0.0000**	**12.7218**

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	1.0000e-004	2.7300e-003	7.3000e-004	1.0000e-005	1.6000e-004	1.0000e-005	1.7000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.6275	0.6275	3.0000e-005	0.0000	0.6282
Worker	2.6000e-004	1.9000e-004	1.9500e-003	1.0000e-005	6.2000e-004	0.0000	6.2000e-004	1.6000e-004	0.0000	1.7000e-004	0.0000	0.5305	0.5305	1.0000e-005	0.0000	0.5308
Total	**3.6000e-004**	**2.9200e-003**	**2.6800e-003**	**2.0000e-005**	**7.8000e-004**	**1.0000e-005**	**7.9000e-004**	**2.1000e-004**	**1.0000e-005**	**2.3000e-004**	**0.0000**	**1.1580**	**1.1580**	**4.0000e-005**	**0.0000**	**1.1590**

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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0128	0.1257	0.0879	1.4000e-004		6.9100e-003	6.9100e-003		6.4600e-003	6.4600e-003	0.0000	12.6406	12.6406	3.2500e-003	0.0000	12.7218
Total	**0.0128**	**0.1257**	**0.0879**	**1.4000e-004**	**0.0000**	**6.9100e-003**	**6.9100e-003**	**0.0000**	**6.4600e-003**	**6.4600e-003**	**0.0000**	**12.6406**	**12.6406**	**3.2500e-003**	**0.0000**	**12.7218**

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	1.0000e-004	2.7300e-003	7.3000e-004	1.0000e-005	1.5000e-004	1.0000e-005	1.6000e-004	4.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.6275	0.6275	3.0000e-005	0.0000	0.6282
Worker	2.6000e-004	1.9000e-004	1.9500e-003	1.0000e-005	5.7000e-004	0.0000	5.7000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.5305	0.5305	1.0000e-005	0.0000	0.5308
Total	**3.6000e-004**	**2.9200e-003**	**2.6800e-003**	**2.0000e-005**	**7.2000e-004**	**1.0000e-005**	**7.3000e-004**	**1.9000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**1.1580**	**1.1580**	**4.0000e-005**	**0.0000**	**1.1590**

3.3 Building Demolition Haul - 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					0.0173	0.0000	0.0173	2.6200e-003	0.0000	2.6200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0173**	**0.0000**	**0.0173**	**2.6200e-003**	**0.0000**	**2.6200e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.5800e-003	0.0410	0.0157	1.7000e-004	6.1400e-003	6.5000e-004	6.7900e-003	1.8500e-003	6.3000e-004	2.4700e-003	0.0000	15.8460	15.8460	1.9000e-004	0.0000	15.8508
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.5800e-003**	**0.0410**	**0.0157**	**1.7000e-004**	**6.1400e-003**	**6.5000e-004**	**6.7900e-003**	**1.8500e-003**	**6.3000e-004**	**2.4700e-003**	**0.0000**	**15.8460**	**15.8460**	**1.9000e-004**	**0.0000**	**15.8508**

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					7.3900e-003	0.0000	7.3900e-003	1.1200e-003	0.0000	1.1200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**7.3900e-003**	**0.0000**	**7.3900e-003**	**1.1200e-003**	**0.0000**	**1.1200e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.5800e-003	0.0410	0.0157	1.7000e-004	5.7700e-003	6.5000e-004	6.4200e-003	1.7600e-003	6.3000e-004	2.3800e-003	0.0000	15.8460	15.8460	1.9000e-004	0.0000	15.8508
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.5800e-003**	**0.0410**	**0.0157**	**1.7000e-004**	**5.7700e-003**	**6.5000e-004**	**6.4200e-003**	**1.7600e-003**	**6.3000e-004**	**2.3800e-003**	**0.0000**	**15.8460**	**15.8460**	**1.9000e-004**	**0.0000**	**15.8508**

3.4 Asphalt Demolition Haul - 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					3.1500e-003	0.0000	3.1500e-003	4.8000e-004	0.0000	4.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.1500e-003**	**0.0000**	**3.1500e-003**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.7000e-004	7.4900e-003	2.8700e-003	3.0000e-005	1.1200e-003	1.2000e-004	1.2400e-003	3.4000e-004	1.1000e-004	4.5000e-004	0.0000	2.8945	2.8945	3.0000e-005	0.0000	2.8953
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.7000e-004**	**7.4900e-003**	**2.8700e-003**	**3.0000e-005**	**1.1200e-003**	**1.2000e-004**	**1.2400e-003**	**3.4000e-004**	**1.1000e-004**	**4.5000e-004**	**0.0000**	**2.8945**	**2.8945**	**3.0000e-005**	**0.0000**	**2.8953**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.3400e-003	0.0000	1.3400e-003	2.0000e-004	0.0000	2.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.3400e-003**	**0.0000**	**1.3400e-003**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.7000e-004	7.4900e-003	2.8700e-003	3.0000e-005	1.0500e-003	1.2000e-004	1.1700e-003	3.2000e-004	1.1000e-004	4.4000e-004	0.0000	2.8945	2.8945	3.0000e-005	0.0000	2.8953
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.7000e-004**	**7.4900e-003**	**2.8700e-003**	**3.0000e-005**	**1.0500e-003**	**1.2000e-004**	**1.1700e-003**	**3.2000e-004**	**1.1000e-004**	**4.4000e-004**	**0.0000**	**2.8945**	**2.8945**	**3.0000e-005**	**0.0000**	**2.8953**

3.5 Utility Installation - 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	0.0191	0.2038	0.2125	4.5000e-004		9.1300e-003	9.1300e-003		8.4000e-003	8.4000e-003	0.0000	39.1095	39.1095	0.0127	0.0000	39.4257
Total	**0.0191**	**0.2038**	**0.2125**	**4.5000e-004**		**9.1300e-003**	**9.1300e-003**		**8.4000e-003**	**8.4000e-003**	**0.0000**	**39.1095**	**39.1095**	**0.0127**	**0.0000**	**39.4257**

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0191	0.2038	0.2125	4.5000e-004		9.1300e-003	9.1300e-003		8.4000e-003	8.4000e-003	0.0000	39.1095	39.1095	0.0127	0.0000	39.4257
Total	**0.0191**	**0.2038**	**0.2125**	**4.5000e-004**		**9.1300e-003**	**9.1300e-003**		**8.4000e-003**	**8.4000e-003**	**0.0000**	**39.1095**	**39.1095**	**0.0127**	**0.0000**	**39.4257**

Mitigated Construction Off-Site

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

3.6 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					0.0464	0.0000	0.0464	0.0236	0.0000	0.0236	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0130	0.1468	0.0617	1.4000e-004		6.5700e-003	6.5700e-003		6.0400e-003	6.0400e-003	0.0000	12.1012	12.1012	3.9100e-003	0.0000	12.1991
Total	**0.0130**	**0.1468**	**0.0617**	**1.4000e-004**	**0.0464**	**6.5700e-003**	**0.0530**	**0.0236**	**6.0400e-003**	**0.0297**	**0.0000**	**12.1012**	**12.1012**	**3.9100e-003**	**0.0000**	**12.1991**

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	1.3000e-004	3.6400e-003	9.7000e-004	1.0000e-005	2.1000e-004	2.0000e-005	2.3000e-004	6.0000e-005	2.0000e-005	8.0000e-005	0.0000	0.8366	0.8366	4.0000e-005	0.0000	0.8376
Worker	2.1000e-004	1.5000e-004	1.6000e-003	0.0000	5.1000e-004	0.0000	5.1000e-004	1.3000e-004	0.0000	1.4000e-004	0.0000	0.4353	0.4353	1.0000e-005	0.0000	0.4356
Total	**3.4000e-004**	**3.7900e-003**	**2.5700e-003**	**1.0000e-005**	**7.2000e-004**	**2.0000e-005**	**7.4000e-004**	**1.9000e-004**	**2.0000e-005**	**2.2000e-004**	**0.0000**	**1.2719**	**1.2719**	**5.0000e-005**	**0.0000**	**1.2731**

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					0.0198	0.0000	0.0198	0.0101	0.0000	0.0101	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0130	0.1468	0.0617	1.4000e-004		6.5700e-003	6.5700e-003		6.0400e-003	6.0400e-003	0.0000	12.1012	12.1012	3.9100e-003	0.0000	12.1990
Total	**0.0130**	**0.1468**	**0.0617**	**1.4000e-004**	**0.0198**	**6.5700e-003**	**0.0264**	**0.0101**	**6.0400e-003**	**0.0161**	**0.0000**	**12.1012**	**12.1012**	**3.9100e-003**	**0.0000**	**12.1990**

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	1.3000e-004	3.6400e-003	9.7000e-004	1.0000e-005	2.0000e-004	2.0000e-005	2.2000e-004	6.0000e-005	2.0000e-005	7.0000e-005	0.0000	0.8366	0.8366	4.0000e-005	0.0000	0.8376
Worker	2.1000e-004	1.5000e-004	1.6000e-003	0.0000	4.7000e-004	0.0000	4.7000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4353	0.4353	1.0000e-005	0.0000	0.4356
Total	**3.4000e-004**	**3.7900e-003**	**2.5700e-003**	**1.0000e-005**	**6.7000e-004**	**2.0000e-005**	**6.9000e-004**	**1.9000e-004**	**2.0000e-005**	**2.0000e-004**	**0.0000**	**1.2719**	**1.2719**	**5.0000e-005**	**0.0000**	**1.2731**

3.7 Site Preperation Haul - 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					3.4000e-004	0.0000	3.4000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.4000e-004**	**0.0000**	**3.4000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.1200e-003	0.1088	0.0223	3.0000e-004	6.3600e-003	3.5000e-004	6.7100e-003	1.7500e-003	3.4000e-004	2.0900e-003	0.0000	28.6016	28.6016	1.3100e-003	0.0000	28.6343
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.1200e-003**	**0.1088**	**0.0223**	**3.0000e-004**	**6.3600e-003**	**3.5000e-004**	**6.7100e-003**	**1.7500e-003**	**3.4000e-004**	**2.0900e-003**	**0.0000**	**28.6016**	**28.6016**	**1.3100e-003**	**0.0000**	**28.6343**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5000e-004	0.0000	1.5000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.1200e-003	0.1088	0.0223	3.0000e-004	5.9300e-003	3.5000e-004	6.2800e-003	1.6400e-003	3.4000e-004	1.9800e-003	0.0000	28.6016	28.6016	1.3100e-003	0.0000	28.6343
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.1200e-003**	**0.1088**	**0.0223**	**3.0000e-004**	**5.9300e-003**	**3.5000e-004**	**6.2800e-003**	**1.6400e-003**	**3.4000e-004**	**1.9800e-003**	**0.0000**	**28.6016**	**28.6016**	**1.3100e-003**	**0.0000**	**28.6343**

3.8 Rough 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					0.0123	0.0000	0.0123	6.3100e-003	0.0000	6.3100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3700e-003	0.0377	0.0161	4.0000e-005		1.7100e-003	1.7100e-003		1.5700e-003	1.5700e-003	0.0000	3.0974	3.0974	1.0000e-003	0.0000	3.1224
Total	**3.3700e-003**	**0.0377**	**0.0161**	**4.0000e-005**	**0.0123**	**1.7100e-003**	**0.0140**	**6.3100e-003**	**1.5700e-003**	**7.8800e-003**	**0.0000**	**3.0974**	**3.0974**	**1.0000e-003**	**0.0000**	**3.1224**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.1400e-003	3.0000e-004	0.0000	7.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.2614	0.2614	1.0000e-005	0.0000	0.2617
Worker	7.0000e-005	5.0000e-005	5.0000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1360	0.1360	0.0000	0.0000	0.1361
Total	**1.1000e-004**	**1.1900e-003**	**8.0000e-004**	**0.0000**	**2.3000e-004**	**1.0000e-005**	**2.3000e-004**	**6.0000e-005**	**1.0000e-005**	**6.0000e-005**	**0.0000**	**0.3975**	**0.3975**	**1.0000e-005**	**0.0000**	**0.3979**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.2500e-003	0.0000	5.2500e-003	2.7000e-003	0.0000	2.7000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3700e-003	0.0377	0.0161	4.0000e-005		1.7100e-003	1.7100e-003		1.5700e-003	1.5700e-003	0.0000	3.0974	3.0974	1.0000e-003	0.0000	3.1224
Total	**3.3700e-003**	**0.0377**	**0.0161**	**4.0000e-005**	**5.2500e-003**	**1.7100e-003**	**6.9600e-003**	**2.7000e-003**	**1.5700e-003**	**4.2700e-003**	**0.0000**	**3.0974**	**3.0974**	**1.0000e-003**	**0.0000**	**3.1224**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.1400e-003	3.0000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.2614	0.2614	1.0000e-005	0.0000	0.2617
Worker	7.0000e-005	5.0000e-005	5.0000e-004	0.0000	1.5000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1360	0.1360	0.0000	0.0000	0.1361
Total	**1.1000e-004**	**1.1900e-003**	**8.0000e-004**	**0.0000**	**2.1000e-004**	**1.0000e-005**	**2.2000e-004**	**6.0000e-005**	**1.0000e-005**	**6.0000e-005**	**0.0000**	**0.3975**	**0.3975**	**1.0000e-005**	**0.0000**	**0.3979**

3.9 Rough Grading Haul - 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					4.6000e-004	0.0000	4.6000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**4.6000e-004**	**0.0000**	**4.6000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.2100e-003	0.1470	0.0301	4.0000e-004	8.5900e-003	4.8000e-004	9.0600e-003	2.3600e-003	4.6000e-004	2.8200e-003	0.0000	38.6312	38.6312	1.7700e-003	0.0000	38.6753
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.2100e-003**	**0.1470**	**0.0301**	**4.0000e-004**	**8.5900e-003**	**4.8000e-004**	**9.0600e-003**	**2.3600e-003**	**4.6000e-004**	**2.8200e-003**	**0.0000**	**38.6312**	**38.6312**	**1.7700e-003**	**0.0000**	**38.6753**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.0000e-004	0.0000	2.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.2100e-003	0.1470	0.0301	4.0000e-004	8.0100e-003	4.8000e-004	8.4800e-003	2.2200e-003	4.6000e-004	2.6800e-003	0.0000	38.6312	38.6312	1.7700e-003	0.0000	38.6753
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.2100e-003**	**0.1470**	**0.0301**	**4.0000e-004**	**8.0100e-003**	**4.8000e-004**	**8.4800e-003**	**2.2200e-003**	**4.6000e-004**	**2.6800e-003**	**0.0000**	**38.6312**	**38.6312**	**1.7700e-003**	**0.0000**	**38.6753**

3.10 Fine 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					0.0123	0.0000	0.0123	6.3100e-003	0.0000	6.3100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3700e-003	0.0377	0.0161	4.0000e-005		1.7100e-003	1.7100e-003		1.5700e-003	1.5700e-003	0.0000	3.0974	3.0974	1.0000e-003	0.0000	3.1224
Total	**3.3700e-003**	**0.0377**	**0.0161**	**4.0000e-005**	**0.0123**	**1.7100e-003**	**0.0140**	**6.3100e-003**	**1.5700e-003**	**7.8800e-003**	**0.0000**	**3.0974**	**3.0974**	**1.0000e-003**	**0.0000**	**3.1224**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.1400e-003	3.0000e-004	0.0000	7.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.2614	0.2614	1.0000e-005	0.0000	0.2617
Worker	7.0000e-005	5.0000e-005	5.0000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1360	0.1360	0.0000	0.0000	0.1361
Total	**1.1000e-004**	**1.1900e-003**	**8.0000e-004**	**0.0000**	**2.3000e-004**	**1.0000e-005**	**2.3000e-004**	**6.0000e-005**	**1.0000e-005**	**6.0000e-005**	**0.0000**	**0.3975**	**0.3975**	**1.0000e-005**	**0.0000**	**0.3979**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.2500e-003	0.0000	5.2500e-003	2.7000e-003	0.0000	2.7000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3700e-003	0.0377	0.0161	4.0000e-005		1.7100e-003	1.7100e-003		1.5700e-003	1.5700e-003	0.0000	3.0974	3.0974	1.0000e-003	0.0000	3.1224
Total	**3.3700e-003**	**0.0377**	**0.0161**	**4.0000e-005**	**5.2500e-003**	**1.7100e-003**	**6.9600e-003**	**2.7000e-003**	**1.5700e-003**	**4.2700e-003**	**0.0000**	**3.0974**	**3.0974**	**1.0000e-003**	**0.0000**	**3.1224**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.1400e-003	3.0000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.2614	0.2614	1.0000e-005	0.0000	0.2617
Worker	7.0000e-005	5.0000e-005	5.0000e-004	0.0000	1.5000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1360	0.1360	0.0000	0.0000	0.1361
Total	**1.1000e-004**	**1.1900e-003**	**8.0000e-004**	**0.0000**	**2.1000e-004**	**1.0000e-005**	**2.2000e-004**	**6.0000e-005**	**1.0000e-005**	**6.0000e-005**	**0.0000**	**0.3975**	**0.3975**	**1.0000e-005**	**0.0000**	**0.3979**

3.11 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	0.0610	0.5097	0.4517	7.7000e-004		0.0281	0.0281		0.0269	0.0269	0.0000	64.9563	64.9563	0.0119	0.0000	65.2538
Total	**0.0610**	**0.5097**	**0.4517**	**7.7000e-004**		**0.0281**	**0.0281**		**0.0269**	**0.0269**	**0.0000**	**64.9563**	**64.9563**	**0.0119**	**0.0000**	**65.2538**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3500e-003	0.0676	0.0180	1.6000e-004	3.9100e-003	3.3000e-004	4.2400e-003	1.1300e-003	3.2000e-004	1.4500e-003	0.0000	15.5297	15.5297	7.1000e-004	0.0000	15.5475
Worker	6.0800e-003	4.3700e-003	0.0458	1.4000e-004	0.0145	9.0000e-005	0.0146	3.8600e-003	9.0000e-005	3.9500e-003	0.0000	12.4569	12.4569	3.1000e-004	0.0000	12.4646
Total	**8.4300e-003**	**0.0720**	**0.0639**	**3.0000e-004**	**0.0184**	**4.2000e-004**	**0.0189**	**4.9900e-003**	**4.1000e-004**	**5.4000e-003**	**0.0000**	**27.9866**	**27.9866**	**1.0200e-003**	**0.0000**	**28.0121**

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	0.0610	0.5097	0.4517	7.7000e-004		0.0281	0.0281		0.0269	0.0269	0.0000	64.9562	64.9562	0.0119	0.0000	65.2537
Total	**0.0610**	**0.5097**	**0.4517**	**7.7000e-004**		**0.0281**	**0.0281**		**0.0269**	**0.0269**	**0.0000**	**64.9562**	**64.9562**	**0.0119**	**0.0000**	**65.2537**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3500e-003	0.0676	0.0180	1.6000e-004	3.6600e-003	3.3000e-004	3.9900e-003	1.0700e-003	3.2000e-004	1.3900e-003	0.0000	15.5297	15.5297	7.1000e-004	0.0000	15.5475
Worker	6.0800e-003	4.3700e-003	0.0458	1.4000e-004	0.0134	9.0000e-005	0.0135	3.5900e-003	9.0000e-005	3.6700e-003	0.0000	12.4569	12.4569	3.1000e-004	0.0000	12.4646
Total	**8.4300e-003**	**0.0720**	**0.0639**	**3.0000e-004**	**0.0171**	**4.2000e-004**	**0.0175**	**4.6600e-003**	**4.1000e-004**	**5.0600e-003**	**0.0000**	**27.9866**	**27.9866**	**1.0200e-003**	**0.0000**	**28.0121**

3.11 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	0.0287	0.2446	0.2331	4.0000e-004		0.0127	0.0127		0.0122	0.0122	0.0000	34.1202	34.1202	6.0900e-003	0.0000	34.2724
Total	**0.0287**	**0.2446**	**0.2331**	**4.0000e-004**		**0.0127**	**0.0127**		**0.0122**	**0.0122**	**0.0000**	**34.1202**	**34.1202**	**6.0900e-003**	**0.0000**	**34.2724**

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	1.0200e-003	0.0321	8.5300e-003	8.0000e-005	2.0500e-003	7.0000e-005	2.1200e-003	5.9000e-004	7.0000e-005	6.6000e-004	0.0000	8.0817	8.0817	3.5000e-004	0.0000	8.0905
Worker	2.9600e-003	2.0500e-003	0.0220	7.0000e-005	7.6300e-003	5.0000e-005	7.6800e-003	2.0300e-003	4.0000e-005	2.0700e-003	0.0000	6.3159	6.3159	1.4000e-004	0.0000	6.3195
Total	**3.9800e-003**	**0.0341**	**0.0305**	**1.5000e-004**	**9.6800e-003**	**1.2000e-004**	**9.8000e-003**	**2.6200e-003**	**1.1000e-004**	**2.7300e-003**	**0.0000**	**14.3977**	**14.3977**	**4.9000e-004**	**0.0000**	**14.4100**

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	0.0287	0.2446	0.2331	4.0000e-004		0.0127	0.0127		0.0122	0.0122	0.0000	34.1202	34.1202	6.0900e-003	0.0000	34.2723
Total	**0.0287**	**0.2446**	**0.2331**	**4.0000e-004**		**0.0127**	**0.0127**		**0.0122**	**0.0122**	**0.0000**	**34.1202**	**34.1202**	**6.0900e-003**	**0.0000**	**34.2723**

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	1.0200e-003	0.0321	8.5300e-003	8.0000e-005	1.9200e-003	7.0000e-005	1.9900e-003	5.6000e-004	7.0000e-005	6.3000e-004	0.0000	8.0817	8.0817	3.5000e-004	0.0000	8.0905
Worker	2.9600e-003	2.0500e-003	0.0220	7.0000e-005	7.0400e-003	5.0000e-005	7.0800e-003	1.8800e-003	4.0000e-005	1.9300e-003	0.0000	6.3159	6.3159	1.4000e-004	0.0000	6.3195
Total	**3.9800e-003**	**0.0341**	**0.0305**	**1.5000e-004**	**8.9600e-003**	**1.2000e-004**	**9.0700e-003**	**2.4400e-003**	**1.1000e-004**	**2.5600e-003**	**0.0000**	**14.3977**	**14.3977**	**4.9000e-004**	**0.0000**	**14.4100**

3.12 Asphalt Paving - 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	4.2600e-003	0.0426	0.0487	7.0000e-005		2.2800e-003	2.2800e-003		2.1100e-003	2.1100e-003	0.0000	6.4707	6.4707	2.0500e-003	0.0000	6.5220
Paving	8.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.3400e-003**	**0.0426**	**0.0487**	**7.0000e-005**		**2.2800e-003**	**2.2800e-003**		**2.1100e-003**	**2.1100e-003**	**0.0000**	**6.4707**	**6.4707**	**2.0500e-003**	**0.0000**	**6.5220**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.5000e-004	1.6400e-003	1.0000e-005	5.7000e-004	0.0000	5.7000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4694	0.4694	1.0000e-005	0.0000	0.4697
Total	**2.2000e-004**	**1.5000e-004**	**1.6400e-003**	**1.0000e-005**	**5.7000e-004**	**0.0000**	**5.7000e-004**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**0.4694**	**0.4694**	**1.0000e-005**	**0.0000**	**0.4697**

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	4.2600e-003	0.0426	0.0487	7.0000e-005		2.2800e-003	2.2800e-003		2.1100e-003	2.1100e-003	0.0000	6.4707	6.4707	2.0500e-003	0.0000	6.5220
Paving	8.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.3400e-003**	**0.0426**	**0.0487**	**7.0000e-005**		**2.2800e-003**	**2.2800e-003**		**2.1100e-003**	**2.1100e-003**	**0.0000**	**6.4707**	**6.4707**	**2.0500e-003**	**0.0000**	**6.5220**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.5000e-004	1.6400e-003	1.0000e-005	5.2000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4694	0.4694	1.0000e-005	0.0000	0.4697
Total	**2.2000e-004**	**1.5000e-004**	**1.6400e-003**	**1.0000e-005**	**5.2000e-004**	**0.0000**	**5.3000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4694**	**0.4694**	**1.0000e-005**	**0.0000**	**0.4697**

3.13 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0698					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2000e-003	8.4000e-003	0.0100	2.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	1.4043	1.4043	1.0000e-004	0.0000	1.4067
Total	**0.0710**	**8.4000e-003**	**0.0100**	**2.0000e-005**		**5.2000e-004**	**5.2000e-004**		**5.2000e-004**	**5.2000e-004**	**0.0000**	**1.4043**	**1.4043**	**1.0000e-004**	**0.0000**	**1.4067**

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	1.2000e-004	8.0000e-005	8.8000e-004	0.0000	3.1000e-004	0.0000	3.1000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2528	0.2528	1.0000e-005	0.0000	0.2529
Total	**1.2000e-004**	**8.0000e-005**	**8.8000e-004**	**0.0000**	**3.1000e-004**	**0.0000**	**3.1000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2528**	**0.2528**	**1.0000e-005**	**0.0000**	**0.2529**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0698					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2000e-003	8.4000e-003	0.0100	2.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	1.4043	1.4043	1.0000e-004	0.0000	1.4067
Total	**0.0710**	**8.4000e-003**	**0.0100**	**2.0000e-005**		**5.2000e-004**	**5.2000e-004**		**5.2000e-004**	**5.2000e-004**	**0.0000**	**1.4043**	**1.4043**	**1.0000e-004**	**0.0000**	**1.4067**

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	1.2000e-004	8.0000e-005	8.8000e-004	0.0000	2.8000e-004	0.0000	2.8000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2528	0.2528	1.0000e-005	0.0000	0.2529
Total	**1.2000e-004**	**8.0000e-005**	**8.8000e-004**	**0.0000**	**2.8000e-004**	**0.0000**	**2.8000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2528**	**0.2528**	**1.0000e-005**	**0.0000**	**0.2529**

3.14 Finish/Landscaping - 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	3.0900e-003	0.0313	0.0373	5.0000e-005		1.8400e-003	1.8400e-003		1.7000e-003	1.7000e-003	0.0000	4.5040	4.5040	1.4600e-003	0.0000	4.5405
Total	**3.0900e-003**	**0.0313**	**0.0373**	**5.0000e-005**		**1.8400e-003**	**1.8400e-003**		**1.7000e-003**	**1.7000e-003**	**0.0000**	**4.5040**	**4.5040**	**1.4600e-003**	**0.0000**	**4.5405**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	2.1000e-004	2.2600e-003	1.0000e-005	7.9000e-004	0.0000	7.9000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.6500	0.6500	1.0000e-005	0.0000	0.6504
Total	**3.0000e-004**	**2.1000e-004**	**2.2600e-003**	**1.0000e-005**	**7.9000e-004**	**0.0000**	**7.9000e-004**	**2.1000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**0.6500**	**0.6500**	**1.0000e-005**	**0.0000**	**0.6504**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.0900e-003	0.0313	0.0373	5.0000e-005		1.8400e-003	1.8400e-003		1.7000e-003	1.7000e-003	0.0000	4.5040	4.5040	1.4600e-003	0.0000	4.5405
Total	**3.0900e-003**	**0.0313**	**0.0373**	**5.0000e-005**		**1.8400e-003**	**1.8400e-003**		**1.7000e-003**	**1.7000e-003**	**0.0000**	**4.5040**	**4.5040**	**1.4600e-003**	**0.0000**	**4.5405**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	2.1000e-004	2.2600e-003	1.0000e-005	7.2000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6500	0.6500	1.0000e-005	0.0000	0.6504
Total	**3.0000e-004**	**2.1000e-004**	**2.2600e-003**	**1.0000e-005**	**7.2000e-004**	**0.0000**	**7.3000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.6500**	**0.6500**	**1.0000e-005**	**0.0000**	**0.6504**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Canyon Crossing Mixed Use Existing Conditions - Santa Clara County, Annual

Canyon Crossing Mixed Use Existing Conditions

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	41.25	1000sqft	0.95	41,250.00	0
Other Non-Asphalt Surfaces	3.84	1000sqft	0.09	3,840.00	0
Parking Lot	10.07	1000sqft	0.23	10,070.00	0
Single Family Housing	1.00	Dwelling Unit	0.03	1,100.00	3
Strip Mall	12.13	1000sqft	0.28	12,125.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	10.84	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Carbon intensity factors for Silicon Valley Clean Energy

Land Use - see assumptions file for lot acreage calculations

Construction Phase -

Vehicle Trips - trip rates provided by TJKM

Woodstoves - assuming one gas fire place

Area Coating - see assumptions file for calculations, only accounting for space from parking lot

Energy Use -

Water And Wastewater - assuming 100% aerobic treatment

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	3310	604
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	0.25	1.00
tblFireplaces	NumberNoFireplace	0.08	0.00
tblFireplaces	NumberWood	0.43	0.00
tblLandUse	LandUseSquareFeet	1,800.00	1,100.00
tblLandUse	LandUseSquareFeet	12,130.00	12,125.00
tblLandUse	LotAcreage	0.32	0.03
tblProjectCharacteristics	CH4IntensityFactor	0.029	0
tblProjectCharacteristics	CO2IntensityFactor	641.35	10.84
tblProjectCharacteristics	N2OIntensityFactor	0.006	0
tblVehicleTrips	CW_TL	9.50	7.90
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	40.00	0.00
tblVehicleTrips	HW_TL	10.80	10.40
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	45.00	100.00
tblVehicleTrips	ST_TR	9.91	6.04
tblVehicleTrips	ST_TR	42.04	44.41
tblVehicleTrips	SU_TR	8.62	5.29
tblVehicleTrips	SU_TR	20.43	38.86
tblVehicleTrips	WD_TR	9.52	5.81
tblVehicleTrips	WD_TR	44.32	42.70
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00

tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	0.04	0.00
tblWoodstoves	NumberNoncatalytic	0.04	0.00
tblWoodstoves	WoodstoveDayYear	21.06	0.00
tblWoodstoves	WoodstoveWoodMass	956.80	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0628	2.0000e-004	8.1300e-003	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1382	0.1382	2.0000e-005	0.0000	0.1393
Energy	4.0000e-004	3.5100e-003	2.2100e-003	2.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	4.7557	4.7557	8.0000e-005	7.0000e-005	4.7792
Mobile	0.1642	0.7057	2.0293	6.1100e-003	0.5206	6.9500e-003	0.5276	0.1394	6.5400e-003	0.1459	0.0000	557.8815	557.8815	0.0207	0.0000	558.3999
Waste						0.0000	0.0000		0.0000	0.0000	2.8419	0.0000	2.8419	0.1680	0.0000	7.0406
Water						0.0000	0.0000		0.0000	0.0000	0.3409	0.0358	0.3768	1.1700e-003	7.4000e-004	0.6271
Total	**0.2274**	**0.7094**	**2.0396**	**6.1300e-003**	**0.5206**	**7.2800e-003**	**0.5279**	**0.1394**	**6.8700e-003**	**0.1463**	**3.1828**	**562.8113**	**565.9941**	**0.1900**	**8.1000e-004**	**570.9860**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0628	2.0000e-004	8.1300e-003	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1382	0.1382	2.0000e-005	0.0000	0.1393
Energy	4.0000e-004	3.5100e-003	2.2100e-003	2.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	4.7557	4.7557	8.0000e-005	7.0000e-005	4.7792
Mobile	0.1642	0.7057	2.0293	6.1100e-003	0.5206	6.9500e-003	0.5276	0.1394	6.5400e-003	0.1459	0.0000	557.8815	557.8815	0.0207	0.0000	558.3999
Waste						0.0000	0.0000		0.0000	0.0000	2.8419	0.0000	2.8419	0.1680	0.0000	7.0406
Water						0.0000	0.0000		0.0000	0.0000	0.3409	0.0358	0.3768	1.1700e-003	7.4000e-004	0.6271
Total	**0.2274**	**0.7094**	**2.0396**	**6.1300e-003**	**0.5206**	**7.2800e-003**	**0.5279**	**0.1394**	**6.8700e-003**	**0.1463**	**3.1828**	**562.8113**	**565.9941**	**0.1900**	**8.1000e-004**	**570.9860**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1642	0.7057	2.0293	6.1100e-003	0.5206	6.9500e-003	0.5276	0.1394	6.5400e-003	0.1459	0.0000	557.8815	557.8815	0.0207	0.0000	558.3999
Unmitigated	0.1642	0.7057	2.0293	6.1100e-003	0.5206	6.9500e-003	0.5276	0.1394	6.5400e-003	0.1459	0.0000	557.8815	557.8815	0.0207	0.0000	558.3999

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Single Family Housing	5.81	6.04	5.29	14,745	14,745
Strip Mall	517.95	538.69	471.37	1,385,136	1,385,136
Total	523.76	544.73	476.66	1,399,880	1,399,880

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
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.40	4.80	5.70	31.00	15.00	54.00	100	0	0
Strip Mall	7.90	7.30	7.30	16.60	64.40	19.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.601004	0.039123	0.186461	0.109772	0.016124	0.004965	0.012251	0.019838	0.002045	0.001602	0.005388	0.000616	0.000812
Other Non-Asphalt Surfaces	0.601004	0.039123	0.186461	0.109772	0.016124	0.004965	0.012251	0.019838	0.002045	0.001602	0.005388	0.000616	0.000812
Parking Lot	0.601004	0.039123	0.186461	0.109772	0.016124	0.004965	0.012251	0.019838	0.002045	0.001602	0.005388	0.000616	0.000812
Single Family Housing	0.601004	0.039123	0.186461	0.109772	0.016124	0.004965	0.012251	0.019838	0.002045	0.001602	0.005388	0.000616	0.000812
Strip Mall	0.601004	0.039123	0.186461	0.109772	0.016124	0.004965	0.012251	0.019838	0.002045	0.001602	0.005388	0.000616	0.000812

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.8092	0.8092	0.0000	0.0000	0.8092
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.8092	0.8092	0.0000	0.0000	0.8092
NaturalGas Mitigated	4.0000e-004	3.5100e-003	2.2100e-003	2.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	3.9465	3.9465	8.0000e-005	7.0000e-005	3.9700
NaturalGas Unmitigated	4.0000e-004	3.5100e-003	2.2100e-003	2.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	3.9465	3.9465	8.0000e-005	7.0000e-005	3.9700

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					
Other Asphalt Surfaces	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
Other Non-Asphalt Surfaces	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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	38550.3	2.1000e-004	1.7800e-003	7.6000e-004	1.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	2.0572	2.0572	4.0000e-005	4.0000e-005	2.0694
Strip Mall	35405	1.9000e-004	1.7400e-003	1.4600e-003	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	1.8894	1.8894	4.0000e-005	3.0000e-005	1.9006
Total		**4.0000e-004**	**3.5200e-003**	**2.2200e-003**	**2.0000e-005**		**2.7000e-004**	**2.7000e-004**		**2.7000e-004**	**2.7000e-004**	**0.0000**	**3.9465**	**3.9465**	**8.0000e-005**	**7.0000e-005**	**3.9700**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	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
Other Non-Asphalt Surfaces	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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	38550.3	2.1000e-004	1.7800e-003	7.6000e-004	1.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	2.0572	2.0572	4.0000e-005	4.0000e-005	2.0694
Strip Mall	35405	1.9000e-004	1.7400e-003	1.4600e-003	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	1.8894	1.8894	4.0000e-005	3.0000e-005	1.9006
Total		**4.0000e-004**	**3.5200e-003**	**2.2200e-003**	**2.0000e-005**		**2.7000e-004**	**2.7000e-004**		**2.7000e-004**	**2.7000e-004**	**0.0000**	**3.9465**	**3.9465**	**8.0000e-005**	**7.0000e-005**	**3.9700**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	8861.6	0.0436	0.0000	0.0000	0.0436
Single Family Housing	7181.19	0.0353	0.0000	0.0000	0.0353
Strip Mall	148531	0.7303	0.0000	0.0000	0.7303
Total		**0.8092**	**0.0000**	**0.0000**	**0.8092**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	8861.6	0.0436	0.0000	0.0000	0.0436
Single Family Housing	7181.19	0.0353	0.0000	0.0000	0.0353
Strip Mall	148531	0.7303	0.0000	0.0000	0.7303
Total		**0.8092**	**0.0000**	**0.0000**	**0.8092**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0628	2.0000e-004	8.1300e-003	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1382	0.1382	2.0000e-005	0.0000	0.1393
Unmitigated	0.0628	2.0000e-004	8.1300e-003	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1382	0.1382	2.0000e-005	0.0000	0.1393

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	7.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0552					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.0000e-005	1.1000e-004	5.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1248	0.1248	0.0000	0.0000	0.1256
Landscaping	2.9000e-004	9.0000e-005	8.0900e-003	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0133	0.0133	2.0000e-005	0.0000	0.0137
Total	**0.0628**	**2.0000e-004**	**8.1400e-003**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1382**	**0.1382**	**2.0000e-005**	**0.0000**	**0.1393**

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	7.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0552					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.0000e-005	1.1000e-004	5.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1248	0.1248	0.0000	0.0000	0.1256
Landscaping	2.9000e-004	9.0000e-005	8.0900e-003	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0133	0.0133	2.0000e-005	0.0000	0.0137
Total	**0.0628**	**2.0000e-004**	**8.1400e-003**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1382**	**0.1382**	**2.0000e-005**	**0.0000**	**0.1393**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.3768	1.1700e-003	7.4000e-004	0.6271
Unmitigated	0.3768	1.1700e-003	7.4000e-004	0.6271

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.065154 / 0.0410754	0.0255	8.0000e-005	5.0000e-005	0.0424
Strip Mall	0.8985 / 0.550693	0.3513	1.0900e-003	6.9000e-004	0.5846
Total		**0.3768**	**1.1700e-003**	**7.4000e-004**	**0.6271**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.065154 / 0.0410754	0.0255	8.0000e-005	5.0000e-005	0.0424
Strip Mall	0.8985 / 0.550693	0.3513	1.0900e-003	6.9000e-004	0.5846
Total		**0.3768**	**1.1700e-003**	**7.4000e-004**	**0.6271**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.8419	0.1680	0.0000	7.0406
Unmitigated	2.8419	0.1680	0.0000	7.0406

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.26	0.2558	0.0151	0.0000	0.6337
Strip Mall	12.74	2.5861	0.1528	0.0000	6.4070
Total		**2.8419**	**0.1680**	**0.0000**	**7.0406**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.26	0.2558	0.0151	0.0000	0.6337
Strip Mall	12.74	2.5861	0.1528	0.0000	6.4070
Total		**2.8419**	**0.1680**	**0.0000**	**7.0406**

9.0 Operational Offroad

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

Canyon Crossing Mixed Use Build Out Conditions

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	41.25	1000sqft	0.95	41,250.00	0
Other Non-Asphalt Surfaces	3.84	1000sqft	0.09	3,840.00	0
Parking Lot	10.07	1000sqft	0.23	10,070.00	0
Single Family Housing	1.00	Dwelling Unit	0.03	1,100.00	3
Strip Mall	12.13	1000sqft	0.28	12,125.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2021
Utility Company	User Defined				
CO2 Intensity (lb/MWhr)	10.84	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Carbon intensity factors for Silicon Valley Clean Energy

Land Use - see assumptions file for lot acreage calculations

Construction Phase -

Vehicle Trips - assuming 100% primary trips, trip rates provided by TJKM

Woodstoves - assuming one gas fire place

Area Coating - see assumptions file for calculations, only accounting for space from parking lot

Energy Use -

Water And Wastewater - assuming 100% aerobic treatment

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	3310	604
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	0.25	1.00
tblFireplaces	NumberNoFireplace	0.08	0.00
tblFireplaces	NumberWood	0.43	0.00
tblLandUse	LandUseSquareFeet	1,800.00	1,100.00
tblLandUse	LandUseSquareFeet	12,130.00	12,125.00
tblLandUse	LotAcreage	0.32	0.03
tblProjectCharacteristics	CO2IntensityFactor	0	10.84
tblVehicleTrips	CW_TL	9.50	7.90
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	40.00	0.00
tblVehicleTrips	HW_TL	10.80	10.40
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	45.00	100.00
tblVehicleTrips	ST_TR	9.91	6.04
tblVehicleTrips	ST_TR	42.04	44.41
tblVehicleTrips	SU_TR	8.62	5.29
tblVehicleTrips	SU_TR	20.43	38.86
tblVehicleTrips	WD_TR	9.52	5.81
tblVehicleTrips	WD_TR	44.32	42.70
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00

tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	0.04	0.00
tblWoodstoves	NumberNoncatalytic	0.04	0.00
tblWoodstoves	WoodstoveDayYear	21.06	0.00
tblWoodstoves	WoodstoveWoodMass	956.80	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0628	2.0000e-004	8.1100e-003	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1382	0.1382	2.0000e-005	0.0000	0.1393
Energy	4.0000e-004	3.5100e-003	2.2100e-003	2.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	4.7557	4.7557	8.0000e-005	7.0000e-005	4.7792
Mobile	0.1372	0.5932	1.7010	5.7600e-003	0.5206	4.9500e-003	0.5255	0.1394	4.6300e-003	0.1440	0.0000	527.3014	527.3014	0.0179	0.0000	527.7482
Waste						0.0000	0.0000		0.0000	0.0000	2.8419	0.0000	2.8419	0.1680	0.0000	7.0406
Water						0.0000	0.0000		0.0000	0.0000	0.3409	0.0358	0.3768	1.1700e-003	7.4000e-004	0.6271
Total	**0.2004**	**0.5969**	**1.7113**	**5.7800e-003**	**0.5206**	**5.2800e-003**	**0.5258**	**0.1394**	**4.9600e-003**	**0.1443**	**3.1828**	**532.2311**	**535.4139**	**0.1871**	**8.1000e-004**	**540.3344**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0628	2.0000e-004	8.1100e-003	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1382	0.1382	2.0000e-005	0.0000	0.1393
Energy	4.0000e-004	3.5100e-003	2.2100e-003	2.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	4.7557	4.7557	8.0000e-005	7.0000e-005	4.7792
Mobile	0.1372	0.5932	1.7010	5.7600e-003	0.5206	4.9500e-003	0.5255	0.1394	4.6300e-003	0.1440	0.0000	527.3014	527.3014	0.0179	0.0000	527.7482
Waste						0.0000	0.0000		0.0000	0.0000	2.8419	0.0000	2.8419	0.1680	0.0000	7.0406
Water						0.0000	0.0000		0.0000	0.0000	0.3409	0.0358	0.3768	1.1700e-003	7.4000e-004	0.6271
Total	**0.2004**	**0.5969**	**1.7113**	**5.7800e-003**	**0.5206**	**5.2800e-003**	**0.5258**	**0.1394**	**4.9600e-003**	**0.1443**	**3.1828**	**532.2311**	**535.4139**	**0.1871**	**8.1000e-004**	**540.3344**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1372	0.5932	1.7010	5.7600e-003	0.5206	4.9500e-003	0.5255	0.1394	4.6300e-003	0.1440	0.0000	527.3014	527.3014	0.0179	0.0000	527.7482
Unmitigated	0.1372	0.5932	1.7010	5.7600e-003	0.5206	4.9500e-003	0.5255	0.1394	4.6300e-003	0.1440	0.0000	527.3014	527.3014	0.0179	0.0000	527.7482

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Single Family Housing	5.81	6.04	5.29	14,745	14,745
Strip Mall	517.95	538.69	471.37	1,385,136	1,385,136
Total	523.76	544.73	476.66	1,399,880	1,399,880

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
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.40	4.80	5.70	31.00	15.00	54.00	100	0	0
Strip Mall	7.90	7.30	7.30	16.60	64.40	19.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
Other Non-Asphalt Surfaces	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
Parking Lot	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
Single Family Housing	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
Strip Mall	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.8092	0.8092	0.0000	0.0000	0.8092
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.8092	0.8092	0.0000	0.0000	0.8092
NaturalGas Mitigated	4.0000e-004	3.5100e-003	2.2100e-003	2.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	3.9465	3.9465	8.0000e-005	7.0000e-005	3.9700
NaturalGas Unmitigated	4.0000e-004	3.5100e-003	2.2100e-003	2.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	3.9465	3.9465	8.0000e-005	7.0000e-005	3.9700

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					
Other Asphalt Surfaces	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
Other Non-Asphalt Surfaces	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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	38550.3	2.1000e-004	1.7800e-003	7.6000e-004	1.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	2.0572	2.0572	4.0000e-005	4.0000e-005	2.0694
Strip Mall	35405	1.9000e-004	1.7400e-003	1.4600e-003	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	1.8894	1.8894	4.0000e-005	3.0000e-005	1.9006
Total		**4.0000e-004**	**3.5200e-003**	**2.2200e-003**	**2.0000e-005**		**2.7000e-004**	**2.7000e-004**		**2.7000e-004**	**2.7000e-004**	**0.0000**	**3.9465**	**3.9465**	**8.0000e-005**	**7.0000e-005**	**3.9700**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	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
Other Non-Asphalt Surfaces	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
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	38550.3	2.1000e-004	1.7800e-003	7.6000e-004	1.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	2.0572	2.0572	4.0000e-005	4.0000e-005	2.0694
Strip Mall	35405	1.9000e-004	1.7400e-003	1.4600e-003	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	1.8894	1.8894	4.0000e-005	3.0000e-005	1.9006
Total		**4.0000e-004**	**3.5200e-003**	**2.2200e-003**	**2.0000e-005**		**2.7000e-004**	**2.7000e-004**		**2.7000e-004**	**2.7000e-004**	**0.0000**	**3.9465**	**3.9465**	**8.0000e-005**	**7.0000e-005**	**3.9700**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	8861.6	0.0436	0.0000	0.0000	0.0436
Single Family Housing	7181.19	0.0353	0.0000	0.0000	0.0353
Strip Mall	148531	0.7303	0.0000	0.0000	0.7303
Total		**0.8092**	**0.0000**	**0.0000**	**0.8092**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	8861.6	0.0436	0.0000	0.0000	0.0436
Single Family Housing	7181.19	0.0353	0.0000	0.0000	0.0353
Strip Mall	148531	0.7303	0.0000	0.0000	0.7303
Total		**0.8092**	**0.0000**	**0.0000**	**0.8092**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0628	2.0000e-004	8.1100e-003	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1382	0.1382	2.0000e-005	0.0000	0.1393
Unmitigated	0.0628	2.0000e-004	8.1100e-003	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.1382	0.1382	2.0000e-005	0.0000	0.1393

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	7.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0552					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.0000e-005	1.1000e-004	5.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1248	0.1248	0.0000	0.0000	0.1256
Landscaping	2.8000e-004	9.0000e-005	8.0600e-003	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0133	0.0133	1.0000e-005	0.0000	0.0137
Total	**0.0628**	**2.0000e-004**	**8.1100e-003**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1382**	**0.1382**	**1.0000e-005**	**0.0000**	**0.1393**

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	7.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0552					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.0000e-005	1.1000e-004	5.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1248	0.1248	0.0000	0.0000	0.1256
Landscaping	2.8000e-004	9.0000e-005	8.0600e-003	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0133	0.0133	1.0000e-005	0.0000	0.0137
Total	**0.0628**	**2.0000e-004**	**8.1100e-003**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.1382**	**0.1382**	**1.0000e-005**	**0.0000**	**0.1393**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.3768	1.1700e-003	7.4000e-004	0.6271
Unmitigated	0.3768	1.1700e-003	7.4000e-004	0.6271

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.065154 / 0.0410754	0.0255	8.0000e-005	5.0000e-005	0.0424
Strip Mall	0.8985 / 0.550693	0.3513	1.0900e-003	6.9000e-004	0.5846
Total		**0.3768**	**1.1700e-003**	**7.4000e-004**	**0.6271**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.065154 / 0.0410754	0.0255	8.0000e-005	5.0000e-005	0.0424
Strip Mall	0.8985 / 0.550693	0.3513	1.0900e-003	6.9000e-004	0.5846
Total		**0.3768**	**1.1700e-003**	**7.4000e-004**	**0.6271**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.8419	0.1680	0.0000	7.0406
Unmitigated	2.8419	0.1680	0.0000	7.0406

8.2 Waste by Land Use

Unmitigated

	Waste	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.26	0.2558	0.0151	0.0000	0.6337
Strip Mall	12.74	2.5861	0.1528	0.0000	6.4070
Total		**2.8419**	**0.1680**	**0.0000**	**7.0406**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.26	0.2558	0.0151	0.0000	0.6337
Strip Mall	12.74	2.5861	0.1528	0.0000	6.4070
Total		**2.8419**	**0.1680**	**0.0000**	**7.0406**

9.0 Operational Offroad

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