

DOWNTOWN SUNNYVALE SPECIFIC PLAN AMENDMENTS AIR QUALITY & GREENHOUSE GAS ASSESSMENT

Sunnyvale, California

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Project: #18-010

INTRODUCTION

The City of Sunnyvale originally adopted the Downtown Specific Plan (DSP) in 1993 and updated it in 2003 and 2013. The DSP area consists of approximately 125 acres, divided into 22 Blocks. This project proposes amendments to six sites within three blocks of DSP area to change the land use mix, intensity of development, and proposes specific development plans for the six sites.

The purpose of this report is to address air quality impacts and greenhouse gas (GHG) emissions associated with the DSP amendments. The air quality impacts and GHG emissions would be associated with demolition of the existing uses, construction of new buildings and infrastructure, and operation of the DSP amendments. Air pollutant and GHG emissions associated with the construction and operation of the DSP amendments were predicted using models. In addition, the potential construction health risk impact to nearby sensitive receptors and the impact of existing toxic air contaminant (TAC) sources affecting the proposed residences were evaluated. This analysis addresses those issues following the guidance provided by the Bay Area Air Quality Management District (BAAQMD).¹

Project Description

The project includes amendments to the DSP land uses and development assumptions for Blocks 1/1a, 18, and 22 with respect to the six project sites. The existing development on the six project sites total 20 residential units, 181,000 square-foot (sf) of commercial space, and 8,000-sf of office space. In addition, a development of 50 residential units and 8,720-sf of commercial uses is currently under construction at the 300 West Washington Avenue site. Buildout of the project sites under the DSP with the proposed amendments would result in 843 residential units, 260,063-sf of commercial uses, and 860,624-sf of office uses. The following specific development plans, which fall within the development envelope proposed by the DSP amendments, are proposed:

- **100 Altair Way** (Block 1a): An approximately 0.55-acre site located at the south side of Altair Way and between Aries Way and South Taaffe Street. The site is currently developed with a one-story, 8,000-sf building occupied by U.S. Post Office and a three-story mixed use building with 4,000-sf of commercial uses and 20 residential units. The proposed development would demolish the existing buildings and construct a seven-story, 134,324-sf office building with 308 parking spaces in a four-level underground garage. The building would have one 150-kilowatt (kW), 185-horsepower (hp) emergency generator near the southwest corner of the roof. The development proposes to achieve LEED Gold and include green building measures such as water-efficient landscaping, water efficient fixtures, and energy-efficient lighting.
- **300 Mathilda Avenue** (Sub-block 1): An approximately 2.0-acre site along Mathilda Avenue south of West McKinley Avenue. The site is currently undeveloped. The proposed development would construct a five-story, mixed-use building with up to 7,131-sf of commercial uses and up to 153,000-sf of office uses with 294 parking spaces in a two-level 97,064-sf underground garage (includes 9,396-sf of back of house [BOH] operations), and

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

15 surface parking lot spaces. The building would have one 100-kW, 152- hp emergency generator on the ground floor adjacent to the southwest corner of the proposed building. The development proposes to achieve LEED Gold and include green building measures such as water-efficient landscaping, water efficient fixtures, installing photovoltaic panels, and energy-efficient appliances.

- **300 West Washington Avenue** (Sub-block 2): An approximately 0.9-acre site at the southwest corner of West Washington Avenue and South Taaffe Street. The site is currently under construction to develop a five-story, mixed use building with 50 residential units. The development proposes to convert existing storage space within the building to one new residential unit.
- **Macy's and Redwood Square** (Sub-block 3): An approximately 7.6-acre site south of West Washington Avenue, between South Murphy Avenue and South Taaffe Street, and north of McKinley Avenue. The northern portion of the site (Macy's) is currently developed with a two-story, 177,000-sf retail building occupied by Macy's and the southern portion of the site (Redwood Square) consists of a large landscaped area and a small surface parking lot. The proposed development would demolish the existing northern building and southern landscape area and parking lot. It would then construct two, seven-story, commercial and office use buildings and on the northern Macy's site and two, 10-story, commercial and residential use buildings with a one-acre outdoor plaza on the southern Redwood Square site. The Macy's and Redwood Square sites would be construction at the same time. In total, the whole project site would develop 467 residential units, 147,569-sf of commercial²,499,775-sf of office uses, and 1,336 parking spaces in two, two-level underground garages. The Macy's site would have two (one per building) 150-kW, 240- hp emergency generators on the ground floor adjacent to the southern façade of each proposed building. The Redwood Square site would have one 1,000- kW, 1,528- hp emergency generator on the roof of the eastern building. The development proposes to achieve LEED Gold and include green building measures such as water-efficient landscaping, water efficient fixtures, installing photovoltaic panels, and energy-efficient appliances.
- **Sub-block 6:** An approximately 4.4-acre site located between West Washington Avenue, West McKinley Avenue, South Murphy Avenue and South Sunnyvale Avenue. The site is currently developed with a large surface parking lot. The development proposes to redevelop the site with one, seven-story mixed use building with 36,000-sf of commercial uses and 325 residential units (totaling 422,850-sf) with 950 parking spaces in a one-level underground and two-levels above ground garage. The garages would total 348,000-sf. The development proposes to achieve LEED Gold and include green building measures such as water-efficient landscaping, water efficient fixtures, installing photovoltaic panels, and energy-efficient appliances.
- **Murphy Square** (Block 22): An approximately 0.78-acre site located at the northwest corner of West Evelyn Avenue and North Sunnyvale Avenue. The site is currently developed with a surface parking lot. The proposed development would replace the existing surface parking lot

² Includes 25,420-sf for retail and BOH operations but all the square footage was applied to retail

with a four-story, 69,100-sf office building with 163 parking spaces in a three-level underground garage and 13 spaces in a surface parking lot. The building would have one 450-kW, 555-hp emergency generator on the ground floor adjacent to the northwest corner of the proposed building. The development proposes to achieve LEED Silver.

AIR POLLUTANTS

Ozone

Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and oxides of nitrogen (NO_x). The main sources of ROG and NO_x, often referred to as ozone precursors, are combustion processes (including combustion in motor vehicle engines) and the evaporation of solvents, paints, and fuels. In the Bay Area, automobiles are the single largest source of ozone precursors. Ozone is referred to as a regional air pollutant because its precursors are transported and diffused by wind concurrently with ozone production through the photochemical reaction process. Ozone causes eye irritation, airway constriction, shortness of breath, and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Carbon Monoxide

Carbon monoxide (CO) is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles. While CO transport is limited, it disperses with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations near congested roadways or intersections may reach unhealthful levels that adversely affect local sensitive receptors (e.g., residents, schoolchildren, the elderly, hospital patients, etc.). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service (LOS) or with extremely high traffic volumes. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, fatigue, impair central nervous system function, and induce angina (chest pain) in persons with serious heart disease. Very high levels of CO can be fatal.

Nitrogen Dioxide

NO₂ is a reddish-brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO₂. Aside from its contribution to ozone formation, NO₂ also contribute to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition. NO₂ may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels. NO₂ decreases lung function and may reduce resistance to infection. On January 22, 2010 the EPA strengthened the health-based NAAQS for NO₂.

Sulfur Dioxide

Sulfur dioxide (SO₂) is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO₂ levels in the region. SO₂ irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight.

Particulate Matter

Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles are those that are larger than 2.5 microns but smaller than 10 microns (PM₁₀). PM_{2.5} refers to fine suspended particulate matter with an aerodynamic diameter of 2.5 microns or less that is not readily filtered out by the lungs. Nitrates, sulfates, dust, and combustion particulates are major components of PM₁₀ and PM_{2.5}. These small particles can be directly emitted into the atmosphere as by-products of fuel combustion, through abrasion, such as tire or brake lining wear, or through fugitive dust (wind or mechanical erosion of soil). They can also be formed in the atmosphere through chemical reactions. Particulates may transport carcinogens and other toxic compounds that adhere to the particle surfaces and can enter the human body through the lungs.

Lead

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

Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the U.S. EPA established 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.

Toxic Air Contaminants (TACs)

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated by the EPA and the CARB. Some examples of TACs include: benzene, butadiene, formaldehyde, and hydrogen sulfide. The identification, regulation, and monitoring of TACs is relatively recent compared to that for criteria pollutants.

High volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic (distribution centers, truck stops) were identified as posing the highest risk to adjacent receptors. Other facilities associated with increased risk include warehouse distribution

centers, large retail or industrial facilities, high volume transit centers, or schools with a high volume of bus traffic. Health risks from TACs are a function of both concentration and duration of exposure.

Sensitive Receptors

Some groups of people are more affected by air pollution than others. The State has identified the following people who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. Residential locations are assumed to include infants and small children. The project would introduce new sensitive receptors in the form of residences. There are existing sensitive receptors in the form of single- and multi-family residences surround the whole project site. In addition, there is a preschool (e.g. Triumphant Learning Center), daycare (e.g. Fun Mandarin), and after school/summer camp program for children (e.g. KM2A Martial Arts & After School) as well as senior housing community (e.g. Plaza de las Flores) within the project site area. Health effects of criteria pollutants and their potential sources are described below and summarized in Table 1.

Table 1. Health Effects of Air Pollutants

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	<ul style="list-style-type: none"> • Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. • Natural events, such as decomposition of organic matter. 	<ul style="list-style-type: none"> • Reduced tolerance for exercise. • Impairment of mental function. • Impairment of fetal development. • Death at high levels of exposure. • Aggravation of some heart diseases (angina).
Nitrogen Dioxide (NO ₂)	<ul style="list-style-type: none"> • Motor vehicle exhaust. • High temperature stationary combustion. • Atmospheric reactions. 	<ul style="list-style-type: none"> • Aggravation of respiratory illness. • Reduced visibility. • Reduced plant growth. • Formation of acid rain.
Ozone (O ₃)	<ul style="list-style-type: none"> • Atmospheric reaction of organic gases with nitrogen oxides in sunlight. 	<ul style="list-style-type: none"> • Aggravation of respiratory and cardiovascular diseases. • Irritation of eyes. • Impairment of cardiopulmonary function. • Plant leaf injury.
Lead (Pb)	<ul style="list-style-type: none"> • Contaminated soil. 	<ul style="list-style-type: none"> • Impairment of blood functions and nerve construction. • Behavioral and hearing problems in children.
Suspended Particulate Matter (PM _{2.5} and PM ₁₀)	<ul style="list-style-type: none"> • Stationary combustion of solid fuels. • Construction activities. • Industrial processes. • Atmospheric chemical reactions. 	<ul style="list-style-type: none"> • Reduced lung function. • Aggravation of the effects of gaseous pollutants. • Aggravation of respiratory and cardiorespiratory diseases. • Increased cough and chest discomfort. • Soiling. • Reduced visibility.
Sulfur Dioxide (SO ₂)	<ul style="list-style-type: none"> • Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes. 	<ul style="list-style-type: none"> • Aggravation of respiratory diseases (asthma, emphysema). • Reduced lung function. • Irritation of eyes. • Reduced visibility. • Plant injury. • Deterioration of metals, textiles, leather, finishes, coatings, etc.
Toxic Air Contaminants	<ul style="list-style-type: none"> • Cars and trucks, especially diesels. • Industrial sources such as chrome platers. • Neighborhood businesses such as dry cleaners and service stations. • Building materials and product. 	<p>Cancer. Chronic eye, lung, or skin irritation. Neurological and reproductive disorders.</p>

Source: CARB, 2009. ARB Fact Sheet: Air Pollution and Health, see: <https://www.arb.ca.gov/research/health/fs/fs1/fs1.htm> accessed May 1, 2018

REGIONAL AIR QUALITY

The Downtown Sunnyvale Specific Plan Project is in the San Francisco Bay Area Air Basin. The Air Basin includes the counties of San Francisco, Santa Clara, San Mateo, Marin, Napa, Contra Costa, and Alameda, along with the southeast portion of Sonoma County and the southwest portion of Solano County.

This Project is within the jurisdiction of the BAAQMD. Air quality conditions in the San Francisco Bay Area have improved significantly since the BAAQMD was created in 1955. Ambient concentrations of air pollutants, and the number of days during which the region exceeds air quality standards, have fallen dramatically. Exceedances of air quality standards occur primarily during meteorological conditions conducive to high pollution levels, such as cold, windless winter nights or hot, sunny summer afternoons.

LOCAL CLIMATE AND AIR QUALITY

Air quality is a function of both local climate and local sources of air pollution. Air quality is the balance of the natural dispersal capacity of the atmosphere and emissions of air pollutants from human uses of the environment. Climate and topography are major influences on air quality.

Climate and Meteorology

During the summer, mostly clear skies result in warm daytime temperatures and cool nights in the Santa Clara Valley. Winter temperatures are mild, except for very cool but generally frost-less mornings. Further inland where the moderating effect of the bay is not as strong, temperature extremes are greater. Wind patterns are influenced by local terrain, with a northwesterly sea breeze typically developing during the daytime. Winds are usually stronger in the spring and summer. Rainfall amounts are modest, ranging from 13 inches in the lowlands to 20 inches in the hills.

Air Pollution Potential

Ozone and fine particle pollution, or PM_{2.5}, are the major regional air pollutants of concern in the San Francisco Bay Area. Ozone is primarily a problem in the summer, and fine particle pollution in the winter. Most of Santa Clara County is well south of the cooler waters of the San Francisco Bay and far from the cooler marine air which usually reaches across San Mateo County in summer. Ozone frequently forms on hot summer days when the prevailing seasonal northerly winds carry ozone precursors southward across the county, causing health standards to be exceeded. Santa Clara County experiences many exceedances of the PM_{2.5} standard each winter. This is due to the high population density, wood smoke, industrial and freeway traffic, and poor wintertime air circulation caused by extensive hills to the east and west that block wind flow into the region.

Attainment Status Designations

The CARB is required to designate areas of the State as attainment, nonattainment, or unclassified for all State standards. An “attainment” designation for an area signifies that pollutant

concentrations did not violate the standard for that pollutant in that area. A “nonattainment” designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. An “unclassified” designation signifies that data does not support either an attainment or nonattainment status. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

Table 2 shows the State and Federal standards for criteria pollutants and provides a summary of the attainment status for the San Francisco Bay Area with respect to National and State ambient air quality standards.

Table 2. San Francisco Bay Area Attainment Status

Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Concentration	Attainment Status
Carbon Monoxide (CO)	8-Hour	9 ppm (10 mg/m ³)	Attainment	9 ppm (10 mg/m ³)	Attainment
	1-Hour	20 ppm (23 mg/m ³)	Attainment	35 ppm (40 mg/m ³)	Attainment
Nitrogen Dioxide (NO ₂)	Annual Mean	0.030 ppm (57 mg/m ³)	Attainment	0.053 ppm (100 µg/m ³)	Attainment
	1-Hour	0.18 ppm (338 µg/m ³)	Attainment	0.100 ppm	Unclassified
Ozone (O ₃)	8-Hour	0.07 ppm (137 µg/m ³)	Nonattainment	0.070 ppm	Nonattainment
	1-Hour	0.09 ppm (180 µg/m ³)	Nonattainment	Not Applicable	Not Applicable
Suspended Particulate Matter (PM ₁₀)	Annual Mean	20 µg/m ³	Nonattainment	Not Applicable	Not Applicable
	24-Hour	50 µg/m ³	Nonattainment	150 µg/m ³	Unclassified
Suspended Particulate Matter (PM _{2.5})	Annual Mean	12 µg/m ³	Nonattainment	12 µg/m ³	Attainment
	24-Hour	Not Applicable	Not Applicable	35 µg/m ³	Nonattainment
Sulfur Dioxide (SO ₂)	Annual Mean	Not Applicable	Not Applicable	80 µg/m ³ (0.03 ppm)	Attainment
	24-Hour	0.04 ppm (105 µg/m ³)	Attainment	365 µg/m ³ (0.14 ppm)	Attainment
	1-Hour	0.25 ppm (655 µg/m ³)	Attainment	0.075 ppm (196 µg/m ³)	Attainment

Lead (Pb) is not listed in the above table because it has been in attainment since the 1980s.

ppm = parts per million, mg/m³ = milligrams per cubic meter, µg/m³ = micrograms per cubic meter

Source: Bay Area Air Quality Management District, 2017. *Air Quality Standards and Attainment Status*. January 5.

Existing Air Pollutant Levels

BAAQMD monitors air pollution at various sites within the Bay Area. The closest official monitoring station is located in Sunnyvale at 910 Ticonderoga Drive. However, this station only

measures O₃ and TOC. The closest air monitoring station that monitored O₃, CO, NO, NO₂, PM₁₀, and PM_{2.5} over the past 5 years (2013 through 2017) is in the City of San Jose approximately 5 miles southwest of the project site (158 Jackson Street). The data shows that during the past few years, the project area has exceeded the State and/or federal O₃, PM₁₀, and PM_{2.5} ambient air quality standards. Table 3 lists air quality trends in data collected at the San Jose Station for the past 5 years (2013 through 2017) and published by the BAAQMD, which is the most recent time-period available.

Table 1. Ambient Air Quality Concentrations from 2013 through 2017

Pollutant		Standard	2013	2014	2015	2016	2017
Ozone							
Max 1-hr concentration			93 ppb	89 ppb	94 ppb	87 ppb	121 ppb
No. days exceeded:	State	90 ppb	0	0	0	0	3
Max 8-hr concentration			79 ppb	66 ppb	81 ppb	66 ppb	98 ppb
No. days exceeded:	State	70 ppb	1	0	4	0	4
	Federal	70 ppb	1	0	4	0	4
Carbon Monoxide							
Max 1-hr concentration			3.1 ppm	2.4 ppm	2.4 ppm	2.0 ppm	2.1 ppm
No. days exceeded:	State	20 ppm	0	0	0	0	0
	Federal	35 ppm	0	0	0	0	0
Max 8-hr concentration			2.5 ppm	1.9 ppm	1.8 ppm	1.4 ppm	1.8 ppm
No. days exceeded:	State	9.0 ppm	0	0	0	0	0
	Federal	9 ppm	0	0	0	0	0
PM₁₀							
Max 24-hr concentration			58 µg/m ³	55 µg/m ³	58 µg/m ³	41 µg/m ³	70 µg/m ³
No. days exceeded:	State	50 µg/m ³	5	1	1	0	6
	Federal	150 µg/m ³	0	0	0	0	0
Max annual concentration			22.3 µg/m ³	19.9 µg/m ³	22.0 µg/m ³	18.5 µg/m ³	21.6 µg/m ³
No. days exceeded:	State	20 µg/m ³	-	-	-	-	-
PM_{2.5}							
Max 24-hr concentration			57.7 µg/m ³	60.4 µg/m ³	49.4 µg/m ³	22.6 µg/m ³	49.7 µg/m ³
No. days exceeded:	Federal	35 µg/m ³	6	2	2	0	6
Annual Concentration			12.4 µg/m ³	8.4 µg/m ³	10.0 µg/m ³	8.4 µg/m ³	9.5 µg/m ³
No. days exceeded:	State	12 µg/m ³	-	-	-	-	-
	Federal	12.0 µg/m ³	-	-	-	-	-
Nitrogen Dioxide							
Max 1-hr concentration			59 ppb	58 ppb	49 ppb	51 ppb	68 ppb
No. days exceeded:	State	180 ppb	0	0	0	0	0
	Federal	100 ppb	0	0	0	0	0
Annual Concentration			15 ppb	13 ppb	13 ppb	11 ppb	12 ppb
No. days exceeded:	State	30 ppb	-	-	-	-	-
	Federal	53 ppb	-	-	-	-	-

Source: Bay Area Air Quality Management District, 2019

REGULATORY FRAMEWORK

Pursuant to the federal Clean Air Act (CAA) of 1970, the U.S. Environmental Protection Agency (EPA) established national ambient air quality standards (NAAQS). The NAAQS were established for major pollutants, termed “criteria” pollutants. Criteria pollutants are defined as those pollutants for which the Federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations in order to protect public health.

Both the EPA and the California Air Resources Board (CARB) have established ambient air quality standards for common pollutants: carbon monoxide (CO), ozone (O₃), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), lead (Pb), and suspended particulate matter (PM). 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 public with a reasonable margin of safety. These ambient air quality standards are levels of contaminants which represent safe levels that avoid specific adverse health effects associated with each criteria pollutant.

Federal Air Quality Regulations

At the federal level, the EPA has been charged with implementing national air quality programs. EPA’s air quality mandates are drawn primarily from the Federal Clean Air Act (FCAA), which was enacted in 1963. The FCAA was amended in 1970, 1977, and 1990.

The FCAA required EPA to establish primary and secondary NAAQS and required each state to prepare an air quality control plan referred to as a State Implement Plan (SIP). Federal standards include both primary and secondary standards. Primary standards set limits to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings.³ The Federal Clean Air Act Amendments of 1990 (FCAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA has responsibility to review all state SIPs to determine conformity with the mandates of the FCAAA and determine if implementation will achieve air quality goals. If the EPA determines a SIP to be inadequate, a Federal Implementation Plan (FIP) may be prepared for the nonattainment area which imposes additional control measures. Failure to submit an approvable SIP or to implement the Plan within the mandated timeframe may result in the application of sanctions on transportation funding and stationary air pollution sources in the air basin.

The 1970 FCAA authorized the establishment of national health-based air quality standards and also set deadlines for their attainment. The FCAA Amendments of 1990 changed deadlines for attaining NAAQS as well as the remedial actions required of areas of the nation that exceed the standards. Under the FCAA, State and local agencies in areas that exceed the NAAQS are required

³ U.S. Environmental Protection Agency, 2013. Website: www.epa.gov/air/criteria.html. February.

to develop SIPs to show how they will achieve the NAAQS by specific dates. The FCAA requires that projects receiving federal funds demonstrate conformity to the approved SIP and local air quality attainment Plan for the region. Conformity with the SIP requirements would satisfy the FCAA requirements.

State Air Quality Regulations

The CARB is the agency responsible for the coordination and oversight of State and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA), adopted in 1988. The CCAA requires that all air districts in the State achieve and maintain the California Ambient Air Quality Standards (CAAQS) by the earliest practical date. The CCAA specifies that districts should focus on reducing the emissions from transportation and air-wide emission sources and provides districts with the authority to regulate indirect sources.

CARB is also responsible for developing and implementing air pollution control plans to achieve and maintain the NAAQS. CARB is primarily responsible for statewide pollution sources and produces a major part of the SIP. Local air districts provide additional strategies for sources under their jurisdiction. CARB combines this data and submits the completed SIP to the EPA.

Other CARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control and air quality management districts), establishing CAAQS (which in many cases are more stringent than the NAAQS), determining and updating area designations and maps, and setting emissions standards for new mobile sources, consumer products, small utility engines, and off-road vehicles.

California Clean Air Act

In 1988, the CCAA required that all air districts in the State endeavor to achieve and maintain CAAQS for carbon monoxide (CO), ozone (O₃), sulfur dioxide (SO₂) and nitrogen dioxide (NO₂) by the earliest practical date. The CCAA provides districts with authority to regulate indirect sources and mandates that air quality districts focus particular attention on reducing emissions from transportation and area-wide emission sources. Each nonattainment district is required to adopt a plan to achieve a 5 percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each nonattainment pollutant or its precursors. A Clean Air Plan shows how a district would reduce emissions to achieve air quality standards. Generally, the State standards for these pollutants are more stringent than the national standards.

California Air Resources Board Handbook

In 1998, CARB identified particulate matter from diesel-fueled engines as a toxic air contaminant. CARB has completed a risk management process that identified potential cancer risks for a range of activities using diesel-fueled engines.⁴ CARB subsequently developed an Air Quality and Land Use Handbook⁵ (Handbook) in 2005 that is intended to serve as a general reference guide for

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

⁵ California Air Resources Board, 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. April.

evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. The 2005 CARB Handbook recommends that planning agencies consider proximity to air pollution sources when considering new locations for “sensitive” land uses, such as residences, medical facilities, daycare centers, schools, and playgrounds.

Air pollution sources of concern include freeways, rail yards, ports, refineries, distribution centers, chrome plating facilities, dry cleaners, and large gasoline service stations. Key recommendations in the Handbook relative to the Plan Area include taking steps to consider or avoid siting new, sensitive land uses:

- Within 500 feet of a freeway, urban roads with 100,000 vehicles/day or rural roads with 50,000 vehicles/day.
- Within 300 feet of gasoline fueling stations (note that new fueling stations utilize enhanced vapor recovery systems that substantially reduce emissions).
- Within 300 feet of dry-cleaning operations (note that dry cleaning with TACs is being phased out and will be prohibited in 2023).

Bay Area Air Quality Management District (BAAQMD)

The BAAQMD seeks to attain and maintain air quality conditions in the San Francisco Bay Area Air Basin (SFBAAB) through a comprehensive program of planning, regulation, enforcement, technical innovation, and education. The clean air strategy includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations, and issuance of permits for stationary sources. The BAAQMD also inspects stationary sources and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by law.

Clean Air Plan

The BAAQMD is responsible for developing a Clean Air Plan which guides the region’s air quality planning efforts to attain the CAAQS. The BAAQMD’s 2017 Clean Air Plan is the latest Clean Air Plan which contains district-wide control measures to reduce ozone precursor emissions (i.e., ROG and NO_x), particulate matter and greenhouse gas emissions. The Bay Area 2017 Clean Air Plan, which was adopted on April 19, 2017 by the BAAQMD’s board of directors:

- Updates the Bay Area 2010 Clean Air Plan in accordance with the requirements of the California Clean Air Act to implement “all feasible measures” to reduce ozone;
- Provides a control strategy to reduce ozone, particulate matter (PM), air toxics, and greenhouse gases in a single, integrated plan;
- Reviews progress in improving air quality in recent years; and
- Continues and updates emission control measures.

BAAQMD CARE Program

The Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposures to outdoor TACs in the Bay Area. The program

examines TAC emissions from point sources, area sources and on-road and off-road mobile sources with an emphasis on diesel exhaust, which is a major contributor to airborne health risk in California. The CARE program is an on-going program that encourages community involvement and input. The technical analysis portion of the CARE program is being implemented in three phases that includes an assessment of the sources of TAC emissions, modeling and measurement programs to estimate concentrations of TAC, and an assessment of exposures and health risks. Throughout the program, information derived from the technical analyses will be used to focus emission reduction measures in areas with high TAC exposures and high density of sensitive populations. Risk reduction activities associated with the CARE program are focused on the most at-risk communities in the Bay Area. The BAAQMD has identified six communities as impacted: Concord, Richmond/San Pablo, Western Alameda County, San Jose, Redwood City/East Palo Alto, and Eastern San Francisco.

Planning Healthy Places

BAAQMD developed a guidebook that provides air quality and public health information intended to assist local governments in addressing potential air quality issues related to exposure of sensitive receptors to exposure of emissions from local sources of air pollutants. The guidance provides tools and recommended best practices that can be implemented to reduce exposures. The information is provided as recommendations to develop policies and implementing measures in city or county General Plans, neighborhood or specific plans, land use development ordinances, or into projects.

BAAQMD California Environmental Quality Act (CEQA) Air Quality Guidelines

The BAAQMD *CEQA Air Quality Guidelines*⁶ were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process consistent with CEQA requirements including thresholds of significance, mitigation measures, and background air quality information. They also include 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 their *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 modify procedures for assessing impacts related to risk and hazard impacts. A recent update to the *Guidelines* was published in May 2017.

BAAQMD's adoption of significance thresholds contained in the 2011 CEQA Air Quality Guidelines was called into question by an order issued March 5, 2012, in California Building Industry Association (CBIA) v. BAAQMD (Alameda Superior Court Case No. RGI0548693). The order requires the BAAQMD to set aside its approval of the thresholds until it has conducted environmental review under CEQA. The ruling made in the case concerned the environmental impacts of adopting the thresholds and how the thresholds would indirectly affect land use development patterns. In August 2013, the Appellate Court struck down the lower court's order to set aside the thresholds (Cal. Court of Appeal, First Appellate District, Case Nos. A135335 & A136212). CBIA sought review by the California Supreme Court on three issues, including the

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

appellate court's decision to uphold the BAAQMD's adoption of the thresholds, and the Court granted review on just one: Under what circumstances, if any, does CEQA require an analysis of how existing environmental conditions will impact future residents or users of a proposed project? In December 2015, the Supreme Court determined that an analysis of the impacts of the environment on a project – known as “CEQA-in-reverse” – is only required under two limited circumstances: (1) when a statute provides an express legislative directive to consider such impacts; and (2) when a proposed project risks exacerbating environmental hazards or conditions that already exist (Cal. Supreme Court Case No. S213478). The Supreme Court reversed the Court of Appeal's decision and remanded the matter back to the appellate court to reconsider the case in light of the Supreme Court's ruling.

BAAQMD Rules and Regulations

Combustion equipment associated with the proposed project that includes new diesel engines to power generators and possibly new natural gas-fired boilers would establish new sources of particulate matter and gaseous emissions. Emissions would primarily result from the testing of the emergency backup generators, operation of the boilers for space and water heating and some minor emissions from cooling towers. The project would also generate emissions from vehicles traveling to and from the project.

Certain emission sources would be subject to BAAQMD Regulations and Rules. The District's rules and regulations that may apply to the project include:

- Regulation 2 – Permits
 - Rule 2-1: General Requirements
 - Rule 2-2: New Source Review
- Regulation 6 – Particulate Matter and Visible Emissions
- Regulation 9 – Inorganic Gaseous Pollutants
 - Rule 9-1: Sulfur Dioxide
 - Rule 9-7: Nitrogen Oxides and Carbon Monoxide from Industrial, Institutional, and Commercial Boilers, Steam Generators, And Process Heaters
 - Rule 9-8: Nitrogen Oxides and Carbon Monoxide from Stationary Internal Combustion Engines

Permits

Rule 2-1-301 requires that any person installing, modifying, or replacing any equipment, the use of which may reduce or control the emission of air contaminants, shall first obtain an authority to construct (ATC).

Rule 2-1-302 requires that written authorization from the BAAQMD in the form of a permit to operate (PTO) be secured before any such equipment is used or operated.

Rule 2-1 lists sources that are exempt from permitting. At the proposed facility, the diesel fuel storage tanks are expected to be exempt from permitting.

New Source Review

Rule 2-2, New Source Review (NSR), applies to all new and modified sources or facilities that are subject to the requirements of Rule 2-1-301. The purpose of the rule is to provide for review of such sources and to provide mechanisms by which no net increase in emissions will result.

Rule 2-2-301 requires that an applicant for an Authority to Construct (ATC) or Permit to Operate (PTO) apply best available control technology (BACT) to any new or modified source that results in an increase in emissions and has emissions of precursor organic compounds, non-precursor organic compounds, NO_x, SO₂, PM₁₀, or CO of 10.0 pounds or more per highest day. Based on the estimated emissions from the proposed project, BACT will be required for NO_x emissions from the diesel-fueled generator engines.

BACT for Diesel Generator Engines

Since the generators will be used exclusively for emergency use during involuntary loss of power, the BACT 2 levels listed for IC compression engines in the BAAQMD BACT Guidelines would apply. The BACT 2 NO_x emission factor limit is 6.9 grams per horsepower hour (g/hp-hr). The project's proposed engines will have emissions lower than the BACT 2 level and, as such, will comply with the BACT requirements.

Offsets

Rule 2-2-302 require that offsets be provided for a new or modified source that emits more than 10 tons per year of NO_x or precursor organic compounds. It is not expected that emissions of any pollutant will exceed the offset thresholds. Thus, is not expected that offsets for the proposed project would be required.

Prohibitory Rules

Regulation 6 pertains to particulate matter and visible emissions. Although the engines will be fueled with diesel, they will be modern, low emission engines. Thus, the engines are expected to comply with Regulation 6.

Rule 9-1 applies to sulfur dioxide. The engines will use ultra-low sulfur diesel fuel (less than 15 ppm sulfur) and will not be a significant source of sulfur dioxide emissions and are expected to comply with the requirements of Rule 9-1.

Rule 9-7 limits the emissions of NO_x CO from industrial, institutional and commercial boilers, steam generators and process heaters. This regulation typically applies to boilers with a heat rating of 2 million British Thermal Units (BTU) per hour

Rule 9-8 prescribes NO_x and CO emission limits for stationary internal combustion engines. Since the proposed engines will be used with emergency standby generators, Regulation 9-8-110 exempts the engines from the requirements of this Rule, except for the recordkeeping requirements (9-8-530) and limitations on hours of operation for reliability-related operation (maintenance and

testing). The engines will not operate more than 50 hours per year, which will satisfy the requirements of 9-8-111.

Stationary Diesel Airborne Toxic Control Measure (ACTM)

The BAAQMD administers the State's ACTM for Stationary Diesel engines (section 93115, title 17 CA Code of Regulations). The project's engines will be new stationary emergency standby diesel engines larger than 50 hp. Since the engines will have an uncontrolled PM emission factor of less than 0.15 g/hp-hour and operate no more than 50 hours per year, the engines will comply with the requirements of the ACTM.

City of Sunnyvale

City of Sunnyvale General Plan

The following air quality goals and policies contained in the City's General Plan⁷ are applicable to the proposed project:

Goal EM-11 Improved Air Quality: Improve Sunnyvale's Air Quality and Reduce the Exposure of its Citizens to Air Pollutants.

- *Policy EM-11.1:* The City should actively participate in regional air quality planning. Future development within Sunnyvale impacts regional air quality. Indirect impacts are related to vehicle trips attracted to or generated by residential, commercial or employment-generating land uses. There are several methods in which land use regulations can be used to both reduce emissions and alleviate the impact on residences. By locating employment and retail services areas closer to residential areas, vehicle use can be reduced.
- *Policy EM-11.2:* Utilize land use strategies to reduce air quality impact
- *Policy EM-11.3:* Require all new development to utilize site planning to protect citizens from unnecessary exposure to air pollutants.
- *Policy EM-11.4:* Apply the indirect source rule to new development with significant air quality impacts. Indirect source review would cover commercial and residential projects as well as other land uses that produce or attract motor vehicle traffic.

⁷ City of Sunnyvale, 2011. *Sunnyvale General Plan*.

City of Sunnyvale Land Use and Transportation Element

The Land Use and Transportation (LUTE) chapter of the Sunnyvale General Plan establishes the framework describing how streets and buildings will be land out and function together in Sunnyvale. This chapter addresses both land use and transportation policies that account for future growth in the community and the functionality of the roadways in the future.

An update to the LUTE was released to public comments in August 2016 as a new Draft LUTE and a Draft EIR. Within the LUTE EIR, several mitigation measures (mm) were presented that focused on impacts associated with criteria air pollutants and TAC exposure associated with project construction and exposure of project occupants to TAC sources near the project site (i.e., within 1,000 feet). The MMs that pertain to air quality impacts identified under the LUTE are described below.

The LUTE EIR identified significant impacts with respect to temporary construction period emissions (Impact 3.5.3). Potentially significant impacts were also identified in regard to exposing existing and new sensitive receptors to unhealthy levels of TACs and PM_{2.5} (Impact 3.5.5 & 3.5.6).

Impact 3.5.3 Violate an Air Quality Standard of Contribute Substantially to an Air Quality Violation During Short-Term Construction Activities

MM 3.5.3: Prior to the issuance of grading or building permits, the City of Sunnyvale shall ensure that the BAAQMD basic construction mitigation measures from Table 8-1 of the BAAQMD 2011 CEQA Air Quality Guidelines (or subsequent updates) are noted on the construction documents.⁸

MM 3.5.3: In the cases where construction projects are projected to exceed the BAAQMD's air pollutant significance thresholds for NO_x, PM₁₀, and/or PM_{2.5}, all off-road diesel-fueled equipment (e.g., rubber-tired dozers, graders, scrapers, excavators, asphalt paving equipment, cranes, tractors) shall be at least CARB Tier 3 Certified or better.

The LUTE EIR identified potentially significant impacts associated with exposure of sensitive receptors to substantial pollutant concentrations because project may expose new sensitive receptors to significant health risks associated with TAC exposure. To address this issue, MM 3.5.6 requires future projects located within 1,000 feet of sensitive receptors to perform a construction health risk assessment:

Impact 3.5.5 Exposure of Sensitive Receptors to Substantial Toxic Air Containments Concentrations During Construction

MM 3.5.5: In the case when a subsequent project's construction span is greater than 5 acres and/or is scheduled to last more than two years, the subsequent project applicant shall be required to prepare a site-specific construction pollutant

⁸ Note that the BAAQMD Basic Construction Mitigation Measures Recommended for ALL Proposed Projects is listed as Table 8-2 in the BAAQMD 2017 CEQA Air Quality Guidelines.

mitigation plan in consultation with Bay Area Air Quality Management District (BAAQMD) staff prior to the issuance of grading permits. A project-specific construction-related dispersion modeling acceptable to the BAAQMD shall be used to identify potential toxic air contaminant impacts, including diesel particulate matter. If BAAQMD risk thresholds (i.e., probability of contracting cancer is greater than 10 in one million) would be exceeded, mitigation measures shall be identified in the construction pollutant mitigation plan to address potential impacts and shall be based on site-specific information such as the distance to the nearest sensitive receptors, project site plan details, and construction schedule. The City shall ensure construction contracts include all identified measures and that the measures reduce the health risk below BAAQMD risk thresholds. Construction pollutant mitigation plan measures shall include but not be limited to:

1. Limiting the amount of acreage to be graded in a single day.
2. Restricting intensive equipment usage and intensive ground disturbance to hours outside of normal school hours
3. Notifying affected sensitive receptors one week prior to commencing onsite construction so that any necessary precautions (such as rescheduling or relocation of outdoor activities) can be implemented. The written notification shall include the name and telephone number of the individual empowered to manage construction of the project. In the event that complaints are received, the individual empowered to manage construction shall respond to the complaint within 24 hours. The response shall include identification of measures being taken by the project construction contractor to reduce construction-related air pollutants. Such a measure may include the relocation of equipment.

Impact 3.5.6 Exposure of Sensitive Receptors to Substantial Toxic Air Contaminant Concentrations During Operation

MM 3.5.6: The following measures shall be utilized in site planning and building designs to reduce TAC and PM_{2.5} exposure where new receptors are located within 1,000 feet of emissions sources:

- Future development that includes sensitive receptors (such as residences, schools, hospitals, daycare centers, or retirement homes) located within 1,000 feet of Caltrain, Central Expressway, El Camino Real, Lawrence Expressway, Mathilda Avenue, Sunnyvale-Saratoga Road, US 101, State Route 237, State Route 85, and/or stationary sources shall require site-specific analysis to determine the level of health risk. This analysis shall be conducted following procedures outlined by the BAAQMD. If the site-specific analysis reveals significant exposures from all sources (i.e., health risk in terms of excess cancer risk greater than 100 in one million, acute or chronic hazards with a hazard Index greater than 10, or annual PM_{2.5} exposures greater than 0.8 µg/m³) measures shall be employed to reduce the risk to below the threshold (e.g., electrostatic filtering systems or equivalent systems and location of vents away

from TAC sources). If this is not possible, the sensitive receptors shall be relocated.

- Future nonresidential developments identified as a permitted stationary TAC source or projected to generate more than 100 heavy-duty truck trips daily will be evaluated through the CEQA process or BAAQMD permit process to ensure they do not cause a significant health risk in terms of excess cancer risk greater than 10 in one million, acute or chronic hazards with a hazard Index greater than 1.0, or annual PM_{2.5} exposures greater than 0.3 µg/m³ through source control measures.
- For significant cancer risk exposure, as defined by the BAAQMD, indoor air filtration systems shall be installed to effectively reduce particulate levels to avoid adverse public health impacts. Projects shall submit performance specifications and design details to demonstrate that lifetime residential exposures would not result in adverse public health impacts (less than 10 in one million chances).

City of Sunnyvale Climate Action Playbook

The City of Sunnyvale Climate Action Playbook is the newly developed planning document adopted by the City to guide further GHG emissions reductions. As stated within the setting section, the Playbook's new GHG reduction targets include reducing GHG emissions below 1990 levels by 56-percent by the year 2030 and by 80-percent by the year 2050. The Playbook lays out six Strategies to achieve these targets and within each Strategy are Plays that specify an action to support its respective Strategy. None of these Plays have a specific metric ton GHG threshold for project-level construction or operation. However, the following Strategies and Plays are applicable to the project:

SIGNIFICANCE THRESHOLDS

In June 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under CEQA and these significance thresholds were contained in the District's 2011 *CEQA Air Quality Guidelines*. These thresholds were designed to establish the level at which BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA. The thresholds were challenged through a series of court challenges and were mostly upheld. BAAQMD updated the *CEQA Air Quality Guidelines* in 2017 to include the latest significance thresholds that were used in this analysis are summarized in Table 4.

Table 4. Air Quality Significance Thresholds

Criteria Air Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
ROG	54	54	10
NO _x	54	54	10
PM ₁₀	82 (Exhaust)	82	15
PM _{2.5}	54 (Exhaust)	54	10
CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
Health Risks and Hazards	Single Sources Within 1,000-foot Zone of Influence	Combined Sources (Cumulative from all sources within 1,000-foot zone of influence)	
Excess Cancer Risk	>10.0 per one million	>100 per one million	
Hazard Index	>1.0	>10.0	
Incremental annual PM _{2.5}	>0.3 µg/m ³	>0.8 µg/m ³	
Odor			
5 confirmed complaints per year averaged over 3 years			
Greenhouse Gas Emissions			
Land Use Projects – direct and indirect emissions	Compliance with a Qualified GHG Reduction Strategy OR 1,100 metric tons annually or 4.6 metric tons per capita (for 2020) 660 metric tons annually or 2.8 metric tons per capita (for 2030)*		
Note: ROG = reactive organic gases, NO _x = nitrogen oxides, PM ₁₀ = course particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, PM _{2.5} = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less. GHG = greenhouse gases.			
*BAAQMD does not have a recommended post-2020 GHG threshold.			

AIR QUALITY IMPACTS AND MITIGATION MEASURES

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

The Bay Area is considered a non-attainment area for ground-level ozone and PM_{2.5} under both the Federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for PM₁₀ under the California Clean Air Act, but not the federal act. The area has attained both State and federal ambient air quality standards for carbon monoxide. As part of an effort to attain and maintain ambient air quality standards for ozone and PM₁₀, the BAAQMD has established thresholds of significance for these air pollutants and their precursors. These thresholds are for ozone precursor pollutants (ROG and NO_x), PM₁₀, and PM_{2.5} and apply to both construction period and operational period impacts.

The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to estimate emissions from construction and operation of the site assuming full build-out of the project. The project land use types and size, and anticipated construction schedule were input to CalEEMod. The model output from CalEEMod is included as *Attachment 2*. Table 5 shows the period emission in three different scenarios: (1) Period emissions from construction alone during 2019 to 2023, (2) period emissions from construction and operation occurring concurrently between the years 2019 to 2023, and (3) period emissions from operation assuming full-build out in 2024.

Note that the 300 West Washington Avenue development is the addition of one new residential unit in an already under construction project. The construction and operational emissions from this small addition would be minimal and would not make a notable difference to the overall emissions. Therefore, the 300 West Washington Avenue development will not be included in the remainder of this analysis.

Construction Period Emissions

CalEEMod provided annual emissions for construction and estimates emissions for both on-site and off-site construction activities. On-site activities are primarily made up of construction equipment emissions, while off-site activity includes worker, hauling, and vendor traffic. The five DSP amendment development projects (100 Altair Way, 300 Mathilda Avenue, Macy's and Redwood Square, Sub-block 6, and Murphy Square) would be constructed simultaneously. It is assumed that once a building is constructed, it would be operational as the remaining buildings continue to be constructed.

A construction build-out scenario, including equipment list and schedule, was based on the information provided. The proposed project land uses were input into CalEEMod, which included:

100 Altair Way: 134,324-sf entered as "General Office Building" and 308 spaces entered as "Enclosed Parking with Elevator" on a 0.55-acre lot. In addition, 25,370-sf of existing building demolition, 1,575 cubic yards (cy) of soil exported during the site preparation phase, 37,019-cy of soil exported during the grading phase, 1,950 one-way cement truck

trips during building construction, and 72 one-way asphalt truck trips during paving were entered into the model. Construction was assumed to begin October 2019 and last until December 2021.

300 Mathilda Avenue: 153,000-sf entered as “General Office Building”, 7,131-sf entered as “Strip Mall”, 15 spaces entered as “Parking Lot”, and 294 spaces with 97,064-sf (includes 9,396-sf of BOH operations) entered as “Enclosed Parking with Elevator” on a 2.0-acre lot. In addition, 42,607-cy of soil exported during the grading phrase, 70 one-way truck trips during pavement demolition, 110 one-way cement truck trips during building construction, and 42 one-way asphalt truck trips during paving were entered into the model. Construction was assumed to begin October 2019 and last until June 2021.

Macy’s and Redwood Square: 467 dwelling units entered as “Apartments Mid Rise”, 557,404-sf entered as “General Office Building”, 147,569 (includes 25,420-sf for retail and BOH operations)-sf entered as “Strip Mall”, and 1,336 spaces with 511,197-sf entered as “Enclosed Parking with Elevator” on a 7.6-acre lot. In addition, 175,000-sf of existing building demolition, 273,022-cy of soil exported during the grading phrase, 124 one-way truck trips during pavement demolition, 460 one-way cement truck trips during building construction, and 38 one-way asphalt truck trips during paving were entered into the model. Construction was assumed to begin October 2019 and last until April 2023.

Sub-block 6: 325 dwelling units and 422,850-sf entered as “Apartments Mid Rise”, 36,000-sf entered as “Strip Mall”, and 950 spaces with 348,000-sf entered as “Enclosed Parking with Elevator” on a 4.4-acre lot. In addition, 64,789-cy of soil exported during the grading phrase, 592 one-way truck trips during pavement demolition, 280 one-way cement truck trips during building construction, and 22 one-way asphalt truck trips during paving were entered into the model. Construction was assumed to begin January 2020 and last until February 2023.

Murphy Square: 69,100-sf entered as “General Office Building”, 163 spaces and 67,800-sf entered as “Enclosed Parking with Elevator”, and 13 spaces entered as “Parking Lot” on a 0.78-acre lot. In addition, 800 hauling tons of existing building demolition, 85,378-cy of soil exported during the grading phrase, 200 one-way cement truck trips during building construction, and 44 one-way asphalt truck trips during paving were entered into the model. Construction was assumed to begin February 2020 and last until September 2021.

Construction is projected to begin October 2019 and last 42 months. There are an estimated 892 construction workdays. Average daily emissions were computed by dividing the total construction emissions by the number of construction days. Table 5 shows average daily construction emissions of ROG, NO_x, PM₁₀ exhaust, and PM_{2.5} exhaust during construction of the project. The daily NO_x emissions exceed the threshold of 54 pounds per day. *Mitigation Measures AQ-1 and AQ-2 would reduce these emissions to a level of less-than-significant.*

Operational Period Emissions

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

Land Uses

The maximum full build-out project land uses for residential, commercial, and office uses were used to calculate operational period emissions from the project. For parking, the number of spaces provided by the project applicant were used since the maximum number of spaces is unknown at this time. However, default square footage was used for the parking land uses. The land uses entered into CalEEMod include the following: 860,642-sf entered as “General Office Building”, 843 dwelling units entered as “Apartments Mid-Rise”, 260,063-sf entered as “Strip Mall”, 2,792 spaces entered as “Enclosed Parking with Elevator”, and 28 spaces entered as “Parking Lot”

Model Year

Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates utilized by CalEEMod. The five DSP amendment development projects would be constructed simultaneously. It is assumed that once a building is constructed, it would be operational as the remaining buildings continue to be constructed. The 100 Altair Way, 300 Mathilda Avenue, and Murphy Square developments would be operational by 2022 and the Macy’s and Redwood Square and Sub-block 6 developments would be operational by 2024. Emissions associated with build-out later than 2022 and 2024 would be lower.

Trip Generation Rates

CalEEMod allows the user to enter specific vehicle trip generation rates, which were input to the model using the daily trip generation rate provided in the project trip generation table. Trip generation rate reductions included a 3-percent mixed-use reduction for housing near employment, a 9-percent transit reduction for housing near Caltrain, and a 15-percent mixed-use reduction for housing near retail for the apartment land uses, a 15-percent mixed-use reduction for housing near retail for the commercial land uses, and a 3-percent mixed-use reduction for housing near employment and a 6-percent transit reduction for housing near Caltrain for the office land uses.

The Saturday and Sunday trip rates were assumed to be the weekday rate adjusted by multiplying the ratio of the CalEEMod default rates for Saturday and Sunday trips. The project traffic analysis provided trip generation values for apartment, commercial, and office land uses.⁹ The weekday trip rate used for the residential land uses was 3.97 trips per dwelling unit, which changed the

⁹ 1) Fehr & Peers Transportation Consultants, “Cityline Sunnyvale Transport Impact Analysis: Final Report”, March 2019.

Saturday trip rate to 3.81 and the Sunday trip rate to 3.5. The weekday trip rate used for the commercial land uses was 35.26 per thousand square feet, which changed the Saturday trip rate to 33.45 and the Sunday trip rate to 16.25. The weekday trip rate used for the office land uses was 9.01 per thousand square feet, which changed the Saturday trip rate to 2.01 and the Sunday trip rate to 0.86.

Consumer Products

CalEEMod computes emissions associated with consumer products¹⁰ for all land uses, regardless of their types. ROG emissions from consumer products are forecasted to decrease, as shown in the CARB county emissions forecasts for 2010 through 2030. A factor to adjust the ROG consumer was developed based on the change in the per population ROG consumer emissions between 2008 and 2030. Essentially, the 2024 rate is anticipated to be 85 percent of the 2008 rate that CalEEMod uses.

Energy

CalEEMod defaults for energy use were used, which include the 2016 Title 24 Building Standards. Indirect emissions from electricity were computed in CalEEMod. The model has a default rate of 641.3 pounds of CO₂ per megawatt of electricity produced, which is based on PG&E's 2008 emissions rate. The rate was adjusted to account for PG&E's projected 2020 CO₂ intensity rate. This 2020 rate is based, in part, on the requirement of a renewable energy portfolio standard of 33 percent by the year 2020. The derived 2020 rate for PG&E was estimated at 290 pounds of CO₂ per megawatt of electricity delivered.¹¹

Silicon Valley Clean Energy (SVCE) is the official electricity provider for Sunnyvale. SVCE purchases carbon-free electricity and partners with PG&E to deliver this electricity over existing power lines that they maintain. SVCE provides 100-percent carbon-free energy. However, customers have the option to opt out of the program and purchase electricity from PG&E, which is not carbon free, as described above. As of 2017, 98-percent residential and commercial customers in Sunnyvale receive their electricity from SVCE.¹² This analysis conservatively assumes a 10-percent non-participation rate.

Emergency Generators

The DSP amendment development projects would have several emergency generators powered by diesel engines. Based on generator information provided by the applicants, 100 Altair Way would have one 150-kw, 185-hp generator, 300 Mathilda Avenue would have one 100-kW, 152-hp generator, the Macy's site would have two, 150-kW, 240-hp generators, the Redwood Square site would have one 1,000- kW, 1,528-hp generator, and Murphy Square would have one 450-kW,

¹⁰ Per the CalEEMod User's Guide: "Consumer products are chemically formulated products used by household and institutional consumers, including, but not limited to, detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products"

¹¹ Pacific Gas & Electric, 2015. *Greenhouse Gas Emission Factors: Guidance for PG&E Customers*. November.

¹² City of Sunnyvale, 2018. *Climate Action Plan 2018 Biennial Progress Report*. July.
<https://sunnyvale.ca.gov/civicax/filebank/blobdload.aspx?BlobID=25798>

555-hp generator. The CalEEMod modeling assumed 50 hours of annual operation for testing and maintenance purposes per year.

Other Inputs

Default model assumptions for emissions associated with solid waste generation use were applied to the project. Water/wastewater use were changed to 100% aerobic conditions to represent wastewater treatment plant conditions. All hearths were assumed to be gas powered.

Existing Uses

A CalEEMod model run was developed to compute emissions from use of the existing buildings as if they were operating in 2024. Inputs for the existing modeling scenario included 20 dwelling units entered as “Apartments Mid Rise”, 8,000-sf entered as “General Office Building”, and 181,000-sf entered as “Strip Mall”. These inputs were applied to the modeling in the same manner described for the proposed project. The provided existing trip generation rates with the same applied reductions were used and calculated. The weekday trip rate used for the residential land uses was 4.0 trips per dwelling unit, which changed the Saturday trip rate to 3.84 and the Sunday trip rate to 3.52. The weekday trip rate used for the commercial land uses was 37.66 per thousand square feet, which changed the Saturday trip rate to 35.72 and the Sunday trip rate to 17.40. The weekday trip rate used for the office land uses was 8.75 per thousand square feet, which changed the Saturday trip rate to 1.95 and the Sunday trip rate to 0.83.

Table 5 show average daily emissions of ROG, NO_x, PM₁₀, and PM_{2.5} during operation assuming full-build out in the year 2024 with emissions from the existing land uses netted out. The net operational ROG and NO_x emissions would exceed the daily threshold of 54 pounds. *Mitigation Measure AQ-3 would reduce the emissions to a level of less-than-significant.*

Construction & Operational Period Emissions

The construction and operational period emissions were calculated by summing the tons of emissions from construction per year and then dividing by the total number of construction days, which was estimated to be 892 workdays. The tons of emissions from operation were also summed and then averaged over 1,552 operational days, which is based on the total number of days from October 2019 to December 2023. The total construction and operational emissions were then summed together and the emissions that would have occurred from existing uses were removed. The emissions are reported in tons/year and pounds per day (lbs./day) in Table 5. The net emissions show that that the daily unmitigated NO_x emissions exceed the daily threshold of 54 pounds per day. *Mitigation Measure AQ-1 and AQ-2 would reduce these emissions to a level of less-than-significant.*

Table 5. Project Construction and Operation Period Emissions

Scenario	ROG	NOx	Total PM ₁₀	Total PM _{2.5}
Construction Period Emissions (2019-2023)				
Total construction emissions (tons)				
Unmitigated	16.6	42.8	6.6	2.8
Mitigated	--	22.2	--	--
Average daily emissions (pounds/day) ¹				
Unmitigated	40.2	103.2	15.9	6.7
Mitigated	--	53.6	--	--
<i>BAAQMD Thresholds (pounds/day)</i>	54 lbs./day	54 lbs./day	82 lbs./day	54 lbs./day
<i>Exceed Threshold?</i>				
Unmitigated	No	Yes	No	No
Mitigated	--	No	--	--
Construction + Operational Period Emissions (2019-2023)				
Total Construction + Operational Emissions ¹ (tons)				
Unmitigated	21.5	48.8	11.7	4.1
Mitigated	19.4	28.2	9.6	2.6
Existing Period Emissions (tons)	11.9	27.2	18.7	5.1
Total Construction + Operational Emissions (lbs./day)				
Unmitigated	46.5	110.9	22.4	8.4
Mitigated	41.3	53.9	17.5	4.7
Existing Period Emissions (lbs./day)	15.3	35.1	24.1	6.6
Net Emissions (lbs/day) ²				
Unmitigated	31.2	75.8	-1.6	1.8
Mitigated	26.0	26.3	-6.5	-1.9
<i>BAAQMD Thresholds (pounds/day)</i>	54 lbs./day	54 lbs./day	82 lbs./day	54 lbs./day
<i>Exceed Threshold?</i>				
Unmitigated	No	Yes	No	No
Mitigated	No	No	No	No
Operational Period Emissions (Full Build-Out 2024)				
2024 Project Operational Emissions (tons/year)	11.8	14.2	13.1	3.7
2024 Existing Operational Emissions (tons/year)	1.9	4.2	3.7	1.0
Net Annual Emissions (tons/year)				
Unmitigated	9.9 tons	10.0 tons	9.4 tons	2.7 tons
Mitigated	9.7 tons	9.4 tons	--	--
Net Average Daily Emissions (lbs/day) ²				
Unmitigated	54 lbs./day	55 lbs./day	51 lbs./day	15 lbs./day
Mitigated	53 lbs./day	52 lbs./day	--	--
<i>BAAQMD Thresholds (annual) (avg. daily)</i>	10 tons 54 lbs./day	10 tons 54 lbs./day	15 tons 82 lbs./day	10 tons 54 lbs./day
<i>Exceed Threshold?</i>				
Unmitigated	Yes³	Yes	No	No
Mitigated	No	No	No	No
Notes: ¹ Assumes 829 construction workdays and 365-day operation. ² Assumes 365 days of operation. ³ Since ROG slightly exceeds 54 lbs/day (54.4 lbs/day), the impact is interpreted as significant.				

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

Measures to reduce diesel particulate matter (DPM) and PM₁₀ from construction are recommended to ensure that short-term health impacts to nearby sensitive receptors are avoided.

Dust (PM₁₀) Control Measures:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.
9. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.

10. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph and visible dust extends beyond site boundaries.
11. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction adjacent to sensitive receptors. Wind breaks should have at maximum 50 percent air porosity.
12. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
13. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
14. Avoid tracking of visible soil material on to public roadways by employing the following measures if necessary: (1) Site accesses to a distance of 100 feet from public paved roads shall be treated with a 6 to 12-inch compacted layer of wood chips, mulch, or gravel and (2) washing truck tires and construction equipment of prior to leaving the site.
15. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
16. Minimizing the idling time of diesel-powered construction equipment to two minutes.

Effectiveness of Mitigation

The measures above are consistent with the control measures for reducing fugitive particulate matter that are contained in the BAAQMD CEQA Air Quality Guidelines (i.e., Additional Construction Mitigation Measures Recommended for Projects with Construction Emissions Above the Threshold). Implementation of *Mitigation Measure AQ-1* is considered to reduce exhaust emissions by 5 percent and fugitive dust emissions by over 50 to 90 percent.

Mitigation Measure AQ-2: Use Construction equipment that has low diesel particulate matter exhaust and NO_x emissions.

Exhaust Emission (NO_x and PM) Control Measures:

The project shall develop a plan demonstrating that the off-road equipment (more than 25 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) and hauling truck traffic would achieve a 48-percent NO_x reduction and overall 90-percent PM (particulate matter) exhaust reduction (except the projects at 100 Altair Site and 300 Mathilda Avenue that would be required to demonstrate a 97-percent reduction in particulate matter exhaust)

compared to the CalEEMod modeled emissions used in this report. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available. The following are feasible methods shall be used unless an alternative plan that achieves this requirement is submitted and approved by the City:

1. All construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall meet U.S. EPA Tier 4 emission standards for NOx and PM, if feasible, otherwise,
 - a. All construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall meet U.S. EPA emission standards for Tier 3 engines and include particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices that altogether achieve a 85 percent reduction in particulate matter exhaust; alternatively (or in combination) or
 - b. use of electric or alternatively-fueled equipment with lower NOx emissions that meet the NOx and PM reduction requirements above.
 - c. For special exceptions, a waiver to use other equipment for specialized purposes would have to be obtained from the City after review of evidence that use of such equipment meeting the above mitigation requirements is not feasible.
2. Diesel engines, whether for off-road equipment or on-road vehicles, shall not be left idling for more than 2 minutes, except as provided in exceptions to the applicable state regulations (e.g., traffic conditions, safe operating conditions). The construction sites shall have posted legible and visible signs in designated queuing areas and at the construction site to clearly notify operators of idling limit.
3. All on-road heavy-duty diesel trucks with a gross vehicle weight rating of 33,000 pounds or greater (EMFAC Category HDDT) used at the project site (such as haul trucks, water trucks, dump trucks, and concrete trucks) shall be model year 2010 or newer.
4. Provide line power to the site during the early phases of construction to minimize the use of diesel-powered stationary equipment, such as generators. Use of diesel powered-portable equipment for the 100 Altair Site and 300 Mathilda Ave Site shall be limited to 100 hours for generators, 100 hours for compressors and 100 hours for cranes.

Effectiveness of Mitigation: Table 5 includes the mitigated emissions that are based on a 47-percent reduction in NO_x. This reduction could be achieved as follows: (1) BAAQMD CEQA Guidelines recommend that a 5-percent reduction could be applied for NO_x emissions to account for implementation of the appropriate Basic Construction Mitigation Measures, that are part of Mitigation Measure AQ-1. The effectiveness of Mitigation Measure AQ-2 was based on additional CalEEMod modeling that assumed use of Tier 4 equipment and a limit on some of the portable equipment (i.e., cranes and generators) would reduce NO_x emissions by 39 to 56 percent. (3) Use of a newer model year trucks for soil hauling would reduce those truck traffic-related NO_x emissions by 40 percent. The EMFAC2017 model was used to compute the effectiveness of using a newer truck fleet, assuming 2020 conditions (the CalEEMod model does not have this capability). Based on modeling for the Proposed Project, 14 percent of the NO_x emissions are associated with soil/demolition debris hauling. The combination of these measures, use of Tier 4 construction equipment and newer model haul trucks, reduces NO_x emissions by over 48 percent. Reducing portable equipment use by providing line power would reduce off-road construction emissions further.

Mitigation Measure AQ-3: Implement a Transportation Demand Management (TDM) Plan

The project shall implement a Transportation Demand Management (TDM) plan, consistent with City requirements. This plan must demonstrate a minimum 6 percent overall reduction in traffic trips.

Effectiveness of Mitigation: Operational NO_x emissions primarily consist of mobile sources that make up 89 percent of the emissions. Mobile sources also contribute to ROG emissions. Reducing traffic trips by 6 percent would reduce NO_x emissions by 0.75 tons per year and 3.4 pounds per day, such that annual net emissions of NO_x would be 9.4 tons and daily emissions would be 52 pounds per day. For ROG emissions, a reduction in traffic trips would reduce ROG mobile emissions by 0.2 tons per year, such that the annual net emissions of ROG would be 9.7 tons and daily emissions would be 53 pounds per day.

Impact 2: Expose sensitive receptors to substantial pollutant concentrations?

Project impacts related to increased community risk were evaluated in two ways:

1. Increased exposure to TACs and PM_{2.5} from project emissions sources and
2. Exposure of new project sensitive receptors to existing and future TAC and PM_{2.5} emissions.¹³

Temporary project construction activity would generate dust and equipment exhaust on a that would affect nearby sensitive receptors. The project would increase traffic in the area that would increase the air pollutant and TAC emissions in the area. In addition, the project would include the installation of emergency generators powered by diesel engines that would also have emissions of TACs and air pollutants. Project impacts to existing sensitive receptors were addressed for construction activities, operational conditions, the combined effect from construction activities and operation and the cumulative effect of the project and nearby emissions sources.

The project would introduce new residents that are sensitive receptors and would introduce a new source of TACs. There are also several sources of TACs and localized air pollutants in the vicinity of the project. The impact of the existing and new sources of TACs and PM_{2.5} upon the project sensitive receptors was also assessed.

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

Construction Community Risk Impacts

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. With Mitigation Measures AQ-1, AQ-2 and AQ-3, these exhaust air pollutant emissions would not be considered to contribute substantially to existing or projected air quality violations. Construction exhaust emissions may still pose health risks for sensitive receptors such as surrounding residents. The primary community risk impact issue associated with construction emissions are cancer risk and exposure to PM_{2.5}. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A community risk assessment of the project construction activities was conducted that evaluated potential health effects to nearby sensitive receptors from construction emissions of DPM and PM_{2.5}.¹⁴ This assessment included emissions estimation and dispersion modeling to predict the offsite and onsite concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be evaluated.

¹³ We note that to the extent this analysis considers *existing* air quality issues in relation to the impact on *future residents* of the Project, it does so for informational purposes only pursuant to the judicial decisions in *CBIA v. BAAQMD* (2015) 62 Cal.4th 369, 386 and *Ballona Wetlands Land Trust v. City of Los Angeles* (2011) 201 Cal.App.4th 455, 473, which confirm that the impacts of the environment on a project are excluded from CEQA unless the project itself “exacerbates” such impacts.

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

Construction Emissions

The CalEEMod model provided total annual PM₁₀ exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles, with total emissions from all construction stages reported in Table 6 on an annual basis. The on-road emissions that are included result from haul truck travel during demolition and grading activities, worker travel, and vendor deliveries during construction. A trip length of one mile was used to represent vehicle travel while at or near the construction site to represent localized air emissions from construction. It was assumed that these emissions from on-road vehicles traveling at or near the site would occur at the construction sites. Fugitive PM_{2.5} dust emissions were calculated by CalEEMod for the overall construction period and are included as part of the Total PM_{2.5} emissions reported in Table 6.

Table 6. Localized Project Construction Emissions of DPM and Fugitive PM_{2.5} (in tons)

Description	2019		2020		2021		2022		2023	
	DPM	PM _{2.5}	DPM	PM _{2.5}	DPM	PM _{2.5}	DPM	PM _{2.5}	DPM	PM _{2.5}
100 Altair Way	0.0129	0.0071	0.0787	0.0038	0.0760	0.0034	-	-	-	-
300 Mathilda Avenue	0.0166	0.0340	0.0873	0.0418	0.0166	0.0004	-	-	-	-
Macy's/Redwood Square	0.0365	0.0093	0.2618	0.4374	0.1680	0.0833	0.1121	0.0187	0.0087	0.0011
Murphy Square	-	-	0.0136	0.0186	0.0056	0.0009	-	-	-	-
Sub-block 6	-	-	0.1004	0.1214	0.1340	0.0143	0.0552	0.0060	0.0016	0.0001

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict DPM and PM_{2.5} concentrations at sensitive receptors (residences) in the vicinity of the project construction area. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.¹⁵ Emission sources for the construction site were grouped into two categories: exhaust emissions of DPM and fugitive PM_{2.5} dust emissions. For each of the construction sites modeled, the modeling utilized 10 area sources to represent the on-site construction emissions, five for exhaust emissions and five for fugitive dust emissions. To represent the construction equipment exhaust emissions, an emission release height of 6 meters (19.7 feet) was used for the area sources. The elevated source height reflects the height of the equipment exhaust pipes plus an additional distance for the height of the exhaust plume above the exhaust pipes to account for plume rise of the exhaust gases. For modeling fugitive PM_{2.5} emissions, a near-ground level release height of 2 meters (6.6 feet) was used for the area sources. Emissions from the construction equipment and on-road vehicle travel were distributed throughout the modeled area sources. Construction emissions were modeled as occurring daily between 7 a.m. to 4 p.m., when the majority of construction activity would occur.

The modeling used a five-year data set (2009-2013) of hourly meteorological data from the Moffett Federal Airfield Airport that was prepared for use with the AERMOD model by CARB. Annual DPM and PM_{2.5} concentrations from construction activities during the 2019-2023 period were

¹⁵ Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0*. May.

calculated using the model. DPM and PM_{2.5} concentrations were calculated at nearby sensitive receptors. A receptor height of 1.5 meters (4.9 feet) and 4.5 meters (14.7 feet) was used to represent the breathing height of residents in nearby single-family homes and multi-family residences.

The maximum-modeled annual DPM and PM_{2.5} concentrations, which includes both the DPM and fugitive PM_{2.5} concentrations, were identified at nearby sensitive receptors (as shown in Figure 1) to find the maximally exposed individual receptor that is termed the project MEI. Using the maximum annual modeled DPM concentrations, the maximum increased cancer risks were calculated using BAAQMD recommended methods and exposure parameters described in *Attachment 1*. Note that a variety of receptor types are tested to identify the maximum cancer risk. Non-cancer health hazards and maximum PM_{2.5} concentrations were also calculated and identified on an annual basis. *Attachment 3* to this report includes the emission calculations used for the construction area source modeling and the cancer risk calculations.

Community Risk Impacts from Construction

Results of this assessment indicated that the MEI (i.e., receptor with maximum impacts) was located at on the second floor (i.e. 4.5 breathing height) of the Loft House Apartments adjacent to the southern boundary of the 100 Altair Way project site as seen in Figure 1. Table 7 summarizes the maximum cancer risks, PM_{2.5} concentrations, and health hazard indexes for project related construction activities affecting this receptor, that is considered the MEI. As seen in Table 7 the construction risk impacts do exceed the BAAQMD single-source thresholds for incremental cancer risk and PM_{2.5} concentrations but does not exceed the single-source threshold for HI.

Table 7. Construction Risk Impacts at the Offsite MEI

Source	Cancer Risk (per million)	Annual PM _{2.5} (µg/m ³)	Hazard Index
Project Construction (Unmitigated)	306.1	1.05	0.19
<i>BAAQMD Single-Source Threshold</i>	<i>>10.0</i>	<i>>0.3</i>	<i>>1.0</i>
<i>Exceed Threshold?</i>	<i>Yes</i>	<i>Yes</i>	<i>No</i>

Additional modeling was also conducted to predict the increased cancer risks, non-cancer health hazards, and maximum PM_{2.5} associated with a nearby daycare, a learning center for children, and a senior community. The predicted increased cancer risk, non-cancerous risk (i.e. HI), and the PM_{2.5} concentration account for the project’s construction and operational impacts. Figure 1 shows the location of each sensitive receptor group listed below.

Plaza De Las Flores

Plaza De Las Flores is an affordable housing community for senior aged adults. The adult exposure parameters were used to find the maximum increased cancer risk from the Project. Results of this assessment indicated that the maximum cancer risks from the Project (without any mitigation or construction emission controls) would be 1.2 per million for adult exposure. The maximum-modeled annual PM_{2.5} concentration, which is based on combined exhausted and fugitive dust emissions, would be 0.35 µg/m³ and the HI based on the DPM concentration would be 0.03. The

PM_{2.5} concentration slightly exceeds the BAAQMD single-source significance threshold of greater than 0.3 µg/m³ risk values. Neither the cancer risk nor the HI value exceeds their respective BAAQMD single-source significance threshold. With Mitigation Measures AQ-1 and AQ-2, the PM_{2.5} concentration would be reduced to level below the single-source significance threshold of greater than 0.3 µg/m³

Fun Mandarin

Fun Mandarin is a childcare program that also teaches Mandarin. The program serves children from four months old to six years old. The maximum increased cancer risks were adjusted using infant exposure parameters. Results of this assessment indicated that the maximum cancer risks (without any mitigation or construction emission controls) would be 56.0 per million for infant exposure. The maximum-modeled annual PM_{2.5} concentration, which is based on combined exhausted and fugitive dust emissions, would be 0.26 µg/m³ and the HI based on the DPM concentration would be 0.02. The maximum cancer risk exceeds the BAAQMD single-source significance threshold for greater than 10.0 per million. The PM_{2.5} concentration and HI value are below their respective BAAQMD single-source significance threshold. With *Mitigation Measures AQ-1 and AQ-2*, the cancer risk would be reduced to level below the single-source significance threshold of greater than 10.0 per million.

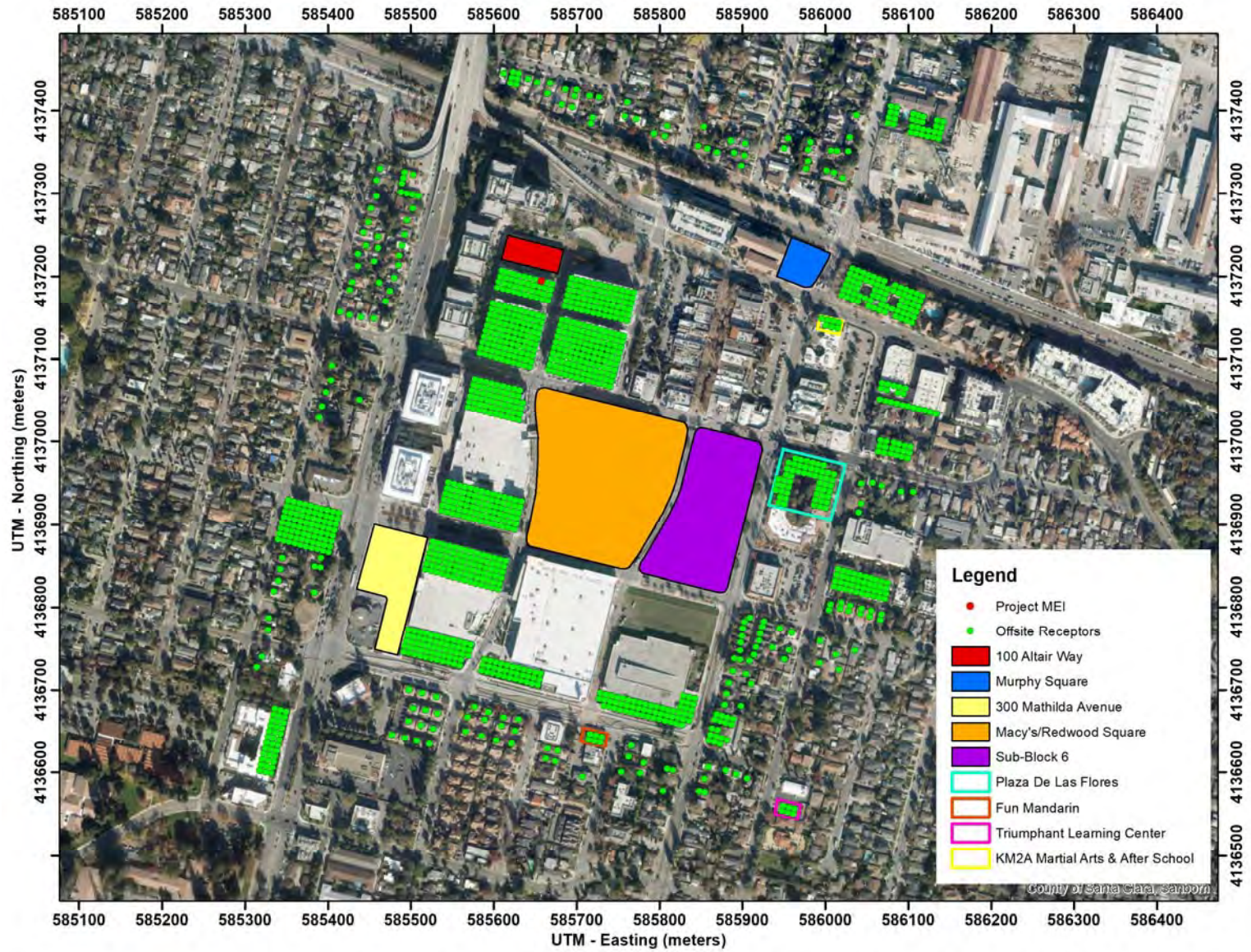
Triumphant Learning Center

Triumphant Learning Center is a preschool that offers programs for children ranging from three to four years. The maximum increased cancer risks were adjusted using child exposure parameters. Results of this assessment indicated that the maximum cancer risks (without any mitigation or construction emission controls) would be 8.5 per million for child exposure. The maximum-modeled annual PM_{2.5} concentration, which is based on combined exhausted and fugitive dust emissions, would be 0.08 µg/m³ and the HI based on the DPM concentration would be 0.02. These risk values do not exceed the BAAQMD single-source significance threshold for annual cancer risk, PM_{2.5} concentration, or HI.

KM2A Martial Arts & After School

KM2A Martial Arts & After School is a learning center that offers afterschool help and summer camps. It offers programs for children ranging from 4 to 14-years-old. The maximum increased cancer risks were adjusted using child exposure parameters. Results of this assessment indicated that the maximum cancer risks (without any mitigation or construction emission controls) would be 8.6 per million for child exposure. The maximum-modeled annual PM_{2.5} concentration, which is based on combined exhausted and fugitive dust emissions, would be 0.26 µg/m³ and the HI based on the DPM concentration would be 0.02. These risk values do not exceed the BAAQMD single-source significance threshold for annual cancer risk, PM_{2.5} concentration, or HI

Figure 1. Project Construction Sites, Locations of Off-Site Sensitive Receptors, and Location of MEI



Project Operation Community Risk Impacts

Community risk impacts from project operation were assessed by computing the increase to lifetime cancer risk and annual PM_{2.5} concentrations caused by project traffic and use of diesel engines that power emergency generators.

Local Roadway Traffic Increase

An analysis of the impacts of TACs and PM_{2.5} from Mathilda Avenue, Sunnyvale Avenue, Evelyn Avenue, and Iowa Avenue (Project Area Roads) was conducted to evaluate potential cancer risks and PM_{2.5} concentrations from these nearby roadways upon the off-site sensitive receptors. Modeling of local roadways provides more accurate results than screening methods (i.e., those provided by BAAQMD), because project specific information is used in the modeling. This includes roadway orientation with respect to receptors (i.e., where dwelling units would be located with respect to traffic), updated emission estimates (i.e., based on traffic speeds and traffic mix), and meteorological conditions near the project. This analysis utilized the computed increase in traffic that would result from the project.

This analysis involved the development of DPM, organic TACs, and PM_{2.5} roadway emissions in the project area using the CARB EMFAC2014 emission factor model, based on the increased local project-related traffic volumes contained in the traffic report¹⁶. The average daily traffic (ADT) was estimated from the background and incremental project a.m. and p.m. peak hours, assuming the ADT is ten times the average of the am- and pm-peak hour volume. The modeling reflects that DPM emissions are projected to decrease in the future as provided in the EMFAC2014 emissions data.

Residential occupation of the project was assumed to begin in 2024 or thereafter. In order to estimate TAC and PM_{2.5} emissions over a 30-year exposure period (2024-2053) for calculating increased cancer risks to new residents from traffic on the Project Area Roads, the EMFAC2014 model was used to develop vehicle emission factors for the year 2024. Year 2024 emissions were conservatively assumed as being representative of future conditions over the time period that cancer risks are evaluated (30 years), since, as discussed above, overall vehicle emissions, and in particular diesel truck emissions will decrease in the future.

The EMFAC2014 model was used to develop vehicle emission factors for the year 2024 using an estimated mix of cars and trucks. The project area roads were assumed to carry primarily cars and some trucks. A vehicle mix including 3.51 percent trucks was assumed based on BAAQMD recommendations for truck percentages on non-highway roads in Santa Clara County.¹⁷ One-third of the trucks were assumed to be heavy duty trucks and two-thirds were assumed to be medium duty trucks. Default EMFAC2014 vehicle model fleet age distributions for Santa Clara County were assumed in calculating the emissions. Traffic volumes were assumed to increase one percent per year. Average hourly traffic distributions for Santa Clara County roadways were developed using

¹⁶ Fehr & Peers Transportation Consultants, "Cityline Sunnyvale Transport Impact Analysis: Final Report", March 2019.

¹⁷ BAAQMD. 2012. *Recommended Methods for Screening and Modeling Local Risks and Hazards*. May

the EMFAC model,¹⁸ which were then applied to the project area traffic volumes to obtain estimated hourly traffic volumes and emissions. Average travel speeds of 25 mph were assumed for vehicles on Evelyn Avenue, Sunnyvale Avenue, and Iowa Avenue, and 30 mph for vehicles on Mathilda Avenue.

Organic TACs are those TACs that are emitted from gasoline combustion, based on emissions of total organic gases (TOG). The TOG emissions from gasoline-powered vehicles were computed using the EMFAC2014 model. These TOG emissions were then used in modeling the TACs associated with motor vehicle exhaust emissions and evaporative emissions). TOG emissions from exhaust and for running evaporative losses from gasoline vehicles were calculated using EMFAC2014 default model values for Santa Clara County along with the traffic volumes, speeds, and vehicle mixes.

PM_{2.5} emissions for vehicles traveling on project area roads were calculated using the same basic approach that was used for assessing TAC emissions. All PM_{2.5} emissions from all vehicles were used, rather than just the PM_{2.5} fraction from diesel powered vehicles, because all vehicle types (i.e., gasoline and diesel powered) produce PM_{2.5}. Additionally, PM_{2.5} emissions from vehicle tire and brake wear and from re-entrained roadway dust were included in these emissions. The assessment involved, first, calculating PM_{2.5} emission rates from traffic traveling on the roadway. These emissions were computed using the EMFAC2014 model and traffic volumes and were calculated in the same manner as discussed above. PM_{2.5} re-entrained dust emissions from vehicles traffic were calculated using CARB emission calculation procedures.¹⁹

Dispersion modeling of TAC and PM_{2.5} emissions was also conducted using the EPA AERMOD model. Traffic on project area roads within about 1,000 feet of the Plan Area was evaluated with the model. Vehicle traffic on these roads was modeled using a series of adjacent volume sources along a line (line volume sources), with line segments used for each of the roadway segments modeled, as shown in Figure 2. The five-year data set (2009-2013) of hourly meteorological data from the Moffett Federal Airfield Airport was used for the modeling. Other inputs to the model included road geometries, hourly traffic emissions, and receptor locations and elevations. Annual DPM and PM_{2.5} concentrations for 2024 from increased project traffic on Project Area Roads were calculated using the model. DPM and PM_{2.5} concentrations were calculated at nearby sensitive receptors. Receptor heights of 1.5 meters (4.9 feet) and 4.5 meters (14.7 feet) were used to represent the breathing heights of nearby residences in single-family homes and multi-family residences.

Increased lifetime cancer risks were calculated using the modeled maximum annual DPM and TOG concentrations, and BAAQMD recommended risk assessment methods and parameters described in *Attachment 1*. These methods evaluate cancer risk due to a 30-year exposure period and incorporate age sensitivity factors methods for infant (third trimester to two years of age) and children (two years of age to 16 years). The PM_{2.5} concentration and non-cancerous (i.e. Hazard

¹⁸ The Burden output from EMFAC2007, a prior version of CARB's EMFAC model, was used for this since the current web-based version of EMFAC2014 does not include Burden type output with hour by hour traffic volume information.

¹⁹ CARB 2018, Miscellaneous Process Methodology 7.9, Entrained Road Travel, Paved Road Dust. Revised and updated, March 2018.

Index) community risk impacts were also calculated. The risk impacts from the project area roads (Mathilda Avenue, Sunnyvale Avenue, Evelyn Avenue, and Iowa Avenue) are listed in Table 8. The emission calculations, modelling information and results, and health risk calculations for the increased roadway traffic is provided in *Attachment 3*.

Figure 2. Project Operation Emission Sources and Off-Site Receptor Locations Used for Modeling



Operational Emergency Generator Modeling

The project would include the installation of six emergency back-up diesel generators to provide emergency backup power. The project, quantity, and size of each generator are described below:

- Project: 100 Altair Way
 - One 150 kW (kilowatt), 185 horsepower (HP) generator
- Project: 300 Mathilda Avenue
 - One 100 kW, 152 HP generator
- Macy's Project Site
 - Two 150 kW, 240 HP generator
- Redwood Square
 - One 1,000 kW, 1,528 HP generator
- Murphy Square
 - One 450 kW, 555 HP generator

The generators would be operated for testing and maintenance purposes, with a maximum of 50 hours per year of non-emergency operation under normal conditions per BAAQMD requirements. During testing periods, the engine would typically be run for less than one hour under light engine loads. The generator engine would be required to meet U.S. EPA emission standards and consume commercially available California low sulfur diesel fuel. The emissions from the operation of the generator were calculated using CalEEMod assuming 50 hours per year operation.

To estimate potential cancer risks and PM_{2.5} impacts from operation of the generators, the AERMOD dispersion model was also used to calculate the maximum annual DPM concentrations at off-site sensitive receptor locations, as shown on Figure 2. The locations of the generators are shown in Figure 2. The modeling was conducted using a five-year data set (2009-2013) of hourly meteorological data from Moffett Federal Airfield. The generators were modeled at ground level in their respective project site areas. Stack parameters for modeling (stack height and diameter, exhaust flow rate and exhaust gas temperature) were based on BAAQMD default parameters for emergency generators.²⁰ Annual average DPM and PM_{2.5} concentrations were modeled assuming that generator testing could occur at any time of the day.

Maximum Project Operational Community Risk Impacts

Table 8 reports the community risk impacts from project operational sources (i.e. traffic and generator impacts). Impacts from roadways and diesel-powered generators are reported as the maximum increased cancer risk, annual PM_{2.5} concentration, and HI value caused by the Project's increase in traffic and the Project's generators. This off-site receptor is also located at the Loft

²⁰ The San Francisco Community Risk Reduction Plan: Technical Support Document, BAAQMD, San Francisco Dept. of Public Health, and San Francisco Planning Dept., December 2012

House Apartments on the second-floor (i.e. 10N 585616.81m E, 4137204.53m N); however, this is not the same sensitive receptor identified as the construction MEI. The maximum community risk impacts at this location are given for informational purposes only. As seen in Table 8, the increased cancer risk, annual PM_{2.5} concentration and HI do not exceed the BAAQMD single-source thresholds. Note that the Project MEI, which is the highest combined risk from construction and operation, is at the construction MEI. Impacts at the Project MEI are described below.

Table 8. Maximum Community Risk Impacts from the Increased Project Traffic & Project Generators

Source	Increased Cancer Risk (per million)	Annual PM _{2.5} (µg/m ³)	Hazard Index Value
Project Traffic Increase ¹	0.07	0.16	>0.1
Project Generators (2024 on)	2.91	0.01	>0.1
BAAQMD Single-Source Threshold	>10.0	>0.3	>1.0

¹Includes Mathilda Avenue, Sunnyvale Avenue, Evelyn Avenue, and Iowa Avenue

Combined Risk Impacts from Project Construction and Operation

The overall project impact, in terms of increased cancer risk, was assessed by combining the exposure of TACs from construction and operation over an assumed lifetime exposure to the project emissions as provided in Table 9. In this assessment, the receptors that would have the maximum increased cancer risk from the combination of exposure to temporary construction activities and continuous operation were identified. Appropriate age sensitivity factors, breathing rates and other risk modeling parameters (described in *Attachment 1*) were applied that recognize maximum exposures over a lifetime. In terms of annual PM_{2.5} and HI, which are based on annual exposures only, the maximum level from either construction or operation is identified. *Attachment 3* has the dispersion modeling calculations for the project.

Table 9. Project Community Risk Impacts at the Project Maximum Impact Receptor (MEI)

Source	Cancer Risk (per million)	Annual PM _{2.5} (µg/m ³)	Hazard Index
Project Construction (2019 – 2023)	306.1	1.05	0.19
Project Traffic Increase ¹ (2024 on)	0.1	0.02	0.01
Project Generators (2024 on)	0.4	<0.01	<0.01
Project (Construction & Operational Impacts) ²	306.6	1.05	0.19
BAAQMD Single-Source Threshold	>10.0	>0.3	>1.0
<i>Exceed Threshold?</i>	<i>Yes</i>	<i>Yes</i>	<i>No</i>

¹Includes Mathilda Avenue, Sunnyvale Avenue, Evelyn Avenue, and Iowa Avenue, ² The Project Construction and Operational Risk Impacts include construction, the project’s generators, and the project’s traffic increase on the local roadways. Note that only the cancer risk is additive. The annual PM_{2.5} and HI value are based on the maximum annual risk over the entire 30-year lifetime analysis and are not additive.

Caltrain Rail Line Dispersion Modeling

The closest project development site (i.e. Murphy Square) is adjacent to the Caltrain rail line that currently has TAC and PM_{2.5} emissions from diesel-powered locomotive exhaust. The other four project sites are further away. This rail line is used primarily for passenger service; however, there is some freight service by trains using diesel fueled locomotives. Currently all of Caltrain's trains use diesel locomotives. As part of the program to modernize operation of the Caltrain rail corridor between San José and San Francisco, Caltrain is planning to switch from diesel locomotives to use of electric trains in the near future.²¹ Nearly all of the trains in the future are planned to be Electric Multiple Unit (EMU) trains, which are self-propelled electric rail vehicles that can accelerate and decelerate at faster rates than diesel power trains, even with longer trains. This plan was formally adopted on January 8, 2015 and electrified service is anticipated to begin in 2020 or 2021.²²

Based on the current Caltrain schedule, there are 92 trains passing the project site during the weekdays, 32 trains during the weekend, and 4 additional trains that only run on Saturday. Electrification of Caltrain would eliminate DPM emissions from most of these trains and would increase the number of weekday trains from 92 to 114. In addition to the Caltrain trains, there are about four freight trains that also use this rail line on a daily basis.²³

Caltrain plans are that in 2021 service between San José and San Francisco would use a mixed fleet of EMUs and diesel locomotives, with approximately 75% of the service being electric and 25% being diesel. In 2021, some peak service trains would be diesel on weekdays. All other service, including off-peak periods, would be EMU-based. Off-peak periods include early morning, midday, and after 7:00 p.m. After 2020, diesel locomotives would be replaced with EMUs over time as they reach the end of their service life. Caltrain's diesel-powered locomotives would continue to be used to provide service between the San José Diridon Station and Gilroy. It is expected that all of the San José to San Francisco fleet would be EMUs by 2026 to 2029.²⁴

With Caltrain electrification, it was assumed that during 2020 all trains would continue to use diesel locomotives. There would be 92 daily weekday trips, and 24 daily weekend trips with 4 additional trips on Saturdays. On an annual average basis there would be a total of 73 daily trains using diesel locomotives. Fifty-three of these trains would stop at the Sunnyvale Station, which is just north of Evelyn Avenue between Mathilda and Sunnyvale Avenues, and 20 would pass the station without stopping. Starting in 2021 when Caltrain electrification occurs there would be 24 daily weekday trips and 4 daily weekend trips using trains with diesel locomotives.²⁵ On an annual average basis there would be a total of 18 daily trains using diesel locomotives. From 2026 on it was conservatively assumed that there would be 4 daily weekday diesel trains on the rail line. All trains used for freight service were assumed to use diesel powered locomotives.

²¹ Caltrain, 2014. *Peninsula Corridor Electrification Project. Final Environmental Impact Report*. December 2014.

²² Caltrain, 2015. *Peninsula Corridor Electrification Fact Sheet*. May 2015.

²³ Bay Area Regional Rail Plan, *Technical Memorandum 4a, Conditions, Configuration & Traffic on Existing System*, Metropolitan Transportation Commission, November 15, 2006.

²⁴ Ibid

²⁵ Caltrain 2015. *Short Range Transit Plan: FY2015-2024*. October 1, 2015.

DPM and PM_{2.5} emissions from trains on the rail line were calculated using EPA emission factors for locomotives²⁶ and CARB adjustment factors to account for fuels used in California²⁷. Caltrain's current locomotive fleet consists of twenty-three 3,200 horsepower (hp) locomotives of model year or overhaul date of 1999 or earlier and six 3,600 hp locomotives of model year 2003.²⁸ The current fleet average locomotive engine size is about 3,285 hp. In estimating diesel emissions for 2020 prior to electrification a fleet average locomotive engine size of 3,285 hp was used. When electrification occurs, Caltrain will retain the six 3,600 hp locomotives and the three (model year 1998) 3,200 hp locomotives.²⁹ In estimating diesel locomotive emissions for the case of electrification, average locomotive horsepower of 3,467 hp was used.

Passenger and freight trains that would not stop at the Sunnyvale Station, as well as those away from the station, were assumed to be traveling at an average speed of 40 mph in the vicinity of the project site. Passenger trains stopping at the Sunnyvale Station were assumed to be traveling at an average speed of 10 mph during approach and departure in the vicinity of the station. Since the exposure duration used in calculating cancer risks is 30 years (in this case the period from 2020 through 2049), the passenger and freight train average DPM emissions were calculated based on average EPA emission factors for 2020 and the periods 2021-2025, 2026-2049.

Dispersion modeling of locomotive emissions was conducted using the EPA's AERMOD dispersion model and five-year data set (2009-2013) of hourly meteorological data from Moffett Field. Locomotive emissions from train travel within about 1,000 feet of the project site were modeled as a line sources comprised of a series of volume sources along the rail line. Impacts to existing off-site sensitive receptors and future project residents on the first and second floor levels were evaluated. Receptor heights of 1.5 meters (4.9 feet) and 4.5 meters (14.8 feet) were used to represent the breathing heights of residents on the first and second floor levels, respectively. Figure 2 shows the railroad segments used for the modeling and receptor locations where concentrations were calculated.

The maximum increased lifetime cancer risk and annual PM_{2.5} concentrations for off-site sensitive receptors at the Project MEI and new residents at the project site are shown in Tables 10 and 11, respectively. Cancer risks were computed using modeled DPM and PM_{2.5} concentrations and the BAAQMD recommended methods and exposure parameters described in *Attachment 1*. The maximum cancer risks, PM_{2.5} concentration, and non-cancer health impacts (hazard index) are below their respective BAAQMD significance thresholds. The location of the Project MEI and the MEI for project on-site receptors where the maximum TAC and PM_{2.5} impacts from the rail line occurred is shown in Figure 2.

Local Roadways Dispersion Modeling

As described above, a modeling of the impacts of TACs and PM_{2.5} emitted from Mathilda Avenue, Sunnyvale Avenue, Evelyn Avenue, and Iowa Avenue was conducted to evaluate potential cancer

²⁶ *Emission Factors for Locomotives*, USEPA 2009 (EPA-420-F-09-025)

²⁷ *Offroad Modeling, Change Technical Memo*, Changes to the Locomotive Inventory, CARB July 2006.

²⁸ Caltrain *Commute Fleets*. Available at: <http://www.caltrain.com/about/statsandreports.html>. Accessed March 4, 2016.

²⁹ Caltrain 2015. *Short Range Transit Plan: FY2015-2024*. October 1, 2015.

risks and PM_{2.5} concentrations from these nearby roadways upon the off-site sensitive receptors. This analysis was modeled in the same manner but the cumulative plus project traffic volumes were used instead of only the project increase volumes. These methods evaluate cancer risk due to a 30-year exposure period and incorporate age sensitivity factors methods for infant (third trimester to two years of age) and children (two years of age to 16 years). The PM_{2.5} concentration and non-cancerous (i.e. Hazard Index) community risk impacts were also calculated. The risk impacts from Mathilda Avenue, Sunnyvale Avenue, Evelyn Avenue, and Iowa Avenue (Project Area Roads) are listed in Table 10. The emission information, modeling results, and health risk calculations the roadway traffic is provided in *Attachment 4*.

Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Stationary Source Risk & Hazard Analysis Tool*. This mapping tool uses Google Earth and identified the location of seven possible stationary source and their estimated risk and hazard impacts. A Stationary Source Information Form (SSIF) containing the identified sources was prepared and submitted to BAAQMD. They provided updated risk levels, emissions and adjustments to account for new OEHHA guidance³⁰. The District noted that Plant #21238 had new ownership and the new facility was operated by Sunnyvale Acquisition LLC c/o RiverRock Estate GRP. Additionally, a generator stationary source was identified at the existing Macy's West Store at 200 Washington Avenue. The project would remove this source; therefore, it was not included within the cumulative analysis.

Out of the six remaining sources four contain generators (Broadcom Corporation, Sunnyvale Acquisition LLC c/o RiverRock Estate GRP, Target Corporation Store, and SBC). The other two sources include a crematory (Wyant & Smith Crematory) and one with multiple types of permitted sources (Northrop Grumman Systems Corporation). With the exception of two facilities (SBC and Northrop Grumman Systems Corporation), the screening risk levels from the other stationary sources were adjusted based on the distance between the Project MEI and the stationary source using BAAQMD's *Distance Adjustment Multiplier Tool for Diesel Internal Combustion Engines*. The risk levels from SBC and Northrop Grumman Systems Corporation were evaluated using the *BAAQMD Risk and Hazards Emissions Screening Calculator (Beta Version 2.0)*. BAAQMD provided daily emission files for both stationary sources. The risk impacts from all six stationary sources at the Project MEI location are listed in Table 10.

Construction Risk Impacts from Nearby Developments

Within the Downtown Sunnyvale area, there are several development projects that are recently built, under construction, or approved to be constructed. Projects that were approved or in the early stages of construction were not previously included in the cumulative analysis from the June 2019 technical air quality report. The nearby construction projects that were not addresses in the cumulative analysis include the 220 Carroll Street project, 311 South Mathilda Avenue project,

³⁰ Correspondence with Areana Flores, BAAQMD, 14 January 2019.

and the Civic Center Modernization Master Plan project. Illingworth & Rodkin, Inc. had analyzed the construction risk impacts for the 311 South Mathilda Avenue project in a previous report.³¹ All three of these projects are over 1,000 feet from the project MEI identified in the DSP air quality report and the MEI is not downwind of the nearby projects.

For the 311 South Mathilda Avenue project, the construction risk impacts were re-calculated at the location of the DSP project MEI. For the Civic Center Modernization Master Plan, the mitigated project construction risk values were used. For the 220 Carroll Street project, the health risk impacts are unknown. To estimate the risk values from this project, CalEEMod was used to model the proposed 15 townhomes at 220 Carroll Street project site. Default CalEEMod inputs for construction were used. The U.S. EPA AERMOD dispersion model was then used to predict concentrations of DPM and PM_{2.5} at the DSP MEI location. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.³²

The 220 Carroll Street project was modeled as two area sources, one for exhaust emissions and one for fugitive dust emissions. To represent the construction equipment exhaust emissions, an emission release height of 6 meters (19.7 feet) was used for the area sources. The elevated source height reflects the height of the equipment exhaust pipes plus an additional distance for the height of the exhaust plume above the exhaust pipes to account for plume rise of the exhaust gases. For modeling fugitive PM_{2.5} emissions, a near-ground level release height of 2 meters (6.6 feet) was used for the area sources. The modeling used a 5-year meteorological data set (2013-2017) from the Moffett Federal Airfield Airport prepared for use with the AERMOD model by BAAQMD. A receptor height of 4.5 meters (14.8 feet) was used to represent the breathing height the DSP MEI. Construction emissions were modeled as occurring daily between 7 a.m. and 4 p.m., when the majority of construction activity would occur. Risk results are listed in Table 5.

With the addition of the construction impacts from the three projects, the cumulative mitigated cancer risk would be 26.8 per million, the cumulative HI value would be <0.44, and the cumulative mitigated PM_{2.5} concentration would be <0.55 µg/m³. The cumulative increased cancer risk, PM_{2.5} concentration, and hazard index value are below their respective BAAQMD cumulative-source thresholds. Therefore, the cumulative risk impacts would remain *less-than-significant* even with the addition of the three nearby construction projects. *Attachment 1* includes the health risk values for all three nearby construction projects.

Combined Community Risk at Off-Site Project MEI

Table 10 reports the project and cumulative community risk impacts at the sensitive receptor most affected by project construction and project operation (i.e. the Project MEI). The project would have a *significant* impact with respect to community risk caused by project construction activities, since the maximum cancer risk is above the single-source thresholds of 10.0 per million and the PM_{2.5} concentration exceeds the single-source threshold of 0.3 µg/m³. As shown in Table 10, the

³¹ Illingworth & Rodkin, Inc. 2017. *311 S. Mathilda Avenue Air Quality & Greenhouse Gas Emissions Assessment*. October.

³² Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0*. May.

combined cancer risk, PM_{2.5} concentrations and Hazard risk values, which includes unmitigated and mitigated, would exceed the cumulative thresholds for cancer risk and PM_{2.5} concentrations. The HI value does not exceed the cumulative threshold of 10.0.

Table 10. Impacts from Combined Sources at Off-Site Project MEI

Source	Cancer Risk (per million)	Annual PM _{2.5} (µg/m ³)	Hazard Index
Project Construction and Operation	Unmitigated	306.6	1.05
	Mitigated	9.2	0.11
Caltrain Rail Line	6.7	0.03	<0.01
Roadways ¹	3.1	0.26	<0.01
Project Generators (2024 on)	0.4	<0.01	<0.01
Wyant & Smith Crematory	1.6	0.02	0.14
Broadcom Corporation at 280-ft (Generator)	0.9	<0.01	<0.01
Sunnyvale Acquisition LLC c/o RiverRock Estate GRP at 800-ft (Generator)	0.3	<0.01	<0.01
Target Corporation Store (Generator)	<0.1	<0.01	<0.01
SBC (Generator) at >1,000-ft	2.5	<0.01	0.01
Northrop Grumman Systems Corporation (Multiple Sources) at >1,000-ft	1.2	<0.01	<0.01
220 Carroll Street	0.2	<0.01	<0.01
Civic Center Modernization Master Plan	<0.36	<0.05	<0.01
311 South Mathilda Avenue	0.2	<0.01	<0.01
Combined Sources	Unmitigated	<324.2	<1.49
	Mitigated	<26.8	<0.55
BAAQMD Cumulative Source Threshold		>100	>0.8
<i>Exceed Threshold?</i>	Unmitigated	<i>Yes</i>	<i>Yes</i>
	Mitigated	<i>No</i>	<i>No</i>

¹Includes Mathilda Avenue, Sunnyvale Avenue, Evelyn Avenue, and Iowa Avenue

Effectiveness of Mitigation: Implementation of *Mitigation Measure AQ-1* is considered to reduce exhaust emissions by 5 percent and fugitive dust emissions by over 50 percent. Implementation of *Mitigation Measure AQ-2*, that would require use of Tier 4 equipment and put limits on the use of portable diesel-powered equipment (e.g., generators, compressors and cranes) would further reduce on-site diesel exhaust emissions by at least 90 percent. The restricted use of portable equipment at the 100 Altair and 300 Mathilda Avenue project sites would further increase the effectiveness of this mitigation measure to 97 percent.

As a result, increased cancer risk at the receptor most affected by the project (from construction and operation) would be reduced to 9.2 per million. This risk includes the contribution of project operational sources (e.g., traffic and generators). The cancer risk would be below the threshold of greater than 10 per one million for cancer risk. When combined with cumulative sources, the overall cancer risk would be reduced to 26 chances per million, which is below the threshold of not greater than 100 per million.

The reduction of PM_{2.5} construction emissions from exhaust and fugitive dust would be reduced by 90 percent overall. This would reduce the maximum annual PM_{2.5} concentration from the project to 0.11µg/m³. When combined with cumulative sources, the overall maximum annual PM_{2.5} concentration would be 0.48µg/m³.

Therefore, *after implementation of these recommended measures, the project would have a less-than-significant impact with respect to community risk caused by construction activities.*

Impact 3: Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Emissions of air pollutants or TACs are addressed under impacts 2 and 3. Emission of greenhouse gases are addressed separately. In terms of odor emissions, BAAQMD has identified a variety of land uses and types of operations that would produce emissions that may lead to odors in their CEQA Air Quality Guidelines. Some of the identified land uses include wastewater treatment plants, sanitary landfills, food processing facilities, coffee roasters, compositing facilities, and confined animal facility/feed lot/dairy facility. The proposed project would construct a residential, office, and retail land uses, which do not fall under any of the land uses BAAQMD has identified.

Additionally, according to the BAAQMD CEQA Guidelines, an odor source with five or more confirmed complaints per year averaged over three years is considered to have a significant impact. Future construction activities in the Project area could result in odorous emissions from diesel exhaust associated with construction equipment. Because of the temporary nature of these emissions and the highly diffusive properties of diesel exhaust, exposure of sensitive receptors to these emissions would be limited. Therefore, odors that could cause complaints from the general public and affect a substantial number of people are not expected and the project would have a *less-than-significant impact*.

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

Operational Community Risk Impacts – New Project Residents

Additionally, a community risk assessment was completed to analyze the impact existing TAC and PM_{2.5} sources would have on the new proposed sensitive receptors that that project would introduce. Occupation of the proposed project was assumed to start in 2024 or thereafter. The same TAC sources identified above were used in this HRA assessment. This analysis is presented for informational purposes only.

Caltrain Rail Line

The same refined analysis described above for the Project MEI was done for the incoming new project sensitive receptors. Emissions from the rail line for the 2021 through 2025 period were conservatively assumed to represent the emissions over the entire exposure period (2024 – 2053) for the new sensitive receptors. Results are listed in Table 11.

Local Roadways – Mathilda Avenue, Sunnyvale Avenue, Evelyn Avenue, Iowa Avenue

The roadway analysis was done in the same manner for the new project sensitive receptors as described above for the Project MEI but the cumulative plus project traffic volumes were used instead of only the project increase volumes. The results are listed in Table 11. The contribution of roadways at portions of the Sub-Block Six site would exceed 0.30µg/m³. This would be considered a significant exposure that requires mitigation.

Project Emergency Generators

As stated above the project proposes to install six emergency generators within the project sites. Three out of the five generators would be located near new incoming project sensitive receptors or be located in the same building as the sensitive receptors. Only preliminary plans are available that cannot be used to adequately predict impacts of these generators in terms of community risk (health risk impacts). As previously discussed, these generators would be subject to BAAQMD permitting requirements. Emergency generators powered by diesel engines are subject to emission standards and operations limits set by the State and imposed by BAAQMD, which cannot exceed 50 hours per year for routine testing and maintenance. There are additional measures that BAAQMD may impose that are based on results of a BAAQMD-prepared health risk assessment. proximity.

Based on screening modeling using the BAAQMD Health Risk Calculator (Beta 3.0) and generator annual PM₁₀ emissions obtained from CalEEMod, maximum unmitigated generator emissions would be as follows:

Table 11. Generator Screening Health Risk Estimations

Generator Location and Size	Lifetime Cancer Risk	Annual PM2.5 Concentration	Hazard Index
100 Altair Way (150kW, 185hp)	1.5	<0.01	<0.01
300 Mathilda Avenue (100kW, 152hp)	0.5	<0.01	<0.01
Macy's (two 150 kW, 240 HP)	30.9	0.04	0.01
Redwood Square (1,000kW, 1,528hp)	45.5	0.06	0.01
Murphy Square (450kW, 555hp)	1.5	<0.01	<0.01
Note: A distance adjustment was included in the screening to account for the distance between the generator and closest on-site sensitive receptor.			

Based on the risks calculated for the generators located at Redwood Square and Macy's, those generators could adversely affect new residences due to the proximity of these stationary sources to the sensitive receptors. It was conservatively assumed that the generators would have a significant impact to the new proposed sensitive receptors. This is considered a *significant impact*.

Combined Community Risk at Project Site

Community risk impacts from combined sources upon the project site sensitive receptors are reported in Table 12. With the exception of the project generators, the combined increased cancer risks, annual PM_{2.5} concentrations, and Hazard Indexes from all TAC sources upon the Project are all below their respective single-source and cumulative significance thresholds and would be considered a *less-than significant* impact.

Table 12. Community Health Risk Impact to New Project Residents

Source	Cancer Risk (per million)	Annual PM _{2.5} (µg/m ³)	Hazard Index
Project Generators	Significant		
Caltrain Rail Line	3.0	<0.01	<0.01
Roadways ¹	1.9	0.32	0.01
Wyant & Smith Crematory	1.6	0.02	0.14
Broadcom Corporation at 730-ft (Generator)	0.3	<0.01	<0.01
Sunnyvale Acquisition LLC c/o RiverRock Estate GRP at 480-ft (Generator)	0.1	<0.01	<0.01
Target Corporation Store (Generator)	<0.1	<0.01	<0.01
SBC (Generator)	10.0	<0.01	0.03
Northrop Grumman Systems Corporation (Multiple Sources)	1.2	<0.01	<0.01
BAAQMD Single-Source Threshold	>10.0	>0.3	>1.0
<i>Exceed Threshold?</i>	<i>No</i>	<i>Yes</i>	<i>No</i>
Combined Sources	18.2	0.4	<0.23
BAAQMD Cumulative Source Threshold	>100	>0.8	>10.0
<i>Exceed Threshold?</i>	<i>No</i>	<i>No</i>	<i>No</i>
Unmitigated	<i>No</i>	<i>No</i>	<i>No</i>

¹Includes Mathilda Avenue, Sunnyvale Avenue, Evelyn Avenue, and Iowa Avenue.

Mitigation Measure AQ-4: Complete a health risk analysis of the proposed Project Generators upon the new, incoming sensitive receptors once location and generator type have been finalized.

Prior to installation of any emergency generator, the project applicant(s) shall submit documentation that demonstrates the equipment has obtained the proper BAAQMD permits and that the BAAQMD permit evaluation addressed all sensitive receptors near the generator(s), including those sensitive receptors that are part of the project. Significant community risk impacts can be avoided by the following measures:

- Placement of the equipment;
- Placement and orientation of the exhaust stacks;
- Application of exhaust controls such as diesel particulate matter filters that reduce DPM by 85 percent; and/or
- Limitation to the operation hours to less than 50 hours per year.

Effectiveness of Mitigation: In most cases, normal testing and maintenance operation of generators would have less than significant community risk impacts. Based on the various measures listed above, the exposure to sensitive receptors could be reduced such that health risks would be less than significant.

Mitigation Measure AQ-5: Include high-efficiency particulate filtration systems in new residential ventilation systems at the Sub-Block Six site.

Filtration in ventilation systems would be required to reduce the level of harmful pollutants (i.e., PM_{2.5}) to acceptable levels. Exposure to annual PM_{2.5} concentrations from roadways is at the threshold of 0.3 µg/m³ for a portion of the Sub-Block Six site. Annual PM_{2.5} concentrations are based on the exposure to PM_{2.5} resulting from emissions attributable to truck and auto exhaust, the wearing of brakes and tires, and re-entrainment of roadway dust from vehicles traveling over pavement. The modeled PM_{2.5} exposure to future residents drives the exposure reduction plan. Reducing particulate matter exposure would reduce both annual PM_{2.5} exposures and cancer risk.

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

1. Install air filtration in residential dwelling units at the Sub-Block Six site that would have PM_{2.5} levels exceeding the threshold of 0.30µg/m³. Air filtration devices shall be rated MERV13 or higher for portions of the site that have annual PM_{2.5} exposure at 0.30 µg/m³. To ensure adequate health protection to sensitive receptors (i.e., residents), this ventilation system, whether mechanical or passive, all fresh air circulated into the dwelling units shall be filtered.
2. As part of implementing this measure, an ongoing maintenance plan for the buildings' heating, ventilation, and air conditioning (HVAC) air filtration system shall be required.

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

Effectiveness of Mitigation Measure AQ-5

A properly installed and operated ventilation system with MERV13 would achieve an 80-percent reduction.³³ Increased cancer risk and PM_{2.5} exposures for MERV13 filtration cases were calculated assuming a combination of outdoor and indoor exposure. For use of MERV13 filtration systems, assuming exposure to outdoor air at each unit (from open windows or being outside the unit) of three hours to ambient PM_{2.5} concentrations and 21 hours of indoor exposure to filtered air was assumed. In this case, the effective control efficiency using MERV13 is about 70 percent for PM_{2.5} exposure. This would reduce the maximum annual PM_{2.5} concentration from 0.32µg/m³ to less than 0.1µg/m³. These mitigated levels would not exceed the recommended significance thresholds for annual PM_{2.5} exposure from any single source of air pollutants or TACs.

³³ Bay Area Air Quality Management District (2016). Appendix B: Best Practices to Reduce Exposure to Local Air Pollution, *Planning Healthy Places A Guidebook for Addressing Local Sources of Air Pollutants in Community Planning* (p. 38). http://www.baaqmd.gov/~media/files/planning-and-research/planning-healthy-places/php_may20_2016-pdf.pdf?la=en

Greenhouse Gas Emissions

Setting

Gases that trap heat in the atmosphere, GHGs, regulate the earth's temperature. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate. The most common GHGs are carbon dioxide (CO₂) and water vapor but there are also several others, most importantly methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). These are released into the earth's atmosphere through a variety of natural processes and human activities. Sources of GHGs are generally as follows:

- CO₂ and N₂O are byproducts of fossil fuel combustion.
- N₂O is associated with agricultural operations such as fertilization of crops.
- CH₄ is commonly created by off-gassing from agricultural practices (e.g., keeping livestock) and landfill operations.
- Chlorofluorocarbons (CFCs) were widely used as refrigerants, propellants, and cleaning solvents but their production has been stopped by international treaty.
- HFCs are now used as a substitute for CFCs in refrigeration and cooling.
- PFCs and sulfur hexafluoride emissions are commonly created by industries such as aluminum production and semi-conductor manufacturing.

Each GHG has its own potency and effect upon the earth's energy balance. This is expressed in terms of a global warming potential (GWP), with CO₂ being assigned a value of 1 and sulfur hexafluoride being several orders of magnitude stronger. In GHG emission inventories, the weight of each gas is multiplied by its GWP and is measured in units of CO₂ equivalents (CO₂e).

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

Recent Regulatory Actions

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

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

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

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

As directed by AB 32, CARB has also approved a statewide GHG emissions limit. On December 6, 2007, CARB staff resolved an amount of 427 million metric tons (MMT) of CO₂e as the total statewide GHG 1990 emissions level and 2020 emissions limit. The limit is a cumulative statewide limit, not a sector- or facility-specific limit. CARB updated the future 2020 BAU annual emissions forecast, in light of the economic downturn, to 545 MMT of CO₂e. Two GHG emissions reduction measures currently enacted that were not previously included in the 2008 Scoping Plan baseline inventory were included, further reducing the baseline inventory to 507 MMT of CO₂e. Thus, an estimated reduction of 80 MMT of CO₂e is necessary to reduce statewide emissions to meet the AB 32 target by 2020.

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

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

SB 350 Renewable Portfolio Standards

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

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

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

SB 32 was passed in 2016, which codified a 2030 GHG emissions reduction target of 40 percent below 1990 levels. CARB is currently working on a second update to the Scoping Plan to reflect the 2030 target set by Executive Order B-30-15 and codified by SB 32. The proposed Scoping Plan Update was published on January 20, 2017 as directed by SB 32 companion legislation AB 197. The mid-term 2030 target is considered critical by CARB on the path to obtaining an even deeper GHG emissions target of 80 percent below 1990 levels by 2050, as directed in Executive Order S-3-05. The Scoping Plan outlines the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure, providing a blueprint to continue driving down GHG emissions and obtain the statewide goals.

The new Scoping Plan establishes a strategy that will reduce GHG emissions in California to meet the 2030 target (note that the AB 32 Scoping Plan only addressed 2020 targets and a long-term goal). Key features of this plan are:

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

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

City of Sunnyvale Climate Action Playbook

The City of Sunnyvale Climate Action Playbook is the newly developed planning document adopted by the City to guide further GHG emissions reductions. As stated within the setting section, the Playbook's new GHG reduction targets include reducing GHG emissions below 1990 levels by 56-percent by the year 2030 and by 80-percent by the year 2050. The Playbook lays out six Strategies to achieve these targets and within each Strategy are Plays that specify an action to support its respective Strategy. None of these Plays have a specific metric ton GHG threshold for project-level construction or operation. However, the following Strategies and Plays are applicable to the project:

Strategy 1: Promoting Clean Electricity

Play 1.1 Promote 100% clean electricity

- The City is committed to working with SVCE to expand 100% clean energy services to 100% of our community. Supporting and protecting this clean electricity supply is critical to other Strategies from this Playbook that rely on decarbonization (namely, Strategies 2 and 3).

Play 1.2 Increase local solar photovoltaics

- Targeted incentives, regulations and educational resources will be essential to increasing adoption of distributed solar resources in Sunnyvale. These will help ensure local supply but also help to offset demands on the electricity grid during peak demands periods.

Strategy 3: Decarbonizing Transportation & Sustainable Land Use

Play 3.1 Increase opportunities for and encourage development of mixed-use sites to reduce vehicles miles per person

- The City is committed to creating places to live that are less dependent on automobiles through ensuring access to nearby services and activity centers. Furthermore, Sunnyvale seeks to provide housing options for all incomes and lifestyles, particularly near transit corridors and Caltrain stations, to support alternative modes of transportation.

Play 3.2 Increase transportation options and support shared mobility

- Multimodal transportation choices need to be enhanced to offer a variety of travel options in and around the city that are connected to regional transportation systems and destinations. Advocating for and increasing transportation options and shared mobility will create safer, healthier, and more convenient movement throughout Sunnyvale.

Strategy 4: Managing Resources Sustainability

Play 4.1 Achieve zero waste goals for solid waste

- Diverting waste away from landfills, either to recycling, energy recovery or composting facilities, is critical for the City to realize its Zero Waste goals as outline in its Zero Waste Strategic Plan. This can be accomplished by waste prevention – consuming and throwing away

less – and being smarter about the items that must be thrown away. Expanding Sunnyvale’s food scraps collection program (FoodCycle) will help to increase the amount of organic material diverted away from the landfill.

However, state laws and policies limit access to diversion technologies so that 75% diversion is the current limit. Increasing diversion to 90% will require changes at the state level to allow use of technologies that recover energy from unrecyclable resident waste, primarily plastic and paper.

Play 4.2 Ensure resilience of water supply.

- As the region faces water supply challenges driven by recurring droughts and population growth, it will be critical to find ways to reduce the amount of water consumed and increase the sustainability of water supplies. Water conservation and water reuse, in the form of recycled and purified water, will help Sunnyvale reduce the stress placed on Northern California’s water resources.

Play 4.3 Enhance natural carbon sequestration

- The natural environment, including plants and soil, have an immense capacity to store carbon dioxide that would otherwise be released into the atmosphere. Through implementation of the City’s Urban Forest Management Plan⁴ and Green Stormwater Infrastructure Plan, Sunnyvale can continue to capture carbon by expanding its urban tree canopy and designing landscape features to address stormwater pollution and flood risk.

BAAQMD Significance Thresholds

The BAAQMD’s CEQA Air Quality Guidelines do not use quantified thresholds for projects that are in a jurisdiction with a qualified GHG reductions plan (i.e., a Climate Action Plan). The plan has to address emissions associated with the period that the project would operate (e.g., beyond year 2020). For quantified emissions, the guidelines recommended a GHG threshold of 1,100 metric tons or 4.6 metric tons (MT) per capita. These thresholds were developed based on meeting the 2020 GHG targets set in the scoping plan that addressed AB 32. Development of the project would occur beyond 2020, so a threshold that addresses a future target is appropriate.

Although BAAQMD has not published a quantified threshold for 2030 yet, this assessment uses a “Substantial Progress” efficiency metric of 2.8 MT CO_{2e}/year/service population and a bright-line threshold of 660 MT CO_{2e}/year based on the GHG reduction goals of EO B-30-15. The service population metric of 2.8 is calculated for 2030 based on the 1990 inventory and the projected 2030 statewide population and employment levels.³⁴ The 2030 bright-line threshold is a 40 percent reduction of the 2020 1,100 MT CO_{2e}/year threshold.

³⁴ Dave Vintze, Bay Area Air Quality Management District, 2016. *CLE International 12th Annual Super Conference CEQA Guidelines, Caw Law and Policy Update*. December 12.

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

GHG emissions associated with development of the proposed project would occur over the short-term from construction activities, consisting primarily of emissions from equipment exhaust and worker and vendor trips. There would also be long-term operational emissions associated with vehicular traffic within the project vicinity, energy and water usage, and solid waste disposal. Emissions for the proposed project are discussed below and were analyzed using the methodology recommended in the BAAQMD CEQA Air Quality Guidelines.

CalEEMod Modeling

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

Service Population Emissions

The project service population efficiency rate is based on the number of future residents and future employees. For this project, the number of future residents would be 1,796 residents, the number of future retail employees would be 650, and the number of future office employees would be 3,443 employees. The total service population would be 5,889 individuals.

Construction Emissions

GHG emissions associated with construction were computed to be 9,574 MT of CO₂e for the total construction period. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the City nor BAAQMD have an adopted threshold of significance for construction-related GHG emissions. However, the City of Sunnyvale General Plan lists several applicable action items to minimize GHG emissions from construction equipment. BAAQMD also encourages the incorporation of best management practices to reduce GHG emissions during construction where feasible and applicable.

Operational Emissions

The CalEEMod model, along with the project vehicle trip generation rates, was used to estimate daily emissions associated with operation of the fully-developed site under the proposed project. Table 13 shows the net emissions in metric tons and the per capita emissions. To be considered significant, the project must exceed both the GHG significance threshold in metric tons per year and the service population significance threshold. As shown in Table 13, the operational year 2024 and 2030 emissions do not exceed the “Substantial Progress” efficiency metric of 2.8 MT CO₂e/year/service population. Therefore, the project would have a *less-than-significant* impact regarding GHG emissions.

Note that energy emissions reported in Table 13 assume 90-percent of the electricity is provided by SVCE, while the remaining 10-percent of electricity is provided by another source.

Table 13. Annual Project GHG Emissions (CO₂e) in Metric Tons & Per Capita

Source Category	Existing Land Use in 2024	Proposed Project in 2024	Existing Land Use in 2030	Proposed Project in 2030
Area	1	44	1	44
Energy Consumption	102	1,506	102	1,506
Mobile	3,546	12,087	3,045	10,364
Solid Waste Generation	104	735	104	735
Water Usage	46	335	46	335
Total Emissions (MT CO ₂ e)	3,799	14,707	3,298	12,984
<i>Net Emissions</i>		10,908		9,685
<i>Metric Ton Significance Threshold</i>		660 MT CO₂e/year		660 MT CO₂e/year
Service Population Emissions (MT CO ₂ e/year/service population)		2.5		2.2
<i>Per Capita Significance Threshold</i>		2.8 in 2030		2.8 in 2030
<i>Significant (Exceeds both thresholds)?</i>		No		No

*Assumes SVCE carbon-free electricity with 10 percent opt out for PG&E provided electricity.

Impact 2: Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The proposed Project would not conflict or otherwise interfere with the statewide GHG reduction measures identified in CARB’s Scoping Plan. For example, proposed buildings would be constructed in conformance with CALGreen and the Title 24 Building Code, which requires high-efficiency water fixtures and water-efficient irrigation systems. Based on the applicable Plays listed above, the Project would not be in conflict with the Playbook.

Supporting Documentation

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

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

Attachment 3 is the construction health risk assessment. AERMOD dispersion modeling files for this assessment, which are quite voluminous, are available upon request and would be provided in digital format.

Attachment 4 includes the community risk calculations from sources affecting the on-site project sensitive receptors and the off-site existing sensitive receptors.

Attachment 1: Health Risk Calculation Methodology

A health risk assessment (HRA) for exposure to Toxic Air Contaminates (TACs) requires the application of a risk characterization model to the results from the air dispersion model to estimate potential health risk at each sensitive receptor location. The State of California Office of Environmental Health Hazard Assessment (OEHHA) and California Air Resources Board (CARB) develop recommended methods for conducting health risk assessments. The most recent OEHHA risk assessment guidelines were published in February of 2015.³⁵ These guidelines incorporate substantial changes designed to provide for enhanced protection of children, as required by State law, compared to previous published risk assessment guidelines. CARB has provided additional guidance on implementing OEHHA's recommended methods.³⁶ This HRA used the 2015 OEHHA risk assessment guidelines and CARB guidance. The BAAQMD has adopted recommended procedures for applying the newest OEHHA guidelines as part of Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants.³⁷ Exposure parameters from the OEHHA guidelines and the recent BAAQMD HRA Guidelines were used in this evaluation.

Cancer Risk

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

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

³⁵ OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.

³⁶ CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.

³⁷ BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

30 years for sources with long-term emissions (e.g., roadways). For workers, assumed to be adults, a 25-year exposure period is recommended by the BAAQMD.

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

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

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

Where:

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

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

Where:

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

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

Parameter	Exposure Type →	Infant		Child		Adult
	Age Range →	3 rd Trimester	0<2	2 < 9	2 < 16	16 - 30
DPM Cancer Potency Factor (mg/kg-day) ⁻¹		1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
Daily Breathing Rate (L/kg-day) 80 th Percentile Rate		273	758	631	572	261
Daily Breathing Rate (L/kg-day) 95 th Percentile Rate		361	1,090	861	745	335
Inhalation Absorption Factor		1	1	1	1	1
Averaging Time (years)		70	70	70	70	70
Exposure Duration (years)		0.25	2	14	14	14
Exposure Frequency (days/year)		350	350	350	350	350
Age Sensitivity Factor		10	10	3	3	1
Fraction of Time at Home		0.85-1.0	0.85-1.0	0.72-1.0	0.72-1.0	0.73

Non-Cancer Hazards

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

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

Annual PM_{2.5} Concentrations

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

Attachment 2: CalEEMod Modeling Output

Project Name:		100 Altair																			
Project Size		0 Dwelling Units		0.55 total project acres disturbed																	
		0 s.f. residential		0 s.f. retail																	
		134,324 s.f. office/commercial		0 s.f. other, specify:																	
		0 s.f. other, specify:																			
		78,299 s.f. parking garage		308 spaces																	
		0 s.f. parking lot		0 spaces																	
Construction Hours		6:00 am to		3:00 pm																	
Qty	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	HP hours	Relative Contribution	Comments												
	Demolition	Start Date:	10/1/2019	Total phase:	43				Overall Import/Export Volumes												
		End Date:	12/1/2019						Demolition Volume												
2	Concrete/Industrial Saws	81	0.73	4	10	0.93	4,730	1%	Square footage of buildings to be demolished												
1	Excavators	162	0.38	6	25	3.49	9,234	1%	(or total tons to be hauled)												
1	Rubber-Tired Dozers	255	0.4	0	0	0.00	-		25,370 square feet or												
2	Tractors/Loaders/Backhoes	97	0.37	6	35	4.88	15,074	2%	2 Hauling volume (tons)												
	Site Preparation	Start Date:	12/1/2019	Total phase:	10				Any pavement demolished and hauled? NA <u>tons</u>												
		End Date:	12/15/2019						Soil Hauling Volume												
1	Graders	174	0.41	8	8	6.40	4,566	1%	Export volume = 1,575 cubic yards												
1	Rubber Tired Dozers	255	0.4	4	4	1.60	1,632	0%	Import volume = NA cubic yards												
2	Tractors/Loaders/Backhoes	97	0.37	4	4	1.60	1,148	0%													
	Grading / Excavation	Start Date:	12/16/2019	Total phase:	40				Soil Hauling Volume												
		End Date:	2/16/2020						Export volume = 37,019 cubic yards												
0	Scrapers	361	0.48	0	0	0.00	-		Import volume = NA cubic yards												
1	Excavators	162	0.38	8	40	8.00	19,699	2%													
0	Graders	174	0.41	0	0	0.00	-														
0	Rubber Tired Dozers	255	0.4	0	0	0.00	-														
2	Tractors/Loaders/Backhoes	97	0.37	8	40	8.00	22,970	3%													
	Other Equipment?																				
	Trenching	Start Date:	12/16/2019	Total phase:	108																
		End Date:	4/16/2020																		
2	Tractor/Loader/Backhoe	97	0.37	6	20	1.11	8,614	1%													
0	Excavators	162	0.38	0	0	0.00	-														
	Other Equipment?																				
	Building - Exterior	Start Date:	2/16/2020	Total phase:	463				Cement Trucks? 975 Total Round-Trips												
		End Date:	12/1/2021						Electric? (Y/N) <u>N</u> Otherwise assumed diesel												
1	Cranes	226	0.29	8	420	7.26	220,214	25%	Liquid Propane (LPG)? (Y/N) <u>N</u> Otherwise Assumed diesel												
1	Forklifts	89	0.2	2	400	1.73	14,240	2%	Or temporary line power? (Y/N) <u>N</u>												
1	Generator Sets	84	0.74	8	463	8.00	230,241	26%													
2	Tractors/Loaders/Backhoes	97	0.37	6	300	3.89	129,204	15%	otherwise, assume diesel generator												
6	Welders	46	0.45	8	120	2.07	119,232	14%													
	Other Equipment?					0.00	-														
	Building - Interior/Architectural Coating	Start Date:	1/1/2021	Total phase:	260																
		End Date:	12/1/2021																		
2	Air Compressors	78	0.48	8	129	3.97	77,276	9%													
0	Aerial Lift	62	0.31	0	0	0.00	-														
	Other Equipment?																				
	Paving	Start Date:	9/1/2021	Total phase:	17																
		End Date:	10/1/2021						Asphalt? 296 cubic yards or <u> </u> round trips?												
0	Cement and Mortar Mixers	9	0.56	0	0	0.00	-														
0	Pavers	125	0.42	0	0	0.00	-														
1	Paving Equipment	130	0.36	8	2	0.06	749	0%													
1	Rollers	80	0.38	8	2	0.06	486	0%													
2	Tractors/Loaders/Backhoes	97	0.37	0	0	0.00	-														
	Other Equipment?																				
Equipment listed in this sheet is to provide an example of inputs It is assumed that water trucks would be used during grading				Add or subtract phases and equipment, as appropriate Modify horsepower or load factor, as appropriate																	

Complete ALL Portions in Yellow

Typical Equipment Type & Load Factors

OFFROAD Equipment Type	HP	Load Factor
Aerial Lifts	62	0.31
Air Compressors	78	0.48
Bore/Drill Rigs	205	0.5
Cement and Mortar Mixers	9	0.56
Concrete/Industrial Saws	81	0.73
Cranes	226	0.29
Crawler Tractors	208	0.43
Crushing/Proc. Equipment	85	0.78
Dumpers/Tenders	16	0.38
Excavators	162	0.38
Forklifts	89	0.2
Generator Sets	84	0.74
Graders	174	0.41
Off-Highway Tractors	122	0.44
Off-Highway Trucks	400	0.38
Other Construction Equipment	171	0.42
Other General Industrial Equipment	150	0.34
Other Material Handling Equipment	167	0.4
Pavers	125	0.42
Paving Equipment	130	0.36
Plate Compactors	8	0.43
Pressure Washers	13	0.2
Pumps	84	0.74
Rollers	80	0.38
Rough Terrain Forklifts	100	0.4
Rubber Tired Dozers	255	0.4
Rubber Tired Loaders	199	0.36
Scrapers	361	0.48
Signal Boards	6	0.82
Skid Steer Loaders	64	0.37
Surfacing Equipment	253	0.3
Sweepers/Scrubbers	64	0.46
Tractors/Loaders/Backhoes	97	0.37
Trenchers	80	0.5
Welders	46	0.45

Project Name:	STC CityLine - Block 1 (Building B)	300 Mathilda																		
Project Size	0 Dwelling Units	2.0 total project acres disturbed																		
	0 s.f. residential	7,131 s.f. retail																		
Includes BOH-->	153,000 s.f. office/commercial	9,396 s.f. other, specify:																		
	N/A s.f. other, specify:																			
	87,668 s.f. parking garage	294 spaces																		
	N/A s.f. parking lot	15 spaces																		
Construction Hours	7:00 am to	4:00 pm																		

Complete ALL Portions in Yellow

Qty	Description	HP	Load Factor	Hours/day	Total Work Days	HP hours	Relative Contribution	Avg. Hours per day	Comments	Typical Equipment Type & Load Factors		
										OFFROAD Equipment Type	HP	Load Factor
	Demolition	Start Date:	10/7/2019	Total phase:	15				Overall Import/Export Volumes			
		End Date:	10/25/2019									
1	Concrete/Industrial Saws	81	0.73	2	15	1,774	1%	2	Demolition Volume	Aerial Lifts	62	0.31
1	Excavators	162	0.38	4	15	3,694	1%	4	Square footage of buildings to be demolished	Air Compressors	78	0.48
1	Rubber-Tired Dozers	255	0.4	1	15	1,530	0%	1	(or total tons to be hauled)	Bore/Drill Rigs	205	0.5
2	Tractors/Loaders/Backhoes	97	0.37	3	15	1,615	0%	3	0 square feet or	Cement and Mortar Mixers	9	0.56
									0 Hauling volume (tons)	Concrete/Industrial Saws	81	0.73
	Site Preparation	Start Date:	10/28/2019	Total phase:	15				Any pavement demolished and hauled? Y, 348 tons	Cranes	226	0.29
		End Date:	11/15/2019						Soil Hauling Volume	Crawler Tractors	208	0.43
1	Graders	174	0.41	8	15	8,561	3%	8		Crushing/Proc. Equipment	85	0.78
1	Rubber Tired Dozers	255	0.4	3	15	4,590	1%	3	Export volume = 0 cubic yards	Dumpers/Tenders	16	0.38
1	Tractors/Loaders/Backhoes	97	0.37	4	15	2,153	1%	4	Import volume = 0 cubic yards	Excavators	162	0.38
										Forklifts	89	0.2
	Grading / Excavation	Start Date:	11/18/2019	Total phase:	100				Soil Hauling Volume	Generator Sets	84	0.74
		End Date:	4/10/2020							Graders	174	0.41
2	Scrapers	361	0.48	2	80	27,725	8%	1.6		Off-Highway Tractors	122	0.44
2	Excavators	162	0.38	2	100	12,312	4%	2	Export volume = 42,607 cubic yards	Off-Highway Trucks	400	0.38
2	Graders	174	0.41	4	20	5,707	2%	0.8	Import volume = 0 cubic yards	Other Construction Equipment	171	0.42
1	Rubber Tired Dozers	255	0.4	2	80	16,320	5%	1.6		Other General Industrial Equipment	150	0.34
1	Tractors/Loaders/Backhoes	97	0.37	4	100	14,356	4%	4		Other Material Handling Equipment	167	0.4
1	Sweepers/Scrubbers	64	0.46	2	100	5,888	2%	2		Pavers	125	0.42
										Paving Equipment	130	0.36
	Trenching	Start Date:	4/13/2020	Total phase:	30					Plate Compactors	8	0.43
		End Date:	5/22/2020							Pressure Washers	13	0.2
2	Tractor/Loader/Backhoe	97	0.37	2	30	2,153	1%	2		Pumps	84	0.74
2	Excavators	162	0.38	4	30	7,387	2%	4		Rollers	80	0.38
	<i>Other Equipment?</i>									Rough Terrain Forklifts	100	0.4
										Rubber Tired Dozers	255	0.4
	Building - Exterior	Start Date:	5/25/2020	Total phase:	170				Cement Trucks? Y, 55 Total Round-Trips	Rubber Tired Loaders	199	0.36
		End Date:	1/31/2021							Scrapers	361	0.48
1	Cranes	226	0.29	8	170	89,134	27%	8	Electric? (Y/N) N, Otherwise assumed diesel	Signal Boards	6	0.82
2	Forklifts	89	0.2	3	170	9,078	3%	3	Liquid Propane (LPG)? (Y/N) N, Otherwise Assumed diesel	Skid Steer Loaders	64	0.37
0	Generator Sets	84	0.74	0	0	-	0%	0	Or temporary line power? (Y/N) Y	Surfacing Equipment	253	0.3
2	Tractors/Loaders/Backhoes	97	0.37	3	170	18,304	5%	3	otherwise, assume diesel generator	Sweepers/Scrubbers	64	0.46
4	Welders	46	0.45	8	110	18,216	5%	5.1764706		Tractors/Loaders/Backhoes	97	0.37
1	Concrete Pumps	171	0.42	4	80	22,982	7%	1.8823529		Trenchers	80	0.5
										Welders	46	0.45
	Building - Interior/Architectural Coating	Start Date:	2/3/2021	Total phase:	100							
		End Date:	6/30/2021									
4	Air Compressors	78	0.48	4	100	14,976	4%	4				
2	Aerial Lift	62	0.31	6	100	11,532	3%	6				
	<i>Other Equipment?</i>											
	Paving	Start Date:	5/25/2020	Total phase:	40							
		End Date:	7/21/2020									
1	Cement and Mortar Mixers	9	0.56	6	10	302	0%	1.5	Asphalt 178 cubic yards or _____ round trips?			
2	Pavers	125	0.42	6	40	12,600	4%	6				
2	Paving Equipment	130	0.36	6	40	11,232	3%	6				
2	Rollers	80	0.38	4	40	4,864	1%	4				
1	Tractors/Loaders/Backhoes	97	0.37	3	40	4,307	1%	3				
	<i>Other Equipment?</i>											

Equipment listed in this sheet is to provide an example of inputs
It is assumed that water trucks would be used during grading

Add or subtract phases and equipment, as appropriate
Modify horsepower or load factor, as appropriate

Project Name:	STC CityLine - Block 3 (3A and 3B)	Macy's & Redwood Square
Project Size	467 Dwelling Units	7.6 total project acres disturbed
Includes BOH-->	557,404 s.f. residential	122,149 s.f. retail
Includes Flex & BOH-->	499,775 s.f. office/commercial	25420 s.f. other, specify:
	N/A s.f. other, specify:	
	511,197 s.f. parking garage	1,336 spaces
	N/A s.f. parking lot	N/A spaces
Construction Hours	7:00 am to	4:00 pm

Complete ALL Portions in Yellow

Qty	Description	HP	Load Factor	Hours/day	Total Work Days	HP hours	Relative Contribution	Avg. Hours per day	Comments	Typical Equipment Type & Load Factors			
										OFFROAD Equipment Type	HP	Load Factor	
Demolition		Start Date:	10/7/2019	Total phase:	90					Overall Import/Export Volumes			
		End Date:	2/7/2020										
3	Concrete/Industrial Saws	81	0.73	4	45	31,930	1%	2	Demolition Volume	Aerial Lifts	62	0.31	
4	Excavators	162	0.38	4	90	88,646	3%	4		Air Compressors	78	0.48	
4	Rubber-Tired Dozers	255	0.4	2	90	73,440	2%	2	Square footage of buildings to be demolished (or total tons to be hauled)	Bore/Drill Rigs	205	0.5	
2	Tractors/Loaders/Backhoes	97	0.37	4	90	25,841	1%	4	175,000 square feet or -2- Hauling volume (tons)	Cement and Mortar Mixers	9	0.56	
Site Preperation		Start Date:	2/10/2020	Total phase:	20					Any pavement demolished and hauled? Y_615 tons	Concrete/Industrial Saws	81	0.73
		End Date:	3/6/2020										
2	Graders	174	0.41	8	20	22,829	1%	8	Soil Hauling Volume	Cranes	226	0.29	
1	Rubber Tired Dozers	255	0.4	6	20	12,240	0%	6		Crushing/Proc. Equipment	85	0.78	
1	Tractors/Loaders/Backhoes	97	0.37	6	20	4,307	0%	6	Export volume = 0 cubic yards	Dumpers/Tenders	16	0.38	
Grading / Excavation		Start Date:	3/9/2020	Total phase:	220					Import volume = 0 cubic yards	Excavators	162	0.38
		End Date:	1/8/2021										
4	Scrapers	361	0.48	4	200	554,496	18%	3.6363636	Soil Hauling Volume	Forklifts	89	0.2	
6	Excavators	162	0.38	6	220	487,555	16%	6		Off-Highway Tractors	122	0.44	
2	Graders	174	0.41	8	40	45,658	1%	1.4545455	Export volume = 273,022 cubic yards	Off-Highway Trucks	400	0.38	
2	Rubber Tired Dozers	255	0.4	4	200	163,200	5%	3.6363636	Import volume = 0 cubic yards	Other Construction Equipment	171	0.42	
2	Tractors/Loaders/Backhoes	97	0.37	4	220	63,166	2%	4		Other General Industrial Equipment	150	0.34	
1	Sweepers/Scrubbers	64	0.46	3	100	8,832	0%			Other Material Handling Equipment	167	0.4	
Trenching		Start Date:	1/11/2021	Total phase:	30						Pavers	125	0.42
		End Date:	2/19/2021										
2	Tractor/Loader/Backhoe	97	0.37	2	30	4,307	0%	2	Cement Trucks? Y, 230 Total Round-Trips	Paving Equipment	130	0.36	
2	Excavators	162	0.38	4	30	14,774	0%	4		Electric? (Y/N) N, Otherwise assumed diesel	Plate Compactors	8	0.43
Building - Exterior		Start Date:	2/22/2021	Total phase:	400					Liquid Propane (LPG)? (Y/N) N, Otherwise Assumed diesel	Pressure Washers	13	0.2
		End Date:	9/2/2022										
3	Cranes	226	0.29	8	240	377,510	12%	4.8	Or temporary line power? (Y/N) Y otherwise, assume diesel generator	Pumps	84	0.74	
4	Forklifts	89	0.2	4	400	113,920	4%	4		Rough Terrain Forklifts	100	0.4	
3	Generator Sets	84	0.74	8	180	268,531	9%	3.6		Rubber Tired Dozers	255	0.4	
4	Tractors/Loaders/Backhoes	97	0.37	4	400	229,696	7%	4		Rubber Tired Loaders	199	0.36	
4	Welders	46	0.45	8	260	172,224	5%	5.2		Scrapers	361	0.48	
2	Concrete Pumps	171	0.42	6	180	155,131	5%	2.7		Signal Boards	6	0.82	
Building - Interior/Architectural Coating		Start Date:	9/5/2022	Total phase:	165						Skid Steer Loaders	64	0.37
		End Date:	4/21/2023										
4	Air Compressors	78	0.48	4	165	98,842	3%	4		Surfacing Equipment	253	0.3	
4	Aerial Lift	62	0.31	6	165	76,111	2%	6		Sweepers/Scrubbers	64	0.46	
Paving		Start Date:	2/22/2021	Total phase:	40					Asphalt 160 cubic yards or _____ round-trips?	Tractors/Loaders/Backhoes	97	0.37
		End Date:	4/16/2021										
1	Cement and Mortar Mixers	9	0.56	6	10	302	0%	1.5			Trenchers	80	0.5
2	Pavers	125	0.42	4	40	16,800	1%	4			Welders	46	0.45
2	Paving Equipment	130	0.36	4	40	14,976	0%	4					
2	Rollers	80	0.38	4	40	9,728	0%	4					
1	Tractors/Loaders/Backhoes	97	0.37	3	40	4,307	0%	3					

Equipment listed in this sheet is to provide an example of inputs
It is assumed that water trucks would be used during grading

Add or subtract phases and equipment, as appropriate
Modify horsepower or load factor, as appropriate

Project Name:		STC CityLine - Block 6, Alternate #1																																																																																																																								
Project Size		325 Dwelling Units					4.4 total project acres disturbed																																																																																																																			
Includes BOH-->		422,850 s.f. residential					36,000 s.f. retail																																																																																																																			
		N/A s.f. office/commercial					N/A s.f. other, specify:																																																																																																																			
		N/A s.f. other, specify:					Complete ALL Portions in Yellow																																																																																																																			
		348,000 s.f. parking garage										950 spaces																																																																																																														
		N/A s.f. parking lot					N/A spaces																																																																																																																			
Construction Hours		7:00 am to					4:00 pm																																																																																																																			
Qty	Description	HP	Load Factor	Hours/day	Total Work Days	HP hours	Relative Contribution	Avg. Hours per day	Comments																																																																																																																	
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">Typical Equipment Type & Load Factors</th> </tr> <tr> <th>OFFROAD Equipment Type</th> <th>HP</th> <th>Load Factor</th> </tr> </thead> <tbody> <tr><td>Aerial Lifts</td><td>62</td><td>0.31</td></tr> <tr><td>Air Compressors</td><td>78</td><td>0.48</td></tr> <tr><td>Bore/Drill Rigs</td><td>205</td><td>0.5</td></tr> <tr><td>Cement and Mortar Mixers</td><td>9</td><td>0.56</td></tr> <tr><td>Concrete/Industrial Saws</td><td>81</td><td>0.73</td></tr> <tr><td>Cranes</td><td>226</td><td>0.29</td></tr> <tr><td>Crawler Tractors</td><td>208</td><td>0.43</td></tr> <tr><td>Crushing/Proc. Equipment</td><td>85</td><td>0.78</td></tr> <tr><td>Dumpers/Tenders</td><td>16</td><td>0.38</td></tr> <tr><td>Excavators</td><td>162</td><td>0.38</td></tr> <tr><td>Forklifts</td><td>89</td><td>0.2</td></tr> <tr><td>Generator Sets</td><td>84</td><td>0.74</td></tr> <tr><td>Graders</td><td>174</td><td>0.41</td></tr> <tr><td>Off-Highway Tractors</td><td>122</td><td>0.44</td></tr> <tr><td>Off-Highway Trucks</td><td>400</td><td>0.38</td></tr> <tr><td>Other Construction Equipment</td><td>171</td><td>0.42</td></tr> <tr><td>Other General Industrial Equipment</td><td>150</td><td>0.34</td></tr> <tr><td>Other Material Handling Equipment</td><td>167</td><td>0.4</td></tr> <tr><td>Pavers</td><td>125</td><td>0.42</td></tr> <tr><td>Paving Equipment</td><td>130</td><td>0.36</td></tr> <tr><td>Plate Compactors</td><td>8</td><td>0.43</td></tr> <tr><td>Pressure Washers</td><td>13</td><td>0.2</td></tr> <tr><td>Pumps</td><td>84</td><td>0.74</td></tr> <tr><td>Rollers</td><td>80</td><td>0.38</td></tr> <tr><td>Rough Terrain Forklifts</td><td>100</td><td>0.4</td></tr> <tr><td>Rubber Tired Dozers</td><td>255</td><td>0.4</td></tr> <tr><td>Rubber Tired Loaders</td><td>199</td><td>0.36</td></tr> <tr><td>Scrapers</td><td>361</td><td>0.48</td></tr> <tr><td>Signal Boards</td><td>6</td><td>0.82</td></tr> <tr><td>Skid Steer Loaders</td><td>64</td><td>0.37</td></tr> <tr><td>Surfacing Equipment</td><td>253</td><td>0.3</td></tr> <tr><td>Sweepers/Scrubbers</td><td>64</td><td>0.46</td></tr> <tr><td>Tractors/Loaders/Backhoes</td><td>97</td><td>0.37</td></tr> <tr><td>Trenchers</td><td>80</td><td>0.5</td></tr> <tr><td>Welders</td><td>46</td><td>0.45</td></tr> </tbody> </table>												Typical Equipment Type & Load Factors			OFFROAD Equipment Type	HP	Load Factor	Aerial Lifts	62	0.31	Air Compressors	78	0.48	Bore/Drill Rigs	205	0.5	Cement and Mortar Mixers	9	0.56	Concrete/Industrial Saws	81	0.73	Cranes	226	0.29	Crawler Tractors	208	0.43	Crushing/Proc. Equipment	85	0.78	Dumpers/Tenders	16	0.38	Excavators	162	0.38	Forklifts	89	0.2	Generator Sets	84	0.74	Graders	174	0.41	Off-Highway Tractors	122	0.44	Off-Highway Trucks	400	0.38	Other Construction Equipment	171	0.42	Other General Industrial Equipment	150	0.34	Other Material Handling Equipment	167	0.4	Pavers	125	0.42	Paving Equipment	130	0.36	Plate Compactors	8	0.43	Pressure Washers	13	0.2	Pumps	84	0.74	Rollers	80	0.38	Rough Terrain Forklifts	100	0.4	Rubber Tired Dozers	255	0.4	Rubber Tired Loaders	199	0.36	Scrapers	361	0.48	Signal Boards	6	0.82	Skid Steer Loaders	64	0.37	Surfacing Equipment	253	0.3	Sweepers/Scrubbers	64	0.46	Tractors/Loaders/Backhoes	97	0.37	Trenchers	80	0.5	Welders	46	0.45
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Trenchers	80	0.5																																																																																																																								
Welders	46	0.45																																																																																																																								
Demolition		Start Date: 1/20/2020		Total phase:		15		Overall Import/Export Volumes																																																																																																																		
		End Date: 2/7/2020						Demolition Volume																																																																																																																		
2	Concrete/Industrial Saws	81	0.73	2	15	3,548	0%	2	Square footage of buildings to be demolished																																																																																																																	
2	Excavators	162	0.38	5	15	9,234	1%	5	(or total tons to be hauled)																																																																																																																	
2	Rubber-Tired Dozers	255	0.4	1	15	3,060	0%	1	0 square feet or																																																																																																																	
2	Tractors/Loaders/Backhoes	97	0.37	4	15	4,307	0%	4	0 Hauling volume (tons)																																																																																																																	
Site Preparation		Start Date: 2/10/2020		Total phase:		10		Any pavement demolished and hauled? Y 2,960 tons																																																																																																																		
		End Date: 2/21/2020						Soil Hauling Volume																																																																																																																		
2	Graders	174	0.41	8	10	11,414	1%	8	Export volume = 0 cubic yards																																																																																																																	
1	Rubber Tired Dozers	255	0.4	3	10	3,060	0%	3	Import volume = 0 cubic yards																																																																																																																	
2	Tractors/Loaders/Backhoes	97	0.37	4	10	2,871	0%	4																																																																																																																		
Grading / Excavation		Start Date: 2/24/2020		Total phase:		180		Soil Hauling Volume																																																																																																																		
		End Date: 10/30/2020						Export volume = 36,400 cubic yards																																																																																																																		
4	Scrapers	361	0.48	2	160	221,798	14%	1.7777778	Import volume = 0 cubic yards																																																																																																																	
4	Excavators	162	0.38	2	180	88,646	6%	2																																																																																																																		
2	Graders	174	0.41	4	20	11,414	1%	0.4444444																																																																																																																		
1	Rubber Tired Dozers	255	0.4	2	160	32,640	2%	1.7777778																																																																																																																		
2	Tractors/Loaders/Backhoes	97	0.37	4	180	51,682	3%	4																																																																																																																		
1	Sweepers/Scrubbers	64	0.46	2	100	5,888	0%																																																																																																																			
Trenching		Start Date: 11/2/2020		Total phase:		30		Cement Trucks? Y, 140 Total Round-Trips																																																																																																																		
		End Date: 12/18/2020						Electric? (Y/N) N, Otherwise assumed diesel																																																																																																																		
2	Tractor/Loader/Backhoe	97	0.37	2	30	4,307	0%	2	Liquid Propane (LPG)? (Y/N) N, Otherwise Assumed diesel																																																																																																																	
2	Excavators	162	0.38	4	30	14,774	1%	4	Or temporary line power? (Y/N) Y																																																																																																																	
Other Equipment?								otherwise, assume diesel generator																																																																																																																		
Building - Exterior		Start Date: 12/21/2020		Total phase:		360																																																																																																																				
		End Date: 7/1/2022																																																																																																																								
2	Cranes	226	0.29	8	200	209,728	14%	4.4444444																																																																																																																		
4	Forklifts	89	0.2	4	360	102,528	7%	4																																																																																																																		
3	Generator Sets	84	0.74	8	140	208,858	13%	3.1111111																																																																																																																		
4	Tractors/Loaders/Backhoes	97	0.37	4	360	206,726	13%	4																																																																																																																		
4	Welders	46	0.45	8	220	145,728	9%	4.8888889																																																																																																																		
2	Concrete Pumps	171	0.42	4	70	40,219	3%	0.7777778																																																																																																																		
Building - Interior/Architectural Coating		Start Date: 7/4/2022		Total phase:		145																																																																																																																				
		End Date: 2/17/2023																																																																																																																								
4	Air Compressors	78	0.48	4	145	86,861	6%	4																																																																																																																		
4	Aerial Lift	62	0.31	6	145	66,886	4%	6																																																																																																																		
Other Equipment?																																																																																																																										
Paving		Start Date: 12/21/2020		Total phase:		20		Asphalt 90 cubic yards or _____ round-trips?																																																																																																																		
		End Date: 1/15/2021																																																																																																																								
1	Cement and Mortar Mixers	9	0.56	6	10	302	0%					3																																																																																																														
1	Pavers	125	0.42	6	20	6,300	0%					6																																																																																																														
1	Paving Equipment	130	0.36	6	20	5,616	0%					6																																																																																																														
1	Rollers	80	0.38	4	20	2,432	0%					4																																																																																																														
1	Tractors/Loaders/Backhoes	97	0.37	3	20	2,153	0%	3																																																																																																																		
Other Equipment?																																																																																																																										
Equipment listed in this sheet is to provide an example of inputs It is assumed that water trucks would be used during grading				Add or subtract phases and equipment, as appropriate Modify horsepower or load factor, as appropriate																																																																																																																						

Typical Equipment Type & Load Factors		
OFFROAD Equipment Type	Horsepower	Load Factor
Aerial Lifts	62	0.31
Air Compressors	78	0.48
Bore/Drill Rigs	205	0.5
Cement and Mortar Mixers	9	0.56
Concrete/Industrial Saws	81	0.73
Cranes	226	0.29
Crawler Tractors	208	0.43
Crushing/Proc. Equipment	85	0.78
Dumpers/Tenders	16	0.38
Excavators	162	0.38
Forklifts	89	0.2
Generator Sets	84	0.74
Graders	174	0.41
Off-Highway Tractors	122	0.44
Off-Highway Trucks	400	0.38
Other Construction Equipment	171	0.42
Other General Industrial Equipment	150	0.34
Other Material Handling Equipment	167	0.4
Pavers	125	0.42
Paving Equipment	130	0.36
Plate Compactors	8	0.43
Pressure Washers	13	0.2
Pumps	84	0.74
Rollers	80	0.38
Rough Terrain Forklifts	100	0.4
Rubber Tired Dozers	255	0.4
Rubber Tired Loaders	199	0.36
Scrapers	361	0.48
Signal Boards	6	0.82
Skid Steer Loaders	64	0.37
Surfacing Equipment	253	0.3
Sweepers/Scrubbers	64	0.46
Tractors/Loaders/Backhoes	97	0.37
Trenchers	80	0.5
Welders	46	0.45

Uncontrolled Emissions (tons/year)

Year	Scenario	ROG	NOx	Controlled		Total	
				Nox	Total PM10	PM2.5	
2019	100 Altair Way Const	0.032	0.496	0.258	0.077	0.029	
	300 Mathilda Ave Const	0.041	0.638	0.332	0.198	0.060	
	Macy's and Redwood Square Const	0.074	0.783	0.407	0.106	0.046	
	Existing	2.632	6.361		3.746	1.041	
2020	100 Altair Way Const	0.239	2.522	1.311	0.230	0.119	
	300 Mathilda Ave Const	0.257	2.688	1.398	0.371	0.160	
	Macy's and Redwood Square Const	0.679	10.690	5.559	1.322	0.725	
	Sub-block 6 Const	0.256	3.526	1.833	0.720	0.247	
	Murphy Sqaure Const	0.091	2.036	1.058	0.196	0.071	
	Existing	2.482	5.885		3.738	1.033	
2021	100 Altair Way Const	0.948	2.027	1.054	0.203	0.109	
	300 Mathilda Ave Const	0.952	0.348	0.181	0.032	0.021	
	Macy's and Redwood Square Const	0.725	6.395	3.325	1.296	0.468	
	Sub-block 6 Const	0.503	3.973	2.066	0.631	0.265	
	Murphy Sqaure Const	0.402	0.250	0.130	0.038	0.014	
	Existing	2.357	5.487		3.731	1.027	
2022	100 Altair Way Op	0.837	1.050		0.834	0.235	
	300 Mathilda Ave Op	1.187	1.616		1.269	0.356	
	Macy's and Redwood Square Const	4.354	4.498	2.339	0.837	0.308	
	Sub-block 6 Const	3.120	1.641	0.853	0.270	0.113	
	Murphy Sqaure Op	0.453	0.593		0.432	0.124	
	Existing	2.253	5.201		3.729	1.025	
2023	100 Altair Way Op	0.819	0.879		0.833	0.234	
	300 Mathilda Ave Op	1.158	1.349		1.267	0.354	
	Macy's and Redwood Square Const	3.632	0.213	0.111	0.057	0.022	
	Sub-block 6 Const	0.341	0.039	0.020	0.006	0.003	
	Murphy Sqaure Op	0.444	0.505		0.431	0.012	
	Existing	2.146	4.314		3.725	1.021	

Total Construction Emissions (Tons/Year)	16.6	42.8	22.2	6.6	2.8	# of Workdays
Average Daily Emissions (lbs/day)	40.2	103.2	53.6	15.9	6.7	829
Total Operational Emissions (Tons/Year)	4.9	6.0	6.0	5.1	1.3	# of Operational Days
Average Daily Emissions (lbs/day)	6	8	7.7	7	2	1552
Total Existing Emissions (Tons/Year)	11.9	27.2	27.2	18.7	5.1	
Average Daily Emissions (lbs/day)	15.3	35.1	35.1	24.1	6.6	
Total Construction + Operational Emissions (tons/year)	21.5	48.8	28.2	11.7	4.1	
Total Construction + Operational Emissions (lbs/day)	46.5	110.9	61.4	22.4	8.4	
Existing Operational Emissions (lbs/day)	15.3	35.1	35.1	24.1	6.6	
Total Net Emissions (lbs/day)	31.2	75.8	26.3	-1.6	1.8	
BAAQMD Thresholds	54	54		82	54	

Mitigated (Tier 4 Final + NOX Reduction + 100 Hour Limit)

Year	Scenario	ROG	NOx	PM10	PM2.5
2019	100 Altair Way Const	0.01	0.15	0.05	0.01
	300 Mathilda Ave Const	0.01	0.14	0.11	0.02
	Macy's and Redwood Square Const	0.01	0.13	0.04	0.01
	Existing	2.63	6.36	3.75	1.04
2020	100 Altair Way Const	0.08	0.98	0.15	0.05
	300 Mathilda Ave Const	0.09	0.96	0.21	0.05
	Macy's and Redwood Square Const	0.24	5.00	0.67	0.20
	Sub-block 6 Const	0.09	0.80	0.35	0.07
	Murphy Sqaure Const	0.07	0.86	0.16	0.05
	Existing	2.48	5.89	3.74	1.03
2021	100 Altair Way Const	0.78	0.75	0.13	0.04
	300 Mathilda Ave Const	0.92	0.14	0.02	0.01
	Macy's and Redwood Square Const	0.42	3.55	1.12	0.31
	Sub-block 6 Const	0.25	1.94	0.50	0.14
	Murphy Sqaure Const	0.39	0.15	0.03	0.01
	Existing	2.36	5.49	3.73	1.03
2022	100 Altair Way Op	0.84	1.05	0.83	0.24
	300 Mathilda Ave Op	1.19	1.62	1.27	0.36
	Macy's and Redwood Square Const	4.16	2.80	0.74	0.22
	Sub-block 6 Const	3.01	0.86	0.22	0.06
	Murphy Sqaure Op	0.45	0.59	0.43	0.12
	Existing	2.25	5.20	3.73	1.02
2023	100 Altair Way Op	0.82	0.88	0.83	0.23
	300 Mathilda Ave Op	1.16	1.35	1.27	0.35
	Macy's and Redwood Square Const	3.63	0.21	0.06	0.02
	Sub-block 6 Const	0.34	0.02	0.00	0.00
	Murphy Sqaure Op	0.44	0.50	0.43	0.01
	Existing	2.15	4.31	3.72	1.02

Total Construction Emissions (Tons/Year)	14.5	19.5	4.6	1.3	# of Workdays
Average Daily Emissions (lbs/day)	35.0	46.9	11.0	3.0	829
Total Operational Emissions (Tons/Year)	4.9	6.0	5.1	1.3	# of Operational Days
Average Daily Emissions (lbs/day)	6	8	7	2	1552
Total Existing Emissions (Tons/Year)	11.9	27.2	18.7	5.1	
Average Daily Emissions (lbs/day)	15.3	35.1	24.1	6.6	
Total Construction + Operational Emissions (tons/year)	19.4	25.4	9.6	2.6	
Total Construction + Operational Emissions (lbs/day)	41.3	54.7	17.5	4.7	
Existing Operational Emissions	15.3	35.1	24.1	6.6	
Total Net Emissions (lbs/day)	26.0	19.5	-6.5	-1.9	
BAAQMD Thresholds	54	54	82	54	

Construction Criteria Air Pollutants - Unmitigated					
Unmitigated	ROG	NOX	PM10 Total	PM2.5 Total	
Year	Tons				
2019	0.15	1.93	0.39	0.14	
2020	1.54	21.49	3.30	1.38	
2021	3.58	12.81	2.58	0.91	
2022	7.63	5.99	1.06	0.41	
2023	3.60	0.25	0.06	0.02	
Total Construction Emissions					
Tons	16.5	42.5	7.4	2.9	
Average Daily Emissions					
Pounds/Workdays	39.8	102.5	17.8	6.9	829

Operational Criteria Air Pollutants					
Unmitigated	ROG	NOX	Total PM10	Total PM2.5	
Year	Tons				
Total	11.8	14.2	13.1	3.4	
Existing Use Emissions					
Total	1.9	4.2	3.7	1.0	
Net Annual Operational Emissions					
Tons/year	9.9	10.0	9.4	2.4	
Average Daily Emissions					
Annual Pounds	54	55	51	13	

*TDM plan is necessary for NOx

Construction Criteria Air Pollutants - Mitigated (Tier 4 Interim + NOX Reduction)					
Mitigated	ROG	NOX	PM10 Exahust	PM2.5 Exhaust	
Year	Tons				
2019	0.05	0.72	0.01	0.01	
2020	0.65	13.05	0.08	0.08	
2021	2.91	10.11	0.07	0.06	
2022	7.35	5.18	0.04	0.04	
2023	3.58	0.28	0.01	0.01	
Total Construction Emissions					
Tons/year	14.5	29.3	0.20	0.20	
Average Daily Emissions					
Pounds/Workdays	35.1	70.8	0.49	0.48	829

Construction Criteria Air Pollutants - Mitigated (Tier 4 Final + NOX Reduction)					
Mitigated	ROG	NOX	PM10 Exahust	PM2.5 Exhaust	
Year	Tons				
2019	0.04	0.30	0.01	0.01	
2020	0.59	8.66	0.06	0.06	
2021	2.83	6.41	0.04	0.04	
2022	7.31	3.44	0.02	0.02	
2023	3.58	0.16	0.00	0.00	
Total Construction Emissions					
Tons/year	14.4	19.0	0.12	0.12	
Average Daily Emissions					
Pounds/Workdays	34.6	45.8	0.3	0.3	829

Construction Criteria Air Pollutants - Mitigated (Tier 4 Interim + NOX Reduction + 100 Hour Limit)					
Mitigated	ROG	NOX	PM10 Exahust	PM2.5 Exhaust	
Year	Tons				
2019	0.05	0.72	0.01	0.01	
2020	0.63	12.56	0.08	0.08	
2021	2.81	8.34	0.07	0.07	
2022	7.30	4.23	0.04	0.04	
2023	3.57	0.17	0.01	0.01	
Total Construction Emissions					
Tons/year	14.4	26.0	0.2	0.2	
Average Daily Emissions					
Pounds/Workdays	34.6	62.7	0.5	0.5	829

Construction Criteria Air Pollutants - Mitigated (Tier 4 Final + NOX Reduction + 100 Hour Limit)					
Mitigated	ROG	NOX	PM10 Exahust	PM2.5 Exhaust	
Year	Tons				
2019	0.04	0.30	0.01	0.00	
2020	0.58	8.57	0.06	0.06	
2021	2.77	6.15	0.03	0.03	
2022	7.28	3.30	0.01	0.01	
2023	3.57	0.15	0.00	0.00	
Total Construction Emissions					
Tons/year	14.2	18.5	0.1	0.1	
Average Daily Emissions					
Pounds/Workdays	34.4	44.5	0.3	0.2	829

GHG Emissions

Category	CO2e			
	Project	Existing	Project 2030	Existing 2030
Area	44	1	44	1
Energy	1,506	102	1,506	102
Mobile	12,087	3,546	10,364	3,045
Waste	735	104	735	104
Water	335	46	335	46
TOTAL	14,707	3,799	12,984	3,298
Net GHG Emissions		10,908		9,685
Service Population	5,889			
Per Capita Emissions	2.50		2.20	

AREA	SRC_TYPE	CATEGORY SUBCATEGORY	POLLUTAN	SEASON	CONTROL_TYPE	2008	2010	2030	v1.05_RF1160
SANTA CLARA	AREAWIDE	SOLVENT E CONSUMER PRODUCTS	ROG	ANNUAL AVERAGE	GROWN AND CONTROLLED	11.5533	10.4949	11.2269	v1.05_RF1160
SANTA CLARA	AREAWIDE	SOLVENT E ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	ROG	ANNUAL AVERAGE	GROWN AND CONTROLLED	5.6738	5.7141	5.0678	v1.05_RF1160
SANTA CLARA	AREAWIDE	SOLVENT E PESTICIDES/FERTILIZERS	ROG	ANNUAL AVERAGE	GROWN AND CONTROLLED	0.5318	0.5812	0.3998	v1.05_RF1160
SANTA CLARA	AREAWIDE	SOLVENT E ASPHALT PAVING / ROOFING	ROG	ANNUAL AVERAGE	GROWN AND CONTROLLED	0.3	0.2172	0.3084	v1.05_RF1160
SANTA CLARA	AREAWIDE	MISCELLAN RESIDENTIAL FUEL COMBUSTION	ROG	ANNUAL AVERAGE	GROWN AND CONTROLLED	1.299	0.9297	0.9318	v1.05_RF1160
SANTA CLARA	AREAWIDE	MISCELLAN FARMING OPERATIONS	ROG	ANNUAL AVERAGE	GROWN AND CONTROLLED	0.3546	0.3546	0.3546	v1.05_RF1160
SANTA CLARA	AREAWIDE	MISCELLAN CONSTRUCTION AND DEMOLITION	ROG	ANNUAL AVERAGE	GROWN AND CONTROLLED	0	0	0	v1.05_RF1160
SANTA CLARA	AREAWIDE	MISCELLAN PAVED ROAD DUST	ROG	ANNUAL AVERAGE	GROWN AND CONTROLLED	0	0	0	v1.05_RF1160
SANTA CLARA	AREAWIDE	MISCELLAN UNPAVED ROAD DUST	ROG	ANNUAL AVERAGE	GROWN AND CONTROLLED	0	0	0	v1.05_RF1160
SANTA CLARA	AREAWIDE	MISCELLAN FUGITIVE WINDBLOWN DUST	ROG	ANNUAL AVERAGE	GROWN AND CONTROLLED	0	0	0	v1.05_RF1160
SANTA CLARA	AREAWIDE	MISCELLAN FIRES	ROG	ANNUAL AVERAGE	GROWN AND CONTROLLED	0.0403	0.0411	0.0449	v1.05_RF1160
SANTA CLARA	AREAWIDE	MISCELLAN MANAGED BURNING AND DISPOSAL	ROG	ANNUAL AVERAGE	GROWN AND CONTROLLED	0.0457	0.1443	0.1311	v1.05_RF1160
SANTA CLARA	AREAWIDE	MISCELLAN COOKING	ROG	ANNUAL AVERAGE	GROWN AND CONTROLLED	0.1208	0.1103	0.1561	v1.05_RF1160
SANTA CLARA	AREAWIDE	MISCELLAN OTHER (MISCELLANEOUS PROCESSES)	ROG	ANNUAL AVERAGE	GROWN AND CONTROLLED	0.306	0.3517	0.4181	v1.05_RF1160

		2008	2010	2030	Interpolated 2024
Consumer Products	ROG	11.5533	10.495	11.227	11.0074
	Population	1,790,185	1,790,185	2,223,743	2,093,676
	Rate	0.006454	0.005862523	0.005048695	0.005292843
			0.908398466	0.782295788	82%
				0.861181317	
Architectual Coatings	ROG	5.6738	5.7141	5.0678	5.26169
	Population	1,790,185	1,790,185	2,223,743	2,093,676
	Rate	0.003169	0.003191905	0.00227895	0.002552837
			1.007102824	0.719049459	81%
				0.713978198	
	CalEEMod		0.0000214		
	Adjusted		0.000017548		

EMFAC2017 (v1.0.2) Emission Rates

Region Type: Air Basin
 Region: SAN FRANCISCO BAY AREA
 Calendar Year: 2020
 Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN

Total
Sum Rate
Run Rate
Reduction
Run Reduction

g/mi 4.604430785
g/trip 12.85972885
g/trip 1.767634146
 5.335798935
 92.0886157
 0.66 34%
 0.60 40%

g/mi 2.784275526
g/trip 12.81209487
g/trip 2.295840174
 3.539672278
 55.68551052

Sum (2010+) 3,444,969 278236.6
Sum (all) 4,169,182 361379.5

Region	Calendar Y	Vehicle Cat	Model Year	Speed	Fuel	Population	VMT	Trips	NOx_RUNE	NOx_IDLEX	NOx_STREX
SAN FRANC	2020	HHDT	1976	Aggregatec	DSL	2.354654719	51	7.178904	21.93369	29.73043	0
SAN FRANC	2020	HHDT	1977	Aggregatec	DSL	3.37340288	99	11.29466	23.08754	31.96723	0
SAN FRANC	2020	HHDT	1978	Aggregatec	DSL	5.914933915	128	18.04171	21.88665	29.71626	0
SAN FRANC	2020	HHDT	1979	Aggregatec	DSL	8.196295084	159	26.29521	21.69187	27.94416	0
SAN FRANC	2020	HHDT	1980	Aggregatec	DSL	9.668750394	218	31.85042	22.32171	29.0459	0
SAN FRANC	2020	HHDT	1981	Aggregatec	DSL	39.05027649	850	127.5896	22.17879	28.91403	0
SAN FRANC	2020	HHDT	1982	Aggregatec	DSL	20.96652286	474	65.06612	22.09947	30.24113	0
SAN FRANC	2020	HHDT	1983	Aggregatec	DSL	42.16301532	998	135.0608	22.38229	30.52825	0
SAN FRANC	2020	HHDT	1984	Aggregatec	DSL	26.22412623	678	83.93332	22.55736	30.70432	0
SAN FRANC	2020	HHDT	1985	Aggregatec	DSL	54.53656066	1,212	167.8317	21.94643	29.94086	0
SAN FRANC	2020	HHDT	1986	Aggregatec	DSL	49.56419812	1,145	158.2224	22.18727	29.5898	0
SAN FRANC	2020	HHDT	1987	Aggregatec	DSL	46.67156167	1,051	149.9313	21.9691	44.49088	0
SAN FRANC	2020	HHDT	1988	Aggregatec	DSL	69.7553422	1,707	219.9669	22.20712	46.71542	0
SAN FRANC	2020	HHDT	1989	Aggregatec	DSL	60.2351143	1,581	195.4628	22.47644	46.78388	0
SAN FRANC	2020	HHDT	1990	Aggregatec	DSL	56.46002872	1,427	181.0395	22.27224	46.04187	0
SAN FRANC	2020	HHDT	1991	Aggregatec	DSL	76.93673059	1,903	251.1139	23.78495	52.67156	0
SAN FRANC	2020	HHDT	1992	Aggregatec	DSL	66.70930186	1,550	209.8059	23.9329	51.55772	0
SAN FRANC	2020	HHDT	1993	Aggregatec	DSL	57.57627865	1,428	190.0401	22.69995	50.84483	0
SAN FRANC	2020	HHDT	1994	Aggregatec	DSL	66.97429163	1,732	217.7226	20.16572	56.48331	0
SAN FRANC	2020	HHDT	1995	Aggregatec	DSL	69.28122947	1,888	224.5415	20.29348	57.23339	0
SAN FRANC	2020	HHDT	1996	Aggregatec	DSL	154.3698242	9,116	1107.01	20.29354	44.48368	0
SAN FRANC	2020	HHDT	1997	Aggregatec	DSL	146.3500303	9,124	1131.645	20.27548	41.99556	0
SAN FRANC	2020	HHDT	1998	Aggregatec	DSL	202.063577	12,509	1554.025	20.24593	46.35712	0
SAN FRANC	2020	HHDT	1999	Aggregatec	DSL	287.5850988	19,508	2317.8	24.24088	46.69499	0
SAN FRANC	2020	HHDT	2000	Aggregatec	DSL	466.4618942	36,962	4774.938	24.632	45.44336	0
SAN FRANC	2020	HHDT	2001	Aggregatec	DSL	419.9640841	29,326	3700.685	24.41984	48.43319	0
SAN FRANC	2020	HHDT	2002	Aggregatec	DSL	371.0821514	22,941	2814.433	23.93798	53.62126	0
SAN FRANC	2020	HHDT	2003	Aggregatec	DSL	389.8169092	26,101	3364.078	14.13025	52.28082	0
SAN FRANC	2020	HHDT	2004	Aggregatec	DSL	342.8396935	23,628	3165.716	12.32101	50.19237	0
SAN FRANC	2020	HHDT	2005	Aggregatec	DSL	590.0662719	42,800	5695.688	12.30964	51.81414	0
SAN FRANC	2020	HHDT	2006	Aggregatec	DSL	736.6709791	55,261	6959.728	12.27642	52.8876	0
SAN FRANC	2020	HHDT	2007	Aggregatec	DSL	1052.301821	85,807	10243.33	11.20458	53.54938	0
SAN FRANC	2020	HHDT	2008	Aggregatec	DSL	1743.229274	152,332	15825.5	9.328432	110.5484	0
SAN FRANC	2020	HHDT	2009	Aggregatec	DSL	1864.865297	178,519	17816.34	9.162222	65.89302	0
SAN FRANC	2020	HHDT	2010	Aggregatec	DSL	1596.759971	159,782	14827.38	8.404608	61.95681	0.330581
SAN FRANC	2020	HHDT	2011	Aggregatec	DSL	1673.590677	188,298	17020.81	5.216996	50.63221	1.758314
SAN FRANC	2020	HHDT	2012	Aggregatec	DSL	4546.684794	378,855	47972.7	4.136754	39.48735	2.675951
SAN FRANC	2020	HHDT	2013	Aggregatec	DSL	2368.075226	297,623	26279.11	3.872677	53.43678	2.324703
SAN FRANC	2020	HHDT	2014	Aggregatec	DSL	2443.455189	342,082	28078.11	2.480966	61.51678	2.395581
SAN FRANC	2020	HHDT	2015	Aggregatec	DSL	2873.836025	465,181	35074.92	2.027857	73.0429	2.375919
SAN FRANC	2020	HHDT	2016	Aggregatec	DSL	4038.148479	712,630	49848.87	1.90811	82.19583	2.415515
SAN FRANC	2020	HHDT	2017	Aggregatec	DSL	1597.962718	242,154	16148.86	1.774758	63.77942	2.524995
SAN FRANC	2020	HHDT	2018	Aggregatec	DSL	1242.753664	230,637	14327.28	1.624968	76.15325	2.386703
SAN FRANC	2020	HHDT	2019	Aggregatec	DSL	1253.263795	236,448	14343.69	1.464847	77.27001	2.399565
SAN FRANC	2020	HHDT	2020	Aggregatec	DSL	855.3684662	155,185	9486.537	1.309831	71.00303	2.424763
SAN FRANC	2020	HHDT	2021	Aggregatec	DSL	389.2940549	36,093	4828.295	1.127619	94.31068	2.297327

Run NOx ALL	Idle NOx ALL	Start NOx ALL
	5 trips/day	0
1109.154728	42.68638527	0
2280.555201	72.21182159	0
2793.527378	107.2263978	0
3447.293808	146.9595045	0
4870.408685	185.0248369	0
18846.43763	737.8256708	0
10477.26968	393.5346164	0
22340.89119	824.6336506	0
15301.30858	515.4230582	0
26602.42525	1005.005494	0
25401.39367	936.3537992	0
23087.1915	1334.115133	0
37913.21734	2055.169636	0
35527.27137	1828.901451	0
31787.42808	1667.079229	0
45265.33059	2645.312187	0
37095.24097	2163.423406	0
32408.7348	1932.51113	0
34935.19807	2459.538786	0
38311.95646	2570.254593	0
184992.5264	9848.776125	0
185001.2357	9504.810967	0
253253.3131	14408.02374	0
472900.3532	21645.93138	0
910447.6926	43397.84359	0
716128.1901	35847.19132	0
549155.6607	30182.68171	0
368819.3026	35175.34997	0
291115.9661	31778.95827	0
526852.3817	59023.42819	0
678413.0614	73616.66288	0
961432.3906	109704.7688	0
1421020.219	349896.6027	0
1635634.234	234794.4661	4901.653054
1342902.261	183731.4504	29927.91876
982352.5472	172360.2297	128372.578
1567227.85	378862.9429	128372.578
1152599.053	280854.1888	61091.12018
848694.977	345454.9409	67263.36643
943321.1821	512394.7479	83335.18293
1359776.499	819473.8813	120410.6829
429764.526	205993.0381	40775.80784
374777.1039	218213.8317	34194.96761
346360.149	221667.4975	34418.63499
203266.1938	134714.5761	23002.6034
40699.44562	91071.96411	11092.17179

Run NOx 2010+	Idle NOx 2010+	Start NOx2010+
1342902.261	183731.4504	4901.653054
982352.5472	172360.2297	29927.91876
1567227.85	378862.9429	128372.578
1152599.053	280854.1888	61091.12018
848694.977	345454.9409	67263.36643
943321.1821	512394.7479	83335.18293
1359776.499	819473.8813	120410.6829
429764.526	205993.0381	40775.80784
374777.1039	218213.8317	34194.96761
346360.149	221667.4975	34418.63499
203266.1938	134714.5761	23002.6034
40699.44562	91071.96411	11092.17179

DSP - 100 Altair Way - Santa Clara County, Annual

DSP - 100 Altair Way (AQ)
Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	134.32	1000sqft	0.55	134,324.00	0
Enclosed Parking with Elevator	308.00	Space	0.00	78,299.00	0

1.2 Other Project Characteristics

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

Utility Company Pacific Gas & Electric Company

CO2 Intensity (lb/MW hr) 290 **CH4 Intensity (lb/MW hr)** 0.029 **N2O Intensity (lb/MW hr)** 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 Rates = 290

Land Use - Applicant provided Land Uses

Construction Phase - Applicant provided construction schedule

Off-road Equipment - Applicant provided construction equipment and hours, rev. 5.2.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev. 5.2.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev. 5.2.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev. 5.2.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev. 5.2.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev. 5.2.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev. 5.2.2019

Trips and VMT - demolition: 90 tons of pavement hauling = about 18 one-way trips, Building Ext = 1,500 one-way cement truck trips, paving = 138cy = 33 one-way asphalt truck trips

Demolition - Existing building demo = 25,370sf

Grading - Site prep = 1,575cy export, grading = 37,019cy export

Vehicle Trips - Vehicle Trips - After reactions Office = 9.01, 2.01, 0.86

Water And Wastewater - WTP treatment 100% aerobic

Construction Off-road Equipment Mitigation - BMPs, Tier 4 Interim Mitigation

Energy Mitigation - Green Building Measures - energy efficient lighting

Water Mitigation - Green Building Measures - water efficient fixtures and landscaping

Stationary Sources - Emergency Generators and Fire Pumps - 150kW diesel gen = 185 hp, 50 hr/yr

Energy Use -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	5.00	260.00
tblConstructionPhase	NumDays	100.00	463.00
tblConstructionPhase	NumDays	10.00	43.00
tblConstructionPhase	NumDays	2.00	40.00
tblConstructionPhase	NumDays	5.00	17.00
tblConstructionPhase	NumDays	1.00	10.00
tblGrading	AcresOfGrading	3.13	3.75
tblGrading	MaterialExported	0.00	37,019.00
tblGrading	MaterialExported	0.00	1,575.00
tblLandUse	LandUseSquareFeet	134,320.00	134,324.00
tblLandUse	LandUseSquareFeet	123,200.00	78,299.00
tblLandUse	LotAcreage	3.08	0.55
tblLandUse	LotAcreage	2.77	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	6.00	3.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	4.00	6.00
tblOffRoadEquipment	UsageHours	6.00	2.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	6.00	5.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	185.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	115.00	133.00
tblTripsAndVMT	HaulingTripNumber	0.00	1,500.00
tblTripsAndVMT	HaulingTripNumber	0.00	33.00
tblVehicleTrips	ST_TR	2.46	2.01
tblVehicleTrips	SU_TR	1.05	0.86
tblVehicleTrips	WD_TR	11.03	9.01
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00

tblWater	AnaerobicandFacultativeLagoonsPerce	2.21	0.00
tblWater	nt SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0317	0.4957	0.2554	1.0200e-003	0.0629	0.0138	0.0767	0.0166	0.0128	0.0294	0.0000	96.1018	96.1018	0.0109	0.0000	96.3752
2020	0.2389	2.5215	1.7408	5.5100e-003	0.1476	0.0826	0.2302	0.0397	0.0789	0.1185	0.0000	501.2518	501.2518	0.0517	0.0000	502.5436
2021	0.9478	2.0273	1.7823	4.6400e-003	0.1250	0.0775	0.2025	0.0338	0.0747	0.1086	0.0000	413.2368	413.2368	0.0435	0.0000	414.3246
Maximum	0.9478	2.5215	1.7823	5.5100e-003	0.1476	0.0826	0.2302	0.0397	0.0789	0.1185	0.0000	501.2518	501.2518	0.0517	0.0000	502.5436

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					
2019	0.0148	0.3875	0.2746	1.0200e-003	0.0496	1.5300e-003	0.0511	0.0115	1.4800e-003	0.0130	0.0000	96.1017	96.1017	0.0109	0.0000	96.3751
2020	0.1025	1.9584	1.8286	5.5100e-003	0.1465	0.0153	0.1617	0.0394	0.0150	0.0545	0.0000	501.2516	501.2516	0.0517	0.0000	502.5434
2021	0.8117	1.5373	1.8891	4.6400e-003	0.1250	0.0129	0.1380	0.0338	0.0128	0.0467	0.0000	413.2365	413.2365	0.0435	0.0000	414.3243

Maximum	0.8117	1.9584	1.8891	5.5100e-003	0.1465	0.0153	0.1617	0.0394	0.0150	0.0545	0.0000	501.2516	501.2516	0.0517	0.0000	502.5434
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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	23.75	23.02	-5.66	0.00	4.31	82.90	31.13	5.93	82.36	55.52	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	10-1-2019	12-31-2019	0.5069	0.3865
2	1-1-2020	3-31-2020	0.8813	0.7561
3	4-1-2020	6-30-2020	0.6193	0.4276
4	7-1-2020	9-30-2020	0.6167	0.4264
5	10-1-2020	12-31-2020	0.6209	0.4306
6	1-1-2021	3-31-2021	0.7889	0.6199
7	4-1-2021	6-30-2021	0.7939	0.6230
8	7-1-2021	9-30-2021	0.8160	0.6406
		Highest	0.8813	0.7561

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	0.6017	4.0000e-005	4.0700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.9000e-003	7.9000e-003	2.0000e-005	0.0000	8.4200e-003
Energy	0.0119	0.1078	0.0905	6.5000e-004		8.1900e-003	8.1900e-003		8.1900e-003	8.1900e-003	0.0000	492.7386	492.7386	0.0398	9.9200e-003	496.6889
Mobile	0.2158	0.9206	2.5411	8.8400e-003	0.8171	7.4900e-003	0.8246	0.2187	7.0000e-003	0.2257	0.0000	809.4602	809.4602	0.0272	0.0000	810.1394
Stationary	7.5900e-003	0.0212	0.0194	4.0000e-005		1.1200e-003	1.1200e-003		1.1200e-003	1.1200e-003	0.0000	3.5224	3.5224	4.9000e-004	0.0000	3.5347
Waste						0.0000	0.0000		0.0000	0.0000	25.3576	0.0000	25.3576	1.4986	0.0000	62.8225

Water						0.0000	0.0000		0.0000	0.0000	8.4464	23.7288	32.1752	0.0314	0.0189	38.5813
Total	0.8369	1.0496	2.6550	9.5300e-003	0.8171	0.0168	0.8339	0.2187	0.0163	0.2351	33.8040	1,329.4578	1,363.2618	1.5975	0.0288	1,411.7752

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	0.6017	4.0000e-005	4.0700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.9000e-003	7.9000e-003	2.0000e-005	0.0000	8.4200e-003
Energy	0.0119	0.1078	0.0905	6.5000e-004		8.1900e-003	8.1900e-003		8.1900e-003	8.1900e-003	0.0000	449.4482	449.4482	0.0355	9.0200e-003	453.0234
Mobile	0.2158	0.9206	2.5411	8.8400e-003	0.8171	7.4900e-003	0.8246	0.2187	7.0000e-003	0.2257	0.0000	809.4602	809.4602	0.0272	0.0000	810.1394
Stationary	7.5900e-003	0.0212	0.0194	4.0000e-005		1.1200e-003	1.1200e-003		1.1200e-003	1.1200e-003	0.0000	3.5224	3.5224	4.9000e-004	0.0000	3.5347
Waste						0.0000	0.0000		0.0000	0.0000	25.3576	0.0000	25.3576	1.4986	0.0000	62.8225
Water						0.0000	0.0000		0.0000	0.0000	8.4464	20.3605	28.8069	0.0311	0.0188	35.1838
Total	0.8369	1.0496	2.6550	9.5300e-003	0.8171	0.0168	0.8339	0.2187	0.0163	0.2351	33.8040	1,282.7992	1,316.6032	1.5928	0.0278	1,364.7122

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.51	3.42	0.29	3.37	3.33

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/1/2019	11/28/2019	5	43	
2	Site Preparation	Site Preparation	12/1/2019	12/13/2019	5	10	

3	Grading	Grading	12/16/2019	2/7/2020	5	40
4	Trenching	Trenching	12/16/2019	5/13/2020	5	108
5	Building Construction	Building Construction	2/16/2020	11/24/2021	5	463
6	Architectural Coating	Architectural Coating	1/1/2021	12/30/2021	5	260
7	Paving	Paving	9/1/2021	9/23/2021	5	17

Acres of Grading (Site Preparation Phase): 3.75

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 201,486; Non-Residential Outdoor: 67,162; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	2	1.00	81	0.73
Demolition	Excavators	1	4.00	158	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	5.00	97	0.37
Site Preparation	Graders	1	5.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	2.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	2.00	97	0.37
Grading	Concrete/Industrial Saws	0	0.00	81	0.73
Grading	Excavators	1	7.00	158	0.38
Grading	Rubber Tired Dozers	0	0.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Trenching	Tractors/Loaders/Backhoes	2	1.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	2.00	89	0.20
Building Construction	Generator Sets	1	7.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Building Construction	Welders	6	2.00	46	0.45

Category	tons/yr										MT/yr					
Fugitive Dust					0.0125	0.0000	0.0125	1.8900e-003	0.0000	1.8900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0146	0.1434	0.1284	2.0000e-004		8.4000e-003	8.4000e-003		7.8300e-003	7.8300e-003	0.0000	17.4338	17.4338	4.8000e-003	0.0000	17.5539
Total	0.0146	0.1434	0.1284	2.0000e-004	0.0125	8.4000e-003	0.0209	1.8900e-003	7.8300e-003	9.7200e-003	0.0000	17.4338	17.4338	4.8000e-003	0.0000	17.5539

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.0000e-004	0.0207	4.0900e-003	5.0000e-005	1.1300e-003	8.0000e-005	1.2100e-003	3.1000e-004	8.0000e-005	3.9000e-004	0.0000	5.1248	5.1248	2.4000e-004	0.0000	5.1308
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	1.1700e-003	8.7000e-004	9.0100e-003	3.0000e-005	2.5600e-003	2.0000e-005	2.5700e-003	6.8000e-004	2.0000e-005	7.0000e-004	0.0000	2.2642	2.2642	6.0000e-005	0.0000	2.2658
Total	1.7700e-003	0.0216	0.0131	8.0000e-005	3.6900e-003	1.0000e-004	3.7800e-003	9.9000e-004	1.0000e-004	1.0900e-003	0.0000	7.3890	7.3890	3.0000e-004	0.0000	7.3966

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					5.6200e-003	0.0000	5.6200e-003	4.3000e-004	0.0000	4.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.5500e-003	0.0789	0.1380	2.0000e-004		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	17.4338	17.4338	4.8000e-003	0.0000	17.5539

Total	3.5500e-003	0.0789	0.1380	2.0000e-004	5.6200e-003	3.1000e-004	5.9300e-003	4.3000e-004	3.1000e-004	7.4000e-004	0.0000	17.4338	17.4338	4.8000e-003	0.0000	17.5539
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Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.0000e-004	0.0207	4.0900e-003	5.0000e-005	1.1300e-003	8.0000e-005	1.2100e-003	3.1000e-004	8.0000e-005	3.9000e-004	0.0000	5.1248	5.1248	2.4000e-004	0.0000	5.1308
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	1.1700e-003	8.7000e-004	9.0100e-003	3.0000e-005	2.5600e-003	2.0000e-005	2.5700e-003	6.8000e-004	2.0000e-005	7.0000e-004	0.0000	2.2642	2.2642	6.0000e-005	0.0000	2.2658
Total	1.7700e-003	0.0216	0.0131	8.0000e-005	3.6900e-003	1.0000e-004	3.7800e-003	9.9000e-004	1.0000e-004	1.0900e-003	0.0000	7.3890	7.3890	3.0000e-004	0.0000	7.3966

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.6100e-003	0.0000	9.6100e-003	4.3700e-003	0.0000	4.3700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.5200e-003	0.0415	0.0169	4.0000e-005		1.7900e-003	1.7900e-003		1.6400e-003	1.6400e-003	0.0000	3.5205	3.5205	1.1100e-003	0.0000	3.5484
Total	3.5200e-003	0.0415	0.0169	4.0000e-005	9.6100e-003	1.7900e-003	0.0114	4.3700e-003	1.6400e-003	6.0100e-003	0.0000	3.5205	3.5205	1.1100e-003	0.0000	3.5484

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.0000e-004	0.0307	6.0600e-003	8.0000e-005	1.6700e-003	1.2000e-004	1.7900e-003	4.6000e-004	1.1000e-004	5.7000e-004	0.0000	7.5909	7.5909	3.6000e-004	0.0000	7.5997
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	1.8000e-004	1.4000e-004	1.4000e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3510	0.3510	1.0000e-005	0.0000	0.3513
Total	1.0800e-003	0.0308	7.4600e-003	8.0000e-005	2.0700e-003	1.2000e-004	2.1900e-003	5.7000e-004	1.1000e-004	6.8000e-004	0.0000	7.9419	7.9419	3.7000e-004	0.0000	7.9510

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.3200e-003	0.0000	4.3200e-003	9.8000e-004	0.0000	9.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.9000e-004	0.0117	0.0225	4.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.5205	3.5205	1.1100e-003	0.0000	3.5484
Total	6.9000e-004	0.0117	0.0225	4.0000e-005	4.3200e-003	6.0000e-005	4.3800e-003	9.8000e-004	6.0000e-005	1.0400e-003	0.0000	3.5205	3.5205	1.1100e-003	0.0000	3.5484

Mitigated Construction Off-Site

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

Hauling	9.0000e-004	0.0307	6.0600e-003	8.0000e-005	1.6700e-003	1.2000e-004	1.7900e-003	4.6000e-004	1.1000e-004	5.7000e-004	0.0000	7.5909	7.5909	3.6000e-004	0.0000	7.5997
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	1.8000e-004	1.4000e-004	1.4000e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3510	0.3510	1.0000e-005	0.0000	0.3513
Total	1.0800e-003	0.0308	7.4600e-003	8.0000e-005	2.0700e-003	1.2000e-004	2.1900e-003	5.7000e-004	1.1000e-004	6.8000e-004	0.0000	7.9419	7.9419	3.7000e-004	0.0000	7.9510

3.4 Grading - 2019

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					2.0900e-003	0.0000	2.0900e-003	3.2000e-004	0.0000	3.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.8100e-003	0.0386	0.0413	6.0000e-005		2.3200e-003	2.3200e-003		2.1300e-003	2.1300e-003	0.0000	5.3638	5.3638	1.7000e-003	0.0000	5.4063
Total	3.8100e-003	0.0386	0.0413	6.0000e-005	2.0900e-003	2.3200e-003	4.4100e-003	3.2000e-004	2.1300e-003	2.4500e-003	0.0000	5.3638	5.3638	1.7000e-003	0.0000	5.4063

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.3100e-003	0.2161	0.0427	5.5000e-004	0.0323	8.3000e-004	0.0332	8.2800e-003	7.9000e-004	9.0700e-003	0.0000	53.4866	53.4866	2.5100e-003	0.0000	53.5493
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	1.7000e-004	1.3000e-004	1.3400e-003	0.0000	3.8000e-004	0.0000	3.8000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3370	0.3370	1.0000e-005	0.0000	0.3372
Total	6.4800e-003	0.2162	0.0440	5.5000e-004	0.0327	8.3000e-004	0.0335	8.3800e-003	7.9000e-004	9.1700e-003	0.0000	53.8236	53.8236	2.5200e-003	0.0000	53.8865

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.4000e-004	0.0000	9.4000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0600e-003	0.0262	0.0452	6.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	5.3638	5.3638	1.7000e-003	0.0000	5.4062
Total	1.0600e-003	0.0262	0.0452	6.0000e-005	9.4000e-004	1.0000e-004	1.0400e-003	7.0000e-005	1.0000e-004	1.7000e-004	0.0000	5.3638	5.3638	1.7000e-003	0.0000	5.4062

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.3100e-003	0.2161	0.0427	5.5000e-004	0.0323	8.3000e-004	0.0332	8.2800e-003	7.9000e-004	9.0700e-003	0.0000	53.4866	53.4866	2.5100e-003	0.0000	53.5493
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	1.7000e-004	1.3000e-004	1.3400e-003	0.0000	3.8000e-004	0.0000	3.8000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3370	0.3370	1.0000e-005	0.0000	0.3372
Total	6.4800e-003	0.2162	0.0440	5.5000e-004	0.0327	8.3000e-004	0.0335	8.3800e-003	7.9000e-004	9.1700e-003	0.0000	53.8236	53.8236	2.5200e-003	0.0000	53.8865

3.4 Grading - 2020

Unmitigated Construction On-Site

Off-Road	2.4800e-003	0.0611	0.1054	1.4000e-004		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	12.2427	12.2427	3.9600e-003	0.0000	12.3417
Total	2.4800e-003	0.0611	0.1054	1.4000e-004	9.4000e-004	2.3000e-004	1.1700e-003	7.0000e-005	2.3000e-004	3.0000e-004	0.0000	12.2427	12.2427	3.9600e-003	0.0000	12.3417

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	0.0135	0.4699	0.0962	1.2800e-003	0.0363	1.5300e-003	0.0378	9.7100e-003	1.4600e-003	0.0112	0.0000	123.5167	123.5167	5.6500e-003	0.0000	123.6580
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	3.7000e-004	2.7000e-004	2.8000e-003	1.0000e-005	8.9000e-004	1.0000e-005	8.9000e-004	2.4000e-004	1.0000e-005	2.4000e-004	0.0000	0.7618	0.7618	2.0000e-005	0.0000	0.7622
Total	0.0138	0.4702	0.0990	1.2900e-003	0.0372	1.5400e-003	0.0387	9.9500e-003	1.4700e-003	0.0114	0.0000	124.2785	124.2785	5.6700e-003	0.0000	124.4202

3.5 Trenching - 2019

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	3.5000e-004	3.5100e-003	3.4500e-003	0.0000		2.3000e-004	2.3000e-004		2.2000e-004	2.2000e-004	0.0000	0.4185	0.4185	1.3000e-004	0.0000	0.4218
Total	3.5000e-004	3.5100e-003	3.4500e-003	0.0000		2.3000e-004	2.3000e-004		2.2000e-004	2.2000e-004	0.0000	0.4185	0.4185	1.3000e-004	0.0000	0.4218

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	8.0000e-005	8.4000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2106	0.2106	1.0000e-005	0.0000	0.2108
Total	1.1000e-004	8.0000e-005	8.4000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2106	0.2106	1.0000e-005	0.0000	0.2108

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.0000e-004	2.0300e-003	3.5100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.4185	0.4185	1.3000e-004	0.0000	0.4218
Total	1.0000e-004	2.0300e-003	3.5100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.4185	0.4185	1.3000e-004	0.0000	0.4218

Mitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	8.0000e-005	8.4000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2106	0.2106	1.0000e-005	0.0000	0.2108
Total	1.1000e-004	8.0000e-005	8.4000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2106	0.2106	1.0000e-005	0.0000	0.2108

3.5 Trenching - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.5100e-003	0.0253	0.0274	4.0000e-005		1.6000e-003	1.6000e-003		1.4700e-003	1.4700e-003	0.0000	3.2742	3.2742	1.0600e-003	0.0000	3.3007
Total	2.5100e-003	0.0253	0.0274	4.0000e-005		1.6000e-003	1.6000e-003		1.4700e-003	1.4700e-003	0.0000	3.2742	3.2742	1.0600e-003	0.0000	3.3007

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-004	5.7000e-004	6.0100e-003	2.0000e-005	1.9000e-003	1.0000e-005	1.9200e-003	5.1000e-004	1.0000e-005	5.2000e-004	0.0000	1.6324	1.6324	4.0000e-005	0.0000	1.6334
Total	8.0000e-004	5.7000e-004	6.0100e-003	2.0000e-005	1.9000e-003	1.0000e-005	1.9200e-003	5.1000e-004	1.0000e-005	5.2000e-004	0.0000	1.6324	1.6324	4.0000e-005	0.0000	1.6334

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.4000e-004	0.0163	0.0281	4.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.2742	3.2742	1.0600e-003	0.0000	3.3007
Total	8.4000e-004	0.0163	0.0281	4.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.2742	3.2742	1.0600e-003	0.0000	3.3007

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-004	5.7000e-004	6.0100e-003	2.0000e-005	1.9000e-003	1.0000e-005	1.9200e-003	5.1000e-004	1.0000e-005	5.2000e-004	0.0000	1.6324	1.6324	4.0000e-005	0.0000	1.6334
Total	8.0000e-004	5.7000e-004	6.0100e-003	2.0000e-005	1.9000e-003	1.0000e-005	1.9200e-003	5.1000e-004	1.0000e-005	5.2000e-004	0.0000	1.6324	1.6324	4.0000e-005	0.0000	1.6334

3.6 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1658	1.3596	1.1512	1.9900e-003		0.0717	0.0717		0.0687	0.0687	0.0000	167.5716	167.5716	0.0334	0.0000	168.4064
Total	0.1658	1.3596	1.1512	1.9900e-003		0.0717	0.0717		0.0687	0.0687	0.0000	167.5716	167.5716	0.0334	0.0000	168.4064

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	3.0800e-003	0.1076	0.0220	2.9000e-004	0.0111	3.5000e-004	0.0115	2.9100e-003	3.3000e-004	3.2400e-003	0.0000	28.2927	28.2927	1.2900e-003	0.0000	28.3250
Vendor	0.0159	0.4563	0.1215	1.0900e-003	0.0264	2.2600e-003	0.0286	7.6200e-003	2.1600e-003	9.7800e-003	0.0000	104.7732	104.7732	4.8000e-003	0.0000	104.8933
Worker	0.0289	0.0208	0.2178	6.5000e-004	0.0690	4.5000e-004	0.0695	0.0184	4.1000e-004	0.0188	0.0000	59.1866	59.1866	1.4500e-003	0.0000	59.2229
Total	0.0479	0.5847	0.3614	2.0300e-003	0.1065	3.0600e-003	0.1095	0.0289	2.9000e-003	0.0318	0.0000	192.2525	192.2525	7.5400e-003	0.0000	192.4412

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	0.0367	0.8256	1.2287	1.9900e-003		0.0104	0.0104		0.0104	0.0104	0.0000	167.5714	167.5714	0.0334	0.0000	168.4062

Total	0.0367	0.8256	1.2287	1.9900e-003		0.0104	0.0104		0.0104	0.0104	0.0000	167.5714	167.5714	0.0334	0.0000	168.4062
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Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0800e-003	0.1076	0.0220	2.9000e-004	0.0111	3.5000e-004	0.0115	2.9100e-003	3.3000e-004	3.2400e-003	0.0000	28.2927	28.2927	1.2900e-003	0.0000	28.3250
Vendor	0.0159	0.4563	0.1215	1.0900e-003	0.0264	2.2600e-003	0.0286	7.6200e-003	2.1600e-003	9.7800e-003	0.0000	104.7732	104.7732	4.8000e-003	0.0000	104.8933
Worker	0.0289	0.0208	0.2178	6.5000e-004	0.0690	4.5000e-004	0.0695	0.0184	4.1000e-004	0.0188	0.0000	59.1866	59.1866	1.4500e-003	0.0000	59.2229
Total	0.0479	0.5847	0.3614	2.0300e-003	0.1065	3.0600e-003	0.1095	0.0289	2.9000e-003	0.0318	0.0000	192.2525	192.2525	7.5400e-003	0.0000	192.4412

3.6 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1516	1.2708	1.1515	2.0400e-003		0.0630	0.0630		0.0604	0.0604	0.0000	171.2402	171.2402	0.0332	0.0000	172.0712
Total	0.1516	1.2708	1.1515	2.0400e-003		0.0630	0.0630		0.0604	0.0604	0.0000	171.2402	171.2402	0.0332	0.0000	172.0712

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	2.9700e-003	0.1014	0.0221	2.9000e-004	0.0111	3.2000e-004	0.0115	2.9200e-003	3.0000e-004	3.2300e-003	0.0000	28.5437	28.5437	1.3000e-003	0.0000	28.5761
Vendor	0.0134	0.4208	0.1120	1.1100e-003	0.0269	9.3000e-004	0.0279	7.7900e-003	8.9000e-004	8.6800e-003	0.0000	106.0725	106.0725	4.6200e-003	0.0000	106.1881
Worker	0.0274	0.0190	0.2034	6.5000e-004	0.0705	4.4000e-004	0.0710	0.0188	4.1000e-004	0.0192	0.0000	58.3797	58.3797	1.3300e-003	0.0000	58.4129
Total	0.0437	0.5411	0.3375	2.0500e-003	0.1086	1.6900e-003	0.1103	0.0295	1.6000e-003	0.0311	0.0000	192.9959	192.9959	7.2500e-003	0.0000	193.1771

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	0.0375	0.8436	1.2555	2.0400e-003		0.0106	0.0106		0.0106	0.0106	0.0000	171.2400	171.2400	0.0332	0.0000	172.0710
Total	0.0375	0.8436	1.2555	2.0400e-003		0.0106	0.0106		0.0106	0.0106	0.0000	171.2400	171.2400	0.0332	0.0000	172.0710

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	2.9700e-003	0.1014	0.0221	2.9000e-004	0.0111	3.2000e-004	0.0115	2.9200e-003	3.0000e-004	3.2300e-003	0.0000	28.5437	28.5437	1.3000e-003	0.0000	28.5761
Vendor	0.0134	0.4208	0.1120	1.1100e-003	0.0269	9.3000e-004	0.0279	7.7900e-003	8.9000e-004	8.6800e-003	0.0000	106.0725	106.0725	4.6200e-003	0.0000	106.1881
Worker	0.0274	0.0190	0.2034	6.5000e-004	0.0705	4.4000e-004	0.0710	0.0188	4.1000e-004	0.0192	0.0000	58.3797	58.3797	1.3300e-003	0.0000	58.4129
Total	0.0437	0.5411	0.3375	2.0500e-003	0.1086	1.6900e-003	0.1103	0.0295	1.6000e-003	0.0311	0.0000	192.9959	192.9959	7.2500e-003	0.0000	193.1771

3.7 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	0.7168					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0285	0.1985	0.2363	3.9000e-004		0.0122	0.0122		0.0122	0.0122	0.0000	33.1923	33.1923	2.2800e-003	0.0000	33.2492
Total	0.7452	0.1985	0.2363	3.9000e-004		0.0122	0.0122		0.0122	0.0122	0.0000	33.1923	33.1923	2.2800e-003	0.0000	33.2492

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0100e-003	4.1600e-003	0.0446	1.4000e-004	0.0155	1.0000e-004	0.0156	4.1100e-003	9.0000e-005	4.2000e-003	0.0000	12.8026	12.8026	2.9000e-004	0.0000	12.8098
Total	6.0100e-003	4.1600e-003	0.0446	1.4000e-004	0.0155	1.0000e-004	0.0156	4.1100e-003	9.0000e-005	4.2000e-003	0.0000	12.8026	12.8026	2.9000e-004	0.0000	12.8098

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	0.7168					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.0800e-003	0.1378	0.2382	3.9000e-004		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	33.1923	33.1923	2.2800e-003	0.0000	33.2492
Total	0.7238	0.1378	0.2382	3.9000e-004		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	33.1923	33.1923	2.2800e-003	0.0000	33.2492

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0100e-003	4.1600e-003	0.0446	1.4000e-004	0.0155	1.0000e-004	0.0156	4.1100e-003	9.0000e-005	4.2000e-003	0.0000	12.8026	12.8026	2.9000e-004	0.0000	12.8098
Total	6.0100e-003	4.1600e-003	0.0446	1.4000e-004	0.0155	1.0000e-004	0.0156	4.1100e-003	9.0000e-005	4.2000e-003	0.0000	12.8026	12.8026	2.9000e-004	0.0000	12.8098

3.8 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	8.0000e-004	8.1300e-003	9.5000e-003	1.0000e-005		4.6000e-004	4.6000e-004		4.3000e-004	4.3000e-004	0.0000	1.2052	1.2052	3.9000e-004	0.0000	1.2149
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	8.0000e-004	8.1300e-003	9.5000e-003	1.0000e-005		4.6000e-004	4.6000e-004		4.3000e-004	4.3000e-004	0.0000	1.2052	1.2052	3.9000e-004	0.0000	1.2149

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3000e-004	4.4100e-003	9.6000e-004	1.0000e-005	2.8000e-004	1.0000e-005	2.9000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	1.2425	1.2425	6.0000e-005	0.0000	1.2439
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	2.6000e-004	1.8000e-004	1.9400e-003	1.0000e-005	6.7000e-004	0.0000	6.8000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5581	0.5581	1.0000e-005	0.0000	0.5584
Total	3.9000e-004	4.5900e-003	2.9000e-003	2.0000e-005	9.5000e-004	1.0000e-005	9.7000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	1.8006	1.8006	7.0000e-005	0.0000	1.8023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.6000e-004	6.0100e-003	0.0104	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	1.2052	1.2052	3.9000e-004	0.0000	1.2149

Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.6000e-004	6.0100e-003	0.0104	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	1.2052	1.2052	3.9000e-004	0.0000	1.2149

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3000e-004	4.4100e-003	9.6000e-004	1.0000e-005	2.8000e-004	1.0000e-005	2.9000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	1.2425	1.2425	6.0000e-005	0.0000	1.2439
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	2.6000e-004	1.8000e-004	1.9400e-003	1.0000e-005	6.7000e-004	0.0000	6.8000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5581	0.5581	1.0000e-005	0.0000	0.5584
Total	3.9000e-004	4.5900e-003	2.9000e-003	2.0000e-005	9.5000e-004	1.0000e-005	9.7000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	1.8006	1.8006	7.0000e-005	0.0000	1.8023

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	0.2158	0.9206	2.5411	8.8400e-003	0.8171	7.4900e-003	0.8246	0.2187	7.0000e-003	0.2257	0.0000	809.4602	809.4602	0.0272	0.0000	810.1394
Unmitigated	0.2158	0.9206	2.5411	8.8400e-003	0.8171	7.4900e-003	0.8246	0.2187	7.0000e-003	0.2257	0.0000	809.4602	809.4602	0.0272	0.0000	810.1394

Category	tons/yr								MT/yr							
	Electricity Mitigated					0.0000	0.0000			0.0000	0.0000	0.0000	332.1074	332.1074	0.0332	6.8700e-003
Electricity Unmitigated					0.0000	0.0000			0.0000	0.0000	0.0000	375.3978	375.3978	0.0375	7.7700e-003	378.6508
NaturalGas Mitigated	0.0119	0.1078	0.0905	6.5000e-004	8.1900e-003	8.1900e-003			8.1900e-003	8.1900e-003	0.0000	117.3408	117.3408	2.2500e-003	2.1500e-003	118.0381
NaturalGas Unmitigated	0.0119	0.1078	0.0905	6.5000e-004	8.1900e-003	8.1900e-003			8.1900e-003	8.1900e-003	0.0000	117.3408	117.3408	2.2500e-003	2.1500e-003	118.0381

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	2.19888e+006	0.0119	0.1078	0.0905	6.5000e-004		8.1900e-003	8.1900e-003		8.1900e-003	8.1900e-003	0.0000	117.3408	117.3408	2.2500e-003	2.1500e-003	118.0381
Total		0.0119	0.1078	0.0905	6.5000e-004		8.1900e-003	8.1900e-003		8.1900e-003	8.1900e-003	0.0000	117.3408	117.3408	2.2500e-003	2.1500e-003	118.0381

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	2.19888e+006	0.0119	0.1078	0.0905	6.5000e-004		8.1900e-003	8.1900e-003		8.1900e-003	8.1900e-003	0.0000	117.3408	117.3408	2.2500e-003	2.1500e-003	118.0381
Total		0.0119	0.1078	0.0905	6.5000e-004		8.1900e-003	8.1900e-003		8.1900e-003	8.1900e-003	0.0000	117.3408	117.3408	2.2500e-003	2.1500e-003	118.0381

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	458832	60.3556	6.0400e-003	1.2500e-003	60.8786
General Office Building	2.395e+006	315.0422	0.0315	6.5200e-003	317.7722
Total		375.3978	0.0375	7.7700e-003	378.6508

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	390321	51.3435	5.1300e-003	1.0600e-003	51.7884
General Office Building	2.13441e+006	280.7639	0.0281	5.8100e-003	283.1969
Total		332.1074	0.0332	6.8700e-003	334.9852

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	0.6017	4.0000e-005	4.0700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.9000e-003	7.9000e-003	2.0000e-005	0.0000	8.4200e-003
Unmitigated	0.6017	4.0000e-005	4.0700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.9000e-003	7.9000e-003	2.0000e-005	0.0000	8.4200e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0717					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5297					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.8000e-004	4.0000e-005	4.0700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.9000e-003	7.9000e-003	2.0000e-005	0.0000	8.4200e-003
Total	0.6017	4.0000e-005	4.0700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.9000e-003	7.9000e-003	2.0000e-005	0.0000	8.4200e-003

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
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SubCategory	tons/yr								MT/yr							
Architectural Coating	0.0717					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Consumer Products	0.5297					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Landscaping	3.8000e-004	4.0000e-005	4.0700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.9000e-003	7.9000e-003	2.0000e-005	0.0000	8.4200e-003
Total	0.6017	4.0000e-005	4.0700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.9000e-003	7.9000e-003	2.0000e-005	0.0000	8.4200e-003

7.0 Water Detail

7.1 Mitigation Measures Water

- Apply Water Conservation Strategy
- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	28.8069	0.0311	0.0188	35.1838
Unmitigated	32.1752	0.0314	0.0189	38.5813

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	23.8732 / 14.632	32.1752	0.0314	0.0189	38.5813
Total		32.1752	0.0314	0.0189	38.5813

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	23.8732 / 7.31598	28.8069	0.0311	0.0188	35.1838
Total		28.8069	0.0311	0.0188	35.1838

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	25.3576	1.4986	0.0000	62.8225
Unmitigated	25.3576	1.4986	0.0000	62.8225

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	124.92	25.3576	1.4986	0.0000	62.8225
Total		25.3576	1.4986	0.0000	62.8225

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	124.92	25.3576	1.4986	0.0000	62.8225

Total		25.3576	1.4986	0.0000	62.8225
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9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	50	185	0.73	Diesel

Boilers

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

Equipment Type	Number
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10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (175,000 HP)	7.5900e-003	0.0212	0.0194	4.0000e-005		1.1200e-003	1.1200e-003		1.1200e-003	1.1200e-003	0.0000	3.5224	3.5224	4.9000e-004	0.0000	3.5347
Total	7.5900e-003	0.0212	0.0194	4.0000e-005		1.1200e-003	1.1200e-003		1.1200e-003	1.1200e-003	0.0000	3.5224	3.5224	4.9000e-004	0.0000	3.5347

11.0 Vegetation

DSP - 100 Altair Way - Santa Clara County, Annual

DSP - 100 Altair Way (TAC)
Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	134.32	1000sqft	0.55	134,324.00	0
Enclosed Parking with Elevator	308.00	Space	0.00	78,299.00	0

1.2 Other Project Characteristics

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

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 Rates = 290

Land Use - Applicant provided Land Uses

Construction Phase - Applicant provided construction schedule

Off-road Equipment - Applicant provided construction equipment and hours, rev. 5.2.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev. 5.2.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev. 5.2.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev. 5.2.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev. 5.2.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev. 5.2.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev. 5.2.2019

Trips and VMT - demolition: 90 tons of pavement hauling = about 18 one-way trips, Building Ext = 1,500 one-way cement truck trips, paving = 138cy = 33 one-way asphalt truck trips, TAC trip length 1 mile

Demolition - Existing building demo = 25,370sf

Grading - Site prep = 1,575cy export, grading = 37,019cy export

Vehicle Trips - Vehicle Trips - After reuctions Office = 9.01, 2.01, 0.86

Water And Wastewater - WTP treatment 100% aerobic

Construction Off-road Equipment Mitigation - BMPs, Tier 4 Final Mitigation

Energy Mitigation - Green Building Measures - energy efficient lighting

Water Mitigation - Green Building Measures - water efficient fixtures and landscaping

Stationary Sources - Emergency Generators and Fire Pumps - 150kW diesel gen = 185 hp, 50 hr/yr

Energy Use -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	5.00	260.00
tblConstructionPhase	NumDays	100.00	463.00
tblConstructionPhase	NumDays	10.00	43.00
tblConstructionPhase	NumDays	2.00	40.00
tblConstructionPhase	NumDays	5.00	17.00
tblConstructionPhase	NumDays	1.00	10.00
tblGrading	AcresOfGrading	3.13	3.75
tblGrading	MaterialExported	0.00	37,019.00
tblGrading	MaterialExported	0.00	1,575.00
tblLandUse	LandUseSquareFeet	134,320.00	134,324.00
tblLandUse	LandUseSquareFeet	123,200.00	78,299.00
tblLandUse	LotAcreage	3.08	0.55
tblLandUse	LotAcreage	2.77	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	6.00	5.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	4.00	6.00
tblOffRoadEquipment	UsageHours	6.00	2.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	6.00	3.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	185.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripNumber	115.00	133.00
tblTripsAndVMT	HaulingTripNumber	0.00	1,500.00

tblTripsAndVMT	HaulingTripNumber	0.00	33.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblVehicleTrips	ST_TR	2.46	2.01
tblVehicleTrips	SU_TR	1.05	0.86
tblVehicleTrips	WD_TR	11.03	9.01
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0249	0.3193	0.2087	4.2000e-004	0.0263	0.0129	0.0392	7.1200e-003	0.0119	0.0191	0.0000	38.2437	38.2437	9.0700e-003	0.0000	38.4704
2020	0.1984	1.9439	1.4417	2.8500e-003	0.0149	0.0787	0.0936	3.8400e-003	0.0752	0.0790	0.0000	248.4738	248.4738	0.0446	0.0000	249.5893
2021	0.9164	1.7819	1.5384	2.9200e-003	0.0125	0.0760	0.0885	3.4300e-003	0.0734	0.0768	0.0000	251.8655	251.8655	0.0398	0.0000	252.8601
Maximum	0.9164	1.9439	1.5384	2.9200e-003	0.0263	0.0787	0.0936	7.1200e-003	0.0752	0.0790	0.0000	251.8655	251.8655	0.0446	0.0000	252.8601

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					
2019	6.2300e-003	0.1078	0.2234	4.2000e-004	0.0130	6.0000e-004	0.0136	2.0300e-003	5.9000e-004	2.6200e-003	0.0000	38.2437	38.2437	9.0700e-003	0.0000	38.4704
2020	0.0492	0.7358	1.4889	2.8500e-003	0.0138	3.8500e-003	0.0176	3.6000e-003	3.8200e-003	7.4100e-003	0.0000	248.4736	248.4736	0.0446	0.0000	249.5891
2021	0.7652	0.5759	1.6038	2.9200e-003	0.0125	3.8000e-003	0.0163	3.4300e-003	3.7800e-003	7.2100e-003	0.0000	251.8653	251.8653	0.0398	0.0000	252.8599
Maximum	0.7652	0.7358	1.6038	2.9200e-003	0.0138	3.8500e-003	0.0176	3.6000e-003	3.8200e-003	7.4100e-003	0.0000	251.8653	251.8653	0.0446	0.0000	252.8599

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	28.00	64.91	-3.99	0.00	26.91	95.08	78.53	37.04	94.90	90.14	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	10-1-2019	12-31-2019	0.3295	0.1073
2	1-1-2020	3-31-2020	0.5280	0.2575
3	4-1-2020	6-30-2020	0.5362	0.1728
4	7-1-2020	9-30-2020	0.5330	0.1738

5	10-1-2020	12-31-2020	0.5310	0.1718
6	1-1-2021	3-31-2021	0.7114	0.3464
7	4-1-2021	6-30-2021	0.7213	0.3522
8	7-1-2021	9-30-2021	0.7396	0.3587
		Highest	0.7396	0.3587

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/1/2019	11/28/2019	5	43	
2	Site Preparation	Site Preparation	12/1/2019	12/13/2019	5	10	
3	Grading	Grading	12/16/2019	2/7/2020	5	40	
4	Trenching	Trenching	12/16/2019	5/13/2020	5	108	
5	Building Construction	Building Construction	2/16/2020	11/24/2021	5	463	
6	Architectural Coating	Architectural Coating	1/1/2021	12/30/2021	5	260	
7	Paving	Paving	9/1/2021	9/23/2021	5	17	

Acres of Grading (Site Preparation Phase): 3.75

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 201,486; Non-Residential Outdoor: 67,162; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	2	1.00	81	0.73
Demolition	Excavators	1	4.00	158	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	5.00	97	0.37
Site Preparation	Graders	1	5.00	187	0.41

Site Preparation	Rubber Tired Dozers	1	2.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	2.00	97	0.37
Grading	Concrete/Industrial Saws	0	0.00	81	0.73
Grading	Excavators	1	7.00	158	0.38
Grading	Rubber Tired Dozers	0	0.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Trenching	Tractors/Loaders/Backhoes	2	1.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	2.00	89	0.20
Building Construction	Generator Sets	1	7.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Building Construction	Welders	6	2.00	46	0.45
Architectural Coating	Air Compressors	2	3.00	78	0.48
Paving	Cement and Mortar Mixers	0	0.00	9	0.56
Paving	Pavers	0	0.00	130	0.42
Paving	Paving Equipment	1	1.00	132	0.36
Paving	Rollers	1	1.00	80	0.38
Paving	Tractors/Loaders/Backhoes	2	1.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	133.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	4	10.00	0.00	197.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	4,627.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	5.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Building Construction	11	76.00	35.00	1,500.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	15.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Paving	4	10.00	0.00	33.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2019

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					0.0125	0.0000	0.0125	1.8900e-003	0.0000	1.8900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0146	0.1434	0.1284	2.0000e-004		8.4000e-003	8.4000e-003		7.8300e-003	7.8300e-003	0.0000	17.4338	17.4338	4.8000e-003	0.0000	17.5539
Total	0.0146	0.1434	0.1284	2.0000e-004	0.0125	8.4000e-003	0.0209	1.8900e-003	7.8300e-003	9.7200e-003	0.0000	17.4338	17.4338	4.8000e-003	0.0000	17.5539

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.6000e-004	7.1200e-003	1.1900e-003	1.0000e-005	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.8615	0.8615	1.0000e-004	0.0000	0.8640
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	1.9000e-004	2.3800e-003	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.2705	0.2705	1.0000e-005	0.0000	0.2709

Total	5.6000e-004	7.3100e-003	3.5700e-003	1.0000e-005	3.0000e-004	1.0000e-005	3.1000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	1.1320	1.1320	1.1000e-004	0.0000	1.1349
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Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.6200e-003	0.0000	5.6200e-003	4.3000e-004	0.0000	4.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3200e-003	0.0101	0.1361	2.0000e-004		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	17.4338	17.4338	4.8000e-003	0.0000	17.5539
Total	2.3200e-003	0.0101	0.1361	2.0000e-004	5.6200e-003	3.1000e-004	5.9300e-003	4.3000e-004	3.1000e-004	7.4000e-004	0.0000	17.4338	17.4338	4.8000e-003	0.0000	17.5539

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.6000e-004	7.1200e-003	1.1900e-003	1.0000e-005	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.8615	0.8615	1.0000e-004	0.0000	0.8640
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	1.9000e-004	2.3800e-003	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.2705	0.2705	1.0000e-005	0.0000	0.2709
Total	5.6000e-004	7.3100e-003	3.5700e-003	1.0000e-005	3.0000e-004	1.0000e-005	3.1000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	1.1320	1.1320	1.1000e-004	0.0000	1.1349

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.6100e-003	0.0000	9.6100e-003	4.3700e-003	0.0000	4.3700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.5200e-003	0.0415	0.0169	4.0000e-005		1.7900e-003	1.7900e-003		1.6400e-003	1.6400e-003	0.0000	3.5205	3.5205	1.1100e-003	0.0000	3.5484
Total	3.5200e-003	0.0415	0.0169	4.0000e-005	9.6100e-003	1.7900e-003	0.0114	4.3700e-003	1.6400e-003	6.0100e-003	0.0000	3.5205	3.5205	1.1100e-003	0.0000	3.5484

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	2.4000e-004	0.0106	1.7600e-003	1.0000e-005	9.0000e-005	1.0000e-005	1.0000e-004	2.0000e-005	1.0000e-005	4.0000e-005	0.0000	1.2761	1.2761	1.5000e-004	0.0000	1.2798
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	3.0000e-005	3.7000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0419	0.0419	0.0000	0.0000	0.0420
Total	3.0000e-004	0.0106	2.1300e-003	1.0000e-005	1.3000e-004	1.0000e-005	1.4000e-004	3.0000e-005	1.0000e-005	5.0000e-005	0.0000	1.3180	1.3180	1.5000e-004	0.0000	1.3218

Mitigated Construction On-Site

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

Fugitive Dust					4.3200e-003	0.0000	4.3200e-003	9.8000e-004	0.0000	9.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8000e-004	2.0800e-003	0.0199	4.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.5205	3.5205	1.1100e-003	0.0000	3.5484
Total	4.8000e-004	2.0800e-003	0.0199	4.0000e-005	4.3200e-003	6.0000e-005	4.3800e-003	9.8000e-004	6.0000e-005	1.0400e-003	0.0000	3.5205	3.5205	1.1100e-003	0.0000	3.5484

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	2.4000e-004	0.0106	1.7600e-003	1.0000e-005	9.0000e-005	1.0000e-005	1.0000e-004	2.0000e-005	1.0000e-005	4.0000e-005	0.0000	1.2761	1.2761	1.5000e-004	0.0000	1.2798
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	3.0000e-005	3.7000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0419	0.0419	0.0000	0.0000	0.0420
Total	3.0000e-004	0.0106	2.1300e-003	1.0000e-005	1.3000e-004	1.0000e-005	1.4000e-004	3.0000e-005	1.0000e-005	5.0000e-005	0.0000	1.3180	1.3180	1.5000e-004	0.0000	1.3218

3.4 Grading - 2019

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					2.0900e-003	0.0000	2.0900e-003	3.2000e-004	0.0000	3.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.8100e-003	0.0386	0.0413	6.0000e-005		2.3200e-003	2.3200e-003		2.1300e-003	2.1300e-003	0.0000	5.3638	5.3638	1.7000e-003	0.0000	5.4063
Total	3.8100e-003	0.0386	0.0413	6.0000e-005	2.0900e-003	2.3200e-003	4.4100e-003	3.2000e-004	2.1300e-003	2.4500e-003	0.0000	5.3638	5.3638	1.7000e-003	0.0000	5.4063

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.6900e-003	0.0744	0.0124	9.0000e-005	1.6300e-003	9.0000e-005	1.7200e-003	4.2000e-004	9.0000e-005	5.1000e-004	0.0000	8.9916	8.9916	1.0500e-003	0.0000	9.0179
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	3.0000e-005	3.5000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0403	0.0403	0.0000	0.0000	0.0403
Total	1.7500e-003	0.0744	0.0128	9.0000e-005	1.6700e-003	9.0000e-005	1.7600e-003	4.3000e-004	9.0000e-005	5.2000e-004	0.0000	9.0319	9.0319	1.0500e-003	0.0000	9.0582

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.4000e-004	0.0000	9.4000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.3000e-004	3.1700e-003	0.0452	6.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	5.3638	5.3638	1.7000e-003	0.0000	5.4062
Total	7.3000e-004	3.1700e-003	0.0452	6.0000e-005	9.4000e-004	1.0000e-004	1.0400e-003	7.0000e-005	1.0000e-004	1.7000e-004	0.0000	5.3638	5.3638	1.7000e-003	0.0000	5.4062

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	tons/yr										MT/yr					
Hauling	1.6900e-003	0.0744	0.0124	9.0000e-005	1.6300e-003	9.0000e-005	1.7200e-003	4.2000e-004	9.0000e-005	5.1000e-004	0.0000	8.9916	8.9916	1.0500e-003	0.0000	9.0179
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	3.0000e-005	3.5000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0403	0.0403	0.0000	0.0000	0.0403
Total	1.7500e-003	0.0744	0.0128	9.0000e-005	1.6700e-003	9.0000e-005	1.7600e-003	4.3000e-004	9.0000e-005	5.2000e-004	0.0000	9.0319	9.0319	1.0500e-003	0.0000	9.0582

3.4 Grading - 2020

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Fugitive Dust					2.0900e-003	0.0000	2.0900e-003	3.2000e-004	0.0000	3.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.1300e-003	0.0811	0.0959	1.4000e-004		4.6900e-003	4.6900e-003		4.3200e-003	4.3200e-003	0.0000	12.2427	12.2427	3.9600e-003	0.0000	12.3417
Total	8.1300e-003	0.0811	0.0959	1.4000e-004	2.0900e-003	4.6900e-003	6.7800e-003	3.2000e-004	4.3200e-003	4.6400e-003	0.0000	12.2427	12.2427	3.9600e-003	0.0000	12.3417

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	3.5200e-003	0.1670	0.0273	2.2000e-004	1.8500e-003	1.6000e-004	2.0000e-003	5.0000e-004	1.5000e-004	6.5000e-004	0.0000	21.0334	21.0334	2.2400e-003	0.0000	21.0893
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	6.0000e-005	7.3000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0911	0.0911	0.0000	0.0000	0.0912

Total	3.6400e-003	0.1671	0.0280	2.2000e-004	1.9300e-003	1.6000e-004	2.0800e-003	5.2000e-004	1.5000e-004	6.7000e-004	0.0000	21.1245	21.1245	2.2400e-003	0.0000	21.1805
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Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.4000e-004	0.0000	9.4000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	7.4000e-003	0.1054	1.4000e-004		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	12.2427	12.2427	3.9600e-003	0.0000	12.3417
Total	1.7100e-003	7.4000e-003	0.1054	1.4000e-004	9.4000e-004	2.3000e-004	1.1700e-003	7.0000e-005	2.3000e-004	3.0000e-004	0.0000	12.2427	12.2427	3.9600e-003	0.0000	12.3417

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	3.5200e-003	0.1670	0.0273	2.2000e-004	1.8500e-003	1.6000e-004	2.0000e-003	5.0000e-004	1.5000e-004	6.5000e-004	0.0000	21.0334	21.0334	2.2400e-003	0.0000	21.0893
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	6.0000e-005	7.3000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0911	0.0911	0.0000	0.0000	0.0912
Total	3.6400e-003	0.1671	0.0280	2.2000e-004	1.9300e-003	1.6000e-004	2.0800e-003	5.2000e-004	1.5000e-004	6.7000e-004	0.0000	21.1245	21.1245	2.2400e-003	0.0000	21.1805

3.5 Trenching - 2019

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	3.5000e-004	3.5100e-003	3.4500e-003	0.0000		2.3000e-004	2.3000e-004		2.2000e-004	2.2000e-004	0.0000	0.4185	0.4185	1.3000e-004	0.0000	0.4218
Total	3.5000e-004	3.5100e-003	3.4500e-003	0.0000		2.3000e-004	2.3000e-004		2.2000e-004	2.2000e-004	0.0000	0.4185	0.4185	1.3000e-004	0.0000	0.4218

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	2.0000e-005	2.2000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0252	0.0252	0.0000	0.0000	0.0252
Total	4.0000e-005	2.0000e-005	2.2000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0252	0.0252	0.0000	0.0000	0.0252

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	6.0000e-005	2.5000e-004	3.5100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.4185	0.4185	1.3000e-004	0.0000	0.4218
Total	6.0000e-005	2.5000e-004	3.5100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.4185	0.4185	1.3000e-004	0.0000	0.4218

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	2.0000e-005	2.2000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0252	0.0252	0.0000	0.0000	0.0252
Total	4.0000e-005	2.0000e-005	2.2000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0252	0.0252	0.0000	0.0000	0.0252

3.5 Trenching - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.5100e-003	0.0253	0.0274	4.0000e-005		1.6000e-003	1.6000e-003		1.4700e-003	1.4700e-003	0.0000	3.2742	3.2742	1.0600e-003	0.0000	3.3007
Total	2.5100e-003	0.0253	0.0274	4.0000e-005		1.6000e-003	1.6000e-003		1.4700e-003	1.4700e-003	0.0000	3.2742	3.2742	1.0600e-003	0.0000	3.3007

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	2.7000e-004	1.2000e-004	1.5700e-003	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1952	0.1952	1.0000e-005	0.0000	0.1954
Total	2.7000e-004	1.2000e-004	1.5700e-003	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1952	0.1952	1.0000e-005	0.0000	0.1954

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	4.6000e-004	1.9700e-003	0.0281	4.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.2742	3.2742	1.0600e-003	0.0000	3.3007
Total	4.6000e-004	1.9700e-003	0.0281	4.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.2742	3.2742	1.0600e-003	0.0000	3.3007

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	1.2000e-004	1.5700e-003	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1952	0.1952	1.0000e-005	0.0000	0.1954
Total	2.7000e-004	1.2000e-004	1.5700e-003	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1952	0.1952	1.0000e-005	0.0000	0.1954

3.6 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1658	1.3596	1.1512	1.9900e-003		0.0717	0.0717		0.0687	0.0687	0.0000	167.5716	167.5716	0.0334	0.0000	168.4064
Total	0.1658	1.3596	1.1512	1.9900e-003		0.0717	0.0717		0.0687	0.0687	0.0000	167.5716	167.5716	0.0334	0.0000	168.4064

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	8.1000e-004	0.0383	6.2500e-003	5.0000e-005	5.6000e-004	4.0000e-005	6.0000e-004	1.5000e-004	3.0000e-005	1.8000e-004	0.0000	4.8179	4.8179	5.1000e-004	0.0000	4.8307
Vendor	7.5700e-003	0.2680	0.0744	3.4000e-004	3.7000e-003	4.3000e-004	4.1300e-003	1.0800e-003	4.1000e-004	1.4900e-003	0.0000	32.1713	32.1713	3.1400e-003	0.0000	32.2498
Worker	9.6400e-003	4.4100e-003	0.0571	8.0000e-005	6.4700e-003	9.0000e-005	6.5600e-003	1.7300e-003	8.0000e-005	1.8100e-003	0.0000	7.0765	7.0765	3.0000e-004	0.0000	7.0841

Total	0.0180	0.3107	0.1377	4.7000e-004	0.0107	5.6000e-004	0.0113	2.9600e-003	5.2000e-004	3.4800e-003	0.0000	44.0657	44.0657	3.9500e-003	0.0000	44.1646
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Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0251	0.2486	1.1881	1.9900e-003		2.8400e-003	2.8400e-003		2.8400e-003	2.8400e-003	0.0000	167.5714	167.5714	0.0334	0.0000	168.4062
Total	0.0251	0.2486	1.1881	1.9900e-003		2.8400e-003	2.8400e-003		2.8400e-003	2.8400e-003	0.0000	167.5714	167.5714	0.0334	0.0000	168.4062

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	8.1000e-004	0.0383	6.2500e-003	5.0000e-005	5.6000e-004	4.0000e-005	6.0000e-004	1.5000e-004	3.0000e-005	1.8000e-004	0.0000	4.8179	4.8179	5.1000e-004	0.0000	4.8307
Vendor	7.5700e-003	0.2680	0.0744	3.4000e-004	3.7000e-003	4.3000e-004	4.1300e-003	1.0800e-003	4.1000e-004	1.4900e-003	0.0000	32.1713	32.1713	3.1400e-003	0.0000	32.2498
Worker	9.6400e-003	4.4100e-003	0.0571	8.0000e-005	6.4700e-003	9.0000e-005	6.5600e-003	1.7300e-003	8.0000e-005	1.8100e-003	0.0000	7.0765	7.0765	3.0000e-004	0.0000	7.0841
Total	0.0180	0.3107	0.1377	4.7000e-004	0.0107	5.6000e-004	0.0113	2.9600e-003	5.2000e-004	3.4800e-003	0.0000	44.0657	44.0657	3.9500e-003	0.0000	44.1646

3.6 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1516	1.2708	1.1515	2.0400e-003		0.0630	0.0630		0.0604	0.0604	0.0000	171.2402	171.2402	0.0332	0.0000	172.0712
Total	0.1516	1.2708	1.1515	2.0400e-003		0.0630	0.0630		0.0604	0.0604	0.0000	171.2402	171.2402	0.0332	0.0000	172.0712

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.7000e-004	0.0376	6.1500e-003	5.0000e-005	5.6000e-004	3.0000e-005	6.0000e-004	1.5000e-004	3.0000e-005	1.8000e-004	0.0000	4.8713	4.8713	5.0000e-004	0.0000	4.8837
Vendor	6.9100e-003	0.2603	0.0701	3.4000e-004	3.7800e-003	2.2000e-004	4.0000e-003	1.1000e-003	2.1000e-004	1.3100e-003	0.0000	32.5603	32.5603	3.0200e-003	0.0000	32.6358
Worker	9.0000e-003	3.9800e-003	0.0525	8.0000e-005	6.6100e-003	9.0000e-005	6.7000e-003	1.7700e-003	8.0000e-005	1.8500e-003	0.0000	6.9855	6.9855	2.7000e-004	0.0000	6.9924
Total	0.0167	0.3019	0.1288	4.7000e-004	0.0110	3.4000e-004	0.0113	3.0200e-003	3.2000e-004	3.3400e-003	0.0000	44.4171	44.4171	3.7900e-003	0.0000	44.5119

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	0.0256	0.2540	1.2141	2.0400e-003		2.9100e-003	2.9100e-003		2.9100e-003	2.9100e-003	0.0000	171.2400	171.2400	0.0332	0.0000	172.0710
Total	0.0256	0.2540	1.2141	2.0400e-003		2.9100e-003	2.9100e-003		2.9100e-003	2.9100e-003	0.0000	171.2400	171.2400	0.0332	0.0000	172.0710

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.7000e-004	0.0376	6.1500e-003	5.0000e-005	5.6000e-004	3.0000e-005	6.0000e-004	1.5000e-004	3.0000e-005	1.8000e-004	0.0000	4.8713	4.8713	5.0000e-004	0.0000	4.8837
Vendor	6.9100e-003	0.2603	0.0701	3.4000e-004	3.7800e-003	2.2000e-004	4.0000e-003	1.1000e-003	2.1000e-004	1.3100e-003	0.0000	32.5603	32.5603	3.0200e-003	0.0000	32.6358
Worker	9.0000e-003	3.9800e-003	0.0525	8.0000e-005	6.6100e-003	9.0000e-005	6.7000e-003	1.7700e-003	8.0000e-005	1.8500e-003	0.0000	6.9855	6.9855	2.7000e-004	0.0000	6.9924
Total	0.0167	0.3019	0.1288	4.7000e-004	0.0110	3.4000e-004	0.0113	3.0200e-003	3.2000e-004	3.3400e-003	0.0000	44.4171	44.4171	3.7900e-003	0.0000	44.5119

3.7 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	0.7168					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0285	0.1985	0.2363	3.9000e-004		0.0122	0.0122		0.0122	0.0122	0.0000	33.1923	33.1923	2.2800e-003	0.0000	33.2492
Total	0.7452	0.1985	0.2363	3.9000e-004		0.0122	0.0122		0.0122	0.0122	0.0000	33.1923	33.1923	2.2800e-003	0.0000	33.2492

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	1.9700e-003	8.7000e-004	0.0115	2.0000e-005	1.4500e-003	2.0000e-005	1.4700e-003	3.9000e-004	2.0000e-005	4.1000e-004	0.0000	1.5319	1.5319	6.0000e-005	0.0000	1.5334
Total	1.9700e-003	8.7000e-004	0.0115	2.0000e-005	1.4500e-003	2.0000e-005	1.4700e-003	3.9000e-004	2.0000e-005	4.1000e-004	0.0000	1.5319	1.5319	6.0000e-005	0.0000	1.5334

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	0.7168					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.8600e-003	0.0167	0.2382	3.9000e-004		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	33.1923	33.1923	2.2800e-003	0.0000	33.2492
Total	0.7206	0.0167	0.2382	3.9000e-004		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	33.1923	33.1923	2.2800e-003	0.0000	33.2492

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9700e-003	8.7000e-004	0.0115	2.0000e-005	1.4500e-003	2.0000e-005	1.4700e-003	3.9000e-004	2.0000e-005	4.1000e-004	0.0000	1.5319	1.5319	6.0000e-005	0.0000	1.5334
Total	1.9700e-003	8.7000e-004	0.0115	2.0000e-005	1.4500e-003	2.0000e-005	1.4700e-003	3.9000e-004	2.0000e-005	4.1000e-004	0.0000	1.5319	1.5319	6.0000e-005	0.0000	1.5334

3.8 Paving - 2021

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.0000e-004	8.1300e-003	9.5000e-003	1.0000e-005		4.6000e-004	4.6000e-004		4.3000e-004	4.3000e-004	0.0000	1.2052	1.2052	3.9000e-004	0.0000	1.2149
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	8.0000e-004	8.1300e-003	9.5000e-003	1.0000e-005		4.6000e-004	4.6000e-004		4.3000e-004	4.3000e-004	0.0000	1.2052	1.2052	3.9000e-004	0.0000	1.2149

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	3.0000e-005	1.6400e-003	2.7000e-004	0.0000	1.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.2121	0.2121	2.0000e-005	0.0000	0.2126
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	9.0000e-005	4.0000e-005	5.0000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0668	0.0668	0.0000	0.0000	0.0668

Total	1.2000e-004	1.6800e-003	7.7000e-004	0.0000	7.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.2788	0.2788	2.0000e-005	0.0000	0.2794
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Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7000e-004	7.3000e-004	0.0104	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	1.2052	1.2052	3.9000e-004	0.0000	1.2149
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.7000e-004	7.3000e-004	0.0104	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	1.2052	1.2052	3.9000e-004	0.0000	1.2149

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	3.0000e-005	1.6400e-003	2.7000e-004	0.0000	1.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.2121	0.2121	2.0000e-005	0.0000	0.2126
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	9.0000e-005	4.0000e-005	5.0000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0668	0.0668	0.0000	0.0000	0.0668
Total	1.2000e-004	1.6800e-003	7.7000e-004	0.0000	7.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.2788	0.2788	2.0000e-005	0.0000	0.2794

MITIGATED TIER 4 FINAL & HOUR REDUCTION

DSP - 100 Altair Way - Santa Clara County, Annual

DSP - 100 Altair Way
Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	134.32	1000sqft	0.55	134,324.00	0
Enclosed Parking with Elevator	308.00	Space	0.00	78,299.00	0

1.2 Other Project Characteristics

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

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 Rates = 290

Land Use - Applicant provided Land Uses

Construction Phase - Applicant provided construction schedule

Off-road Equipment - Applicant provided construction equipment and hours, rev. 5.2.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev. 5.2.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev. 5.2.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev. 5.2.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev. 5.2.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev. 5.2.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev. 5.2.2019

Trips and VMT - demolition: 90 tons of pavement hauling = about 18 one-way trips, Building Ext = 1,500 one-way cement truck trips, paving = 138cy = 33

Demolition - Existing building demo = 25,370sf

Grading - Site prep = 1,575cy export, grading = 37,019cy export

Vehicle Trips - Vehicle Trips - After reactions Office = 9.01, 2.01, 0.86

Energy Use -

Water And Wastewater - WTP treatment 100% aerobic

Construction Off-road Equipment Mitigation - BMPs, Tier 4 Final Mitigation

Energy Mitigation - Green Building Measures - energy efficient lighting

Water Mitigation - Green Building Measures - water efficient fixtures and landscaping

Stationary Sources - Emergency Generators and Fire Pumps - 150kW diesel gen = 185 hp, 50 hr/yr

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	5.00	260.00
tblConstructionPhase	NumDays	100.00	463.00
tblConstructionPhase	NumDays	10.00	43.00
tblConstructionPhase	NumDays	2.00	40.00
tblConstructionPhase	NumDays	5.00	17.00
tblConstructionPhase	NumDays	1.00	10.00
tblGrading	AcresOfGrading	3.13	3.75
tblGrading	MaterialExported	0.00	37,019.00
tblGrading	MaterialExported	0.00	1,575.00
tblLandUse	LandUseSquareFeet	134,320.00	134,324.00
tblLandUse	LandUseSquareFeet	123,200.00	78,299.00
tblLandUse	LotAcreage	3.08	0.55
tblLandUse	LotAcreage	2.77	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	6.00	0.38
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	4.00	0.20
tblOffRoadEquipment	UsageHours	6.00	2.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	6.00	5.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	185.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	115.00	133.00
tblTripsAndVMT	HaulingTripNumber	0.00	1,500.00
tblTripsAndVMT	HaulingTripNumber	0.00	33.00
tblVehicleTrips	ST_TR	2.46	2.01
tblVehicleTrips	SU_TR	1.05	0.86
tblVehicleTrips	WD_TR	11.03	9.01
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00

tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0317	0.4957	0.2554	1.0200e-003	0.0629	0.0138	0.0767	0.0166	0.0128	0.0294	0.0000	96.1018	96.1018	0.0109	0.0000	96.3752
2020	0.1626	1.7363	1.2057	4.3900e-003	0.1476	0.0451	0.1927	0.0397	0.0429	0.0825	0.0000	404.3237	404.3237	0.0350	0.0000	405.1980
2021	0.8524	1.1287	1.0424	3.1600e-003	0.1250	0.0335	0.1585	0.0338	0.0321	0.0659	0.0000	285.2082	285.2082	0.0248	0.0000	285.8272
Maximum	0.8524	1.7363	1.2057	4.3900e-003	0.1476	0.0451	0.1927	0.0397	0.0429	0.0825	0.0000	404.3237	404.3237	0.0350	0.0000	405.1980

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					
2019	0.0130	0.2842	0.2701	1.0200e-003	0.0496	1.5300e-003	0.0511	0.0115	1.4800e-003	0.0130	0.0000	96.1017	96.1017	0.0109	0.0000	96.3751
2020	0.0775	1.2603	1.1786	4.3900e-003	0.1465	6.1000e-003	0.1526	0.0394	5.8800e-003	0.0453	0.0000	404.3236	404.3236	0.0350	0.0000	405.1979
2021	0.7806	0.7524	1.0169	3.1600e-003	0.1250	3.1300e-003	0.1282	0.0338	3.0300e-003	0.0369	0.0000	285.2082	285.2082	0.0248	0.0000	285.8271
Maximum	0.7806	1.2603	1.1786	4.3900e-003	0.1465	6.1000e-003	0.1526	0.0394	5.8800e-003	0.0453	0.0000	404.3236	404.3236	0.0350	0.0000	405.1979

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	16.77	31.65	1.51	0.00	4.31	88.35	22.45	5.93	88.16	46.50	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	10-1-2019	12-31-2019	0.5069	0.2847
2	1-1-2020	3-31-2020	0.7604	0.6016
3	4-1-2020	6-30-2020	0.3747	0.2373
4	7-1-2020	9-30-2020	0.3694	0.2387
5	10-1-2020	12-31-2020	0.3737	0.2429
6	1-1-2021	3-31-2021	0.5213	0.4011
7	4-1-2021	6-30-2021	0.5233	0.4018
8	7-1-2021	9-30-2021	0.5424	0.4118
		Highest	0.7604	0.6016

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	0.6017	4.0000e-005	4.0700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.9000e-003	7.9000e-003	2.0000e-005	0.0000	8.4200e-003
Energy	0.0119	0.1078	0.0905	6.5000e-004		8.1900e-003	8.1900e-003		8.1900e-003	8.1900e-003	0.0000	492.7386	492.7386	0.0398	9.9200e-003	496.6889
Mobile	0.2158	0.9206	2.5411	8.8400e-003	0.8171	7.4900e-003	0.8246	0.2187	7.0000e-003	0.2257	0.0000	809.4602	809.4602	0.0272	0.0000	810.1394
Stationary	7.5900e-003	0.0212	0.0194	4.0000e-005		1.1200e-003	1.1200e-003		1.1200e-003	1.1200e-003	0.0000	3.5224	3.5224	4.9000e-004	0.0000	3.5347
Waste						0.0000	0.0000		0.0000	0.0000	25.3576	0.0000	25.3576	1.4986	0.0000	62.8225
Water						0.0000	0.0000		0.0000	0.0000	8.4464	23.7288	32.1752	0.0314	0.0189	38.5813

Total	0.8369	1.0496	2.6550	9.5300e-003	0.8171	0.0168	0.8339	0.2187	0.0163	0.2351	33.8040	1,329.4578	1,363.2618	1.5975	0.0288	1,411.7752
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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	0.6017	4.0000e-005	4.0700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.9000e-003	7.9000e-003	2.0000e-005	0.0000	8.4200e-003
Energy	0.0119	0.1078	0.0905	6.5000e-004		8.1900e-003	8.1900e-003		8.1900e-003	8.1900e-003	0.0000	449.4482	449.4482	0.0355	9.0200e-003	453.0234
Mobile	0.2158	0.9206	2.5411	8.8400e-003	0.8171	7.4900e-003	0.8246	0.2187	7.0000e-003	0.2257	0.0000	809.4602	809.4602	0.0272	0.0000	810.1394
Stationary	7.5900e-003	0.0212	0.0194	4.0000e-005		1.1200e-003	1.1200e-003		1.1200e-003	1.1200e-003	0.0000	3.5224	3.5224	4.9000e-004	0.0000	3.5347
Waste						0.0000	0.0000		0.0000	0.0000	25.3576	0.0000	25.3576	1.4986	0.0000	62.8225
Water						0.0000	0.0000		0.0000	0.0000	8.4464	20.3605	28.8069	0.0311	0.0188	35.1838
Total	0.8369	1.0496	2.6550	9.5300e-003	0.8171	0.0168	0.8339	0.2187	0.0163	0.2351	33.8040	1,282.7992	1,316.6032	1.5928	0.0278	1,364.7122

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.51	3.42	0.29	3.37	3.33

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/1/2019	11/28/2019	5	43	
2	Site Preparation	Site Preparation	12/1/2019	12/13/2019	5	10	
3	Grading	Grading	12/16/2019	2/7/2020	5	40	

4	Trenching	Trenching	12/16/2019	5/13/2020	5	108
5	Building Construction	Building Construction	2/16/2020	11/24/2021	5	463
6	Architectural Coating	Architectural Coating	1/1/2021	12/30/2021	5	260
7	Paving	Paving	9/1/2021	9/23/2021	5	17

Acres of Grading (Site Preparation Phase): 3.75

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 201,486; Non-Residential Outdoor: 67,162; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	2	1.00	81	0.73
Demolition	Excavators	1	4.00	158	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	5.00	97	0.37
Site Preparation	Graders	1	5.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	2.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	2.00	97	0.37
Grading	Concrete/Industrial Saws	0	0.00	81	0.73
Grading	Excavators	1	7.00	158	0.38
Grading	Rubber Tired Dozers	0	0.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Trenching	Tractors/Loaders/Backhoes	2	1.00	97	0.37
Building Construction	Cranes	1	0.20	231	0.29
Building Construction	Forklifts	1	2.00	89	0.20
Building Construction	Generator Sets	1	0.22	84	0.74
Building Construction	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Building Construction	Welders	6	2.00	46	0.45
Architectural Coating	Air Compressors	2	0.38	78	0.48

Category	tons/yr										MT/yr					
Fugitive Dust					0.0125	0.0000	0.0125	1.8900e-003	0.0000	1.8900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0146	0.1434	0.1284	2.0000e-004		8.4000e-003	8.4000e-003		7.8300e-003	7.8300e-003	0.0000	17.4338	17.4338	4.8000e-003	0.0000	17.5539
Total	0.0146	0.1434	0.1284	2.0000e-004	0.0125	8.4000e-003	0.0209	1.8900e-003	7.8300e-003	9.7200e-003	0.0000	17.4338	17.4338	4.8000e-003	0.0000	17.5539

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.0000e-004	0.0207	4.0900e-003	5.0000e-005	1.1300e-003	8.0000e-005	1.2100e-003	3.1000e-004	8.0000e-005	3.9000e-004	0.0000	5.1248	5.1248	2.4000e-004	0.0000	5.1308
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	1.1700e-003	8.7000e-004	9.0100e-003	3.0000e-005	2.5600e-003	2.0000e-005	2.5700e-003	6.8000e-004	2.0000e-005	7.0000e-004	0.0000	2.2642	2.2642	6.0000e-005	0.0000	2.2658
Total	1.7700e-003	0.0216	0.0131	8.0000e-005	3.6900e-003	1.0000e-004	3.7800e-003	9.9000e-004	1.0000e-004	1.0900e-003	0.0000	7.3890	7.3890	3.0000e-004	0.0000	7.3966

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					5.6200e-003	0.0000	5.6200e-003	4.3000e-004	0.0000	4.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3200e-003	0.0101	0.1361	2.0000e-004		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	17.4338	17.4338	4.8000e-003	0.0000	17.5539

Total	2.3200e-003	0.0101	0.1361	2.0000e-004	5.6200e-003	3.1000e-004	5.9300e-003	4.3000e-004	3.1000e-004	7.4000e-004	0.0000	17.4338	17.4338	4.8000e-003	0.0000	17.5539
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Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.0000e-004	0.0207	4.0900e-003	5.0000e-005	1.1300e-003	8.0000e-005	1.2100e-003	3.1000e-004	8.0000e-005	3.9000e-004	0.0000	5.1248	5.1248	2.4000e-004	0.0000	5.1308
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	1.1700e-003	8.7000e-004	9.0100e-003	3.0000e-005	2.5600e-003	2.0000e-005	2.5700e-003	6.8000e-004	2.0000e-005	7.0000e-004	0.0000	2.2642	2.2642	6.0000e-005	0.0000	2.2658
Total	1.7700e-003	0.0216	0.0131	8.0000e-005	3.6900e-003	1.0000e-004	3.7800e-003	9.9000e-004	1.0000e-004	1.0900e-003	0.0000	7.3890	7.3890	3.0000e-004	0.0000	7.3966

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.6100e-003	0.0000	9.6100e-003	4.3700e-003	0.0000	4.3700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.5200e-003	0.0415	0.0169	4.0000e-005		1.7900e-003	1.7900e-003		1.6400e-003	1.6400e-003	0.0000	3.5205	3.5205	1.1100e-003	0.0000	3.5484
Total	3.5200e-003	0.0415	0.0169	4.0000e-005	9.6100e-003	1.7900e-003	0.0114	4.3700e-003	1.6400e-003	6.0100e-003	0.0000	3.5205	3.5205	1.1100e-003	0.0000	3.5484

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.0000e-004	0.0307	6.0600e-003	8.0000e-005	1.6700e-003	1.2000e-004	1.7900e-003	4.6000e-004	1.1000e-004	5.7000e-004	0.0000	7.5909	7.5909	3.6000e-004	0.0000	7.5997
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	1.8000e-004	1.4000e-004	1.4000e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3510	0.3510	1.0000e-005	0.0000	0.3513
Total	1.0800e-003	0.0308	7.4600e-003	8.0000e-005	2.0700e-003	1.2000e-004	2.1900e-003	5.7000e-004	1.1000e-004	6.8000e-004	0.0000	7.9419	7.9419	3.7000e-004	0.0000	7.9510

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.3200e-003	0.0000	4.3200e-003	9.8000e-004	0.0000	9.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8000e-004	2.0800e-003	0.0199	4.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.5205	3.5205	1.1100e-003	0.0000	3.5484
Total	4.8000e-004	2.0800e-003	0.0199	4.0000e-005	4.3200e-003	6.0000e-005	4.3800e-003	9.8000e-004	6.0000e-005	1.0400e-003	0.0000	3.5205	3.5205	1.1100e-003	0.0000	3.5484

Mitigated Construction Off-Site

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

Hauling	9.0000e-004	0.0307	6.0600e-003	8.0000e-005	1.6700e-003	1.2000e-004	1.7900e-003	4.6000e-004	1.1000e-004	5.7000e-004	0.0000	7.5909	7.5909	3.6000e-004	0.0000	7.5997
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	1.8000e-004	1.4000e-004	1.4000e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3510	0.3510	1.0000e-005	0.0000	0.3513
Total	1.0800e-003	0.0308	7.4600e-003	8.0000e-005	2.0700e-003	1.2000e-004	2.1900e-003	5.7000e-004	1.1000e-004	6.8000e-004	0.0000	7.9419	7.9419	3.7000e-004	0.0000	7.9510

3.4 Grading - 2019

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					2.0900e-003	0.0000	2.0900e-003	3.2000e-004	0.0000	3.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.8100e-003	0.0386	0.0413	6.0000e-005		2.3200e-003	2.3200e-003		2.1300e-003	2.1300e-003	0.0000	5.3638	5.3638	1.7000e-003	0.0000	5.4063
Total	3.8100e-003	0.0386	0.0413	6.0000e-005	2.0900e-003	2.3200e-003	4.4100e-003	3.2000e-004	2.1300e-003	2.4500e-003	0.0000	5.3638	5.3638	1.7000e-003	0.0000	5.4063

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.3100e-003	0.2161	0.0427	5.5000e-004	0.0323	8.3000e-004	0.0332	8.2800e-003	7.9000e-004	9.0700e-003	0.0000	53.4866	53.4866	2.5100e-003	0.0000	53.5493
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	1.7000e-004	1.3000e-004	1.3400e-003	0.0000	3.8000e-004	0.0000	3.8000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3370	0.3370	1.0000e-005	0.0000	0.3372
Total	6.4800e-003	0.2162	0.0440	5.5000e-004	0.0327	8.3000e-004	0.0335	8.3800e-003	7.9000e-004	9.1700e-003	0.0000	53.8236	53.8236	2.5200e-003	0.0000	53.8865

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.4000e-004	0.0000	9.4000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.3000e-004	3.1700e-003	0.0452	6.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	5.3638	5.3638	1.7000e-003	0.0000	5.4062
Total	7.3000e-004	3.1700e-003	0.0452	6.0000e-005	9.4000e-004	1.0000e-004	1.0400e-003	7.0000e-005	1.0000e-004	1.7000e-004	0.0000	5.3638	5.3638	1.7000e-003	0.0000	5.4062

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.3100e-003	0.2161	0.0427	5.5000e-004	0.0323	8.3000e-004	0.0332	8.2800e-003	7.9000e-004	9.0700e-003	0.0000	53.4866	53.4866	2.5100e-003	0.0000	53.5493
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	1.7000e-004	1.3000e-004	1.3400e-003	0.0000	3.8000e-004	0.0000	3.8000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3370	0.3370	1.0000e-005	0.0000	0.3372
Total	6.4800e-003	0.2162	0.0440	5.5000e-004	0.0327	8.3000e-004	0.0335	8.3800e-003	7.9000e-004	9.1700e-003	0.0000	53.8236	53.8236	2.5200e-003	0.0000	53.8865

3.4 Grading - 2020

Unmitigated Construction On-Site

Off-Road	1.7100e-003	7.4000e-003	0.1054	1.4000e-004		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	12.2427	12.2427	3.9600e-003	0.0000	12.3417
Total	1.7100e-003	7.4000e-003	0.1054	1.4000e-004	9.4000e-004	2.3000e-004	1.1700e-003	7.0000e-005	2.3000e-004	3.0000e-004	0.0000	12.2427	12.2427	3.9600e-003	0.0000	12.3417

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	0.0135	0.4699	0.0962	1.2800e-003	0.0363	1.5300e-003	0.0378	9.7100e-003	1.4600e-003	0.0112	0.0000	123.5167	123.5167	5.6500e-003	0.0000	123.6580
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	3.7000e-004	2.7000e-004	2.8000e-003	1.0000e-005	8.9000e-004	1.0000e-005	8.9000e-004	2.4000e-004	1.0000e-005	2.4000e-004	0.0000	0.7618	0.7618	2.0000e-005	0.0000	0.7622
Total	0.0138	0.4702	0.0990	1.2900e-003	0.0372	1.5400e-003	0.0387	9.9500e-003	1.4700e-003	0.0114	0.0000	124.2785	124.2785	5.6700e-003	0.0000	124.4202

3.5 Trenching - 2019

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	3.5000e-004	3.5100e-003	3.4500e-003	0.0000		2.3000e-004	2.3000e-004		2.2000e-004	2.2000e-004	0.0000	0.4185	0.4185	1.3000e-004	0.0000	0.4218
Total	3.5000e-004	3.5100e-003	3.4500e-003	0.0000		2.3000e-004	2.3000e-004		2.2000e-004	2.2000e-004	0.0000	0.4185	0.4185	1.3000e-004	0.0000	0.4218

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	8.0000e-005	8.4000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2106	0.2106	1.0000e-005	0.0000	0.2108
Total	1.1000e-004	8.0000e-005	8.4000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2106	0.2106	1.0000e-005	0.0000	0.2108

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	6.0000e-005	2.5000e-004	3.5100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.4185	0.4185	1.3000e-004	0.0000	0.4218
Total	6.0000e-005	2.5000e-004	3.5100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.4185	0.4185	1.3000e-004	0.0000	0.4218

Mitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	8.0000e-005	8.4000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2106	0.2106	1.0000e-005	0.0000	0.2108
Total	1.1000e-004	8.0000e-005	8.4000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2106	0.2106	1.0000e-005	0.0000	0.2108

3.5 Trenching - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.5100e-003	0.0253	0.0274	4.0000e-005		1.6000e-003	1.6000e-003		1.4700e-003	1.4700e-003	0.0000	3.2742	3.2742	1.0600e-003	0.0000	3.3007
Total	2.5100e-003	0.0253	0.0274	4.0000e-005		1.6000e-003	1.6000e-003		1.4700e-003	1.4700e-003	0.0000	3.2742	3.2742	1.0600e-003	0.0000	3.3007

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-004	5.7000e-004	6.0100e-003	2.0000e-005	1.9000e-003	1.0000e-005	1.9200e-003	5.1000e-004	1.0000e-005	5.2000e-004	0.0000	1.6324	1.6324	4.0000e-005	0.0000	1.6334
Total	8.0000e-004	5.7000e-004	6.0100e-003	2.0000e-005	1.9000e-003	1.0000e-005	1.9200e-003	5.1000e-004	1.0000e-005	5.2000e-004	0.0000	1.6324	1.6324	4.0000e-005	0.0000	1.6334

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	4.6000e-004	1.9700e-003	0.0281	4.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.2742	3.2742	1.0600e-003	0.0000	3.3007
Total	4.6000e-004	1.9700e-003	0.0281	4.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.2742	3.2742	1.0600e-003	0.0000	3.3007

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-004	5.7000e-004	6.0100e-003	2.0000e-005	1.9000e-003	1.0000e-005	1.9200e-003	5.1000e-004	1.0000e-005	5.2000e-004	0.0000	1.6324	1.6324	4.0000e-005	0.0000	1.6334
Total	8.0000e-004	5.7000e-004	6.0100e-003	2.0000e-005	1.9000e-003	1.0000e-005	1.9200e-003	5.1000e-004	1.0000e-005	5.2000e-004	0.0000	1.6324	1.6324	4.0000e-005	0.0000	1.6334

3.6 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0894	0.5744	0.6160	8.8000e-004		0.0342	0.0342		0.0327	0.0327	0.0000	70.6434	70.6434	0.0167	0.0000	71.0608
Total	0.0894	0.5744	0.6160	8.8000e-004		0.0342	0.0342		0.0327	0.0327	0.0000	70.6434	70.6434	0.0167	0.0000	71.0608

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	3.0800e-003	0.1076	0.0220	2.9000e-004	0.0111	3.5000e-004	0.0115	2.9100e-003	3.3000e-004	3.2400e-003	0.0000	28.2927	28.2927	1.2900e-003	0.0000	28.3250
Vendor	0.0159	0.4563	0.1215	1.0900e-003	0.0264	2.2600e-003	0.0286	7.6200e-003	2.1600e-003	9.7800e-003	0.0000	104.7732	104.7732	4.8000e-003	0.0000	104.8933
Worker	0.0289	0.0208	0.2178	6.5000e-004	0.0690	4.5000e-004	0.0695	0.0184	4.1000e-004	0.0188	0.0000	59.1866	59.1866	1.4500e-003	0.0000	59.2229
Total	0.0479	0.5847	0.3614	2.0300e-003	0.1065	3.0600e-003	0.1095	0.0289	2.9000e-003	0.0318	0.0000	192.2525	192.2525	7.5400e-003	0.0000	192.4412

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	0.0128	0.1954	0.5787	8.8000e-004		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	0.0000	70.6433	70.6433	0.0167	0.0000	71.0607

Total	0.0128	0.1954	0.5787	8.8000e-004		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003	0.0000	70.6433	70.6433	0.0167	0.0000	71.0607
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Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0800e-003	0.1076	0.0220	2.9000e-004	0.0111	3.5000e-004	0.0115	2.9100e-003	3.3000e-004	3.2400e-003	0.0000	28.2927	28.2927	1.2900e-003	0.0000	28.3250
Vendor	0.0159	0.4563	0.1215	1.0900e-003	0.0264	2.2600e-003	0.0286	7.6200e-003	2.1600e-003	9.7800e-003	0.0000	104.7732	104.7732	4.8000e-003	0.0000	104.8933
Worker	0.0289	0.0208	0.2178	6.5000e-004	0.0690	4.5000e-004	0.0695	0.0184	4.1000e-004	0.0188	0.0000	59.1866	59.1866	1.4500e-003	0.0000	59.2229
Total	0.0479	0.5847	0.3614	2.0300e-003	0.1065	3.0600e-003	0.1095	0.0289	2.9000e-003	0.0318	0.0000	192.2525	192.2525	7.5400e-003	0.0000	192.4412

3.6 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0812	0.5455	0.6179	8.9000e-004		0.0297	0.0297		0.0284	0.0284	0.0000	72.1996	72.1996	0.0165	0.0000	72.6115
Total	0.0812	0.5455	0.6179	8.9000e-004		0.0297	0.0297		0.0284	0.0284	0.0000	72.1996	72.1996	0.0165	0.0000	72.6115

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	2.9700e-003	0.1014	0.0221	2.9000e-004	0.0111	3.2000e-004	0.0115	2.9200e-003	3.0000e-004	3.2300e-003	0.0000	28.5437	28.5437	1.3000e-003	0.0000	28.5761
Vendor	0.0134	0.4208	0.1120	1.1100e-003	0.0269	9.3000e-004	0.0279	7.7900e-003	8.9000e-004	8.6800e-003	0.0000	106.0725	106.0725	4.6200e-003	0.0000	106.1881
Worker	0.0274	0.0190	0.2034	6.5000e-004	0.0705	4.4000e-004	0.0710	0.0188	4.1000e-004	0.0192	0.0000	58.3797	58.3797	1.3300e-003	0.0000	58.4129
Total	0.0437	0.5411	0.3375	2.0500e-003	0.1086	1.6900e-003	0.1103	0.0295	1.6000e-003	0.0311	0.0000	192.9959	192.9959	7.2500e-003	0.0000	193.1771

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	0.0131	0.1997	0.5914	8.9000e-004		1.2300e-003	1.2300e-003		1.2300e-003	1.2300e-003	0.0000	72.1996	72.1996	0.0165	0.0000	72.6114
Total	0.0131	0.1997	0.5914	8.9000e-004		1.2300e-003	1.2300e-003		1.2300e-003	1.2300e-003	0.0000	72.1996	72.1996	0.0165	0.0000	72.6114

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	2.9700e-003	0.1014	0.0221	2.9000e-004	0.0111	3.2000e-004	0.0115	2.9200e-003	3.0000e-004	3.2300e-003	0.0000	28.5437	28.5437	1.3000e-003	0.0000	28.5761
Vendor	0.0134	0.4208	0.1120	1.1100e-003	0.0269	9.3000e-004	0.0279	7.7900e-003	8.9000e-004	8.6800e-003	0.0000	106.0725	106.0725	4.6200e-003	0.0000	106.1881
Worker	0.0274	0.0190	0.2034	6.5000e-004	0.0705	4.4000e-004	0.0710	0.0188	4.1000e-004	0.0192	0.0000	58.3797	58.3797	1.3300e-003	0.0000	58.4129
Total	0.0437	0.5411	0.3375	2.0500e-003	0.1086	1.6900e-003	0.1103	0.0295	1.6000e-003	0.0311	0.0000	192.9959	192.9959	7.2500e-003	0.0000	193.1771

3.7 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	0.7168					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-003	0.0251	0.0299	5.0000e-005		1.5500e-003	1.5500e-003		1.5500e-003	1.5500e-003	0.0000	4.2044	4.2044	2.9000e-004	0.0000	4.2116
Total	0.7204	0.0251	0.0299	5.0000e-005		1.5500e-003	1.5500e-003		1.5500e-003	1.5500e-003	0.0000	4.2044	4.2044	2.9000e-004	0.0000	4.2116

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0100e-003	4.1600e-003	0.0446	1.4000e-004	0.0155	1.0000e-004	0.0156	4.1100e-003	9.0000e-005	4.2000e-003	0.0000	12.8026	12.8026	2.9000e-004	0.0000	12.8098
Total	6.0100e-003	4.1600e-003	0.0446	1.4000e-004	0.0155	1.0000e-004	0.0156	4.1100e-003	9.0000e-005	4.2000e-003	0.0000	12.8026	12.8026	2.9000e-004	0.0000	12.8098

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	0.7168					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9000e-004	2.1200e-003	0.0302	5.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	4.2044	4.2044	2.9000e-004	0.0000	4.2116
Total	0.7172	2.1200e-003	0.0302	5.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	4.2044	4.2044	2.9000e-004	0.0000	4.2116

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0100e-003	4.1600e-003	0.0446	1.4000e-004	0.0155	1.0000e-004	0.0156	4.1100e-003	9.0000e-005	4.2000e-003	0.0000	12.8026	12.8026	2.9000e-004	0.0000	12.8098
Total	6.0100e-003	4.1600e-003	0.0446	1.4000e-004	0.0155	1.0000e-004	0.0156	4.1100e-003	9.0000e-005	4.2000e-003	0.0000	12.8026	12.8026	2.9000e-004	0.0000	12.8098

3.8 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	8.0000e-004	8.1300e-003	9.5000e-003	1.0000e-005		4.6000e-004	4.6000e-004		4.3000e-004	4.3000e-004	0.0000	1.2052	1.2052	3.9000e-004	0.0000	1.2149
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	8.0000e-004	8.1300e-003	9.5000e-003	1.0000e-005		4.6000e-004	4.6000e-004		4.3000e-004	4.3000e-004	0.0000	1.2052	1.2052	3.9000e-004	0.0000	1.2149

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3000e-004	4.4100e-003	9.6000e-004	1.0000e-005	2.8000e-004	1.0000e-005	2.9000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	1.2425	1.2425	6.0000e-005	0.0000	1.2439
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	2.6000e-004	1.8000e-004	1.9400e-003	1.0000e-005	6.7000e-004	0.0000	6.8000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5581	0.5581	1.0000e-005	0.0000	0.5584
Total	3.9000e-004	4.5900e-003	2.9000e-003	2.0000e-005	9.5000e-004	1.0000e-005	9.7000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	1.8006	1.8006	7.0000e-005	0.0000	1.8023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7000e-004	7.3000e-004	0.0104	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	1.2052	1.2052	3.9000e-004	0.0000	1.2149

Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.7000e-004	7.3000e-004	0.0104	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	1.2052	1.2052	3.9000e-004	0.0000	1.2149

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3000e-004	4.4100e-003	9.6000e-004	1.0000e-005	2.8000e-004	1.0000e-005	2.9000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	1.2425	1.2425	6.0000e-005	0.0000	1.2439
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	2.6000e-004	1.8000e-004	1.9400e-003	1.0000e-005	6.7000e-004	0.0000	6.8000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5581	0.5581	1.0000e-005	0.0000	0.5584
Total	3.9000e-004	4.5900e-003	2.9000e-003	2.0000e-005	9.5000e-004	1.0000e-005	9.7000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	1.8006	1.8006	7.0000e-005	0.0000	1.8023

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	0.2158	0.9206	2.5411	8.8400e-003	0.8171	7.4900e-003	0.8246	0.2187	7.0000e-003	0.2257	0.0000	809.4602	809.4602	0.0272	0.0000	810.1394
Unmitigated	0.2158	0.9206	2.5411	8.8400e-003	0.8171	7.4900e-003	0.8246	0.2187	7.0000e-003	0.2257	0.0000	809.4602	809.4602	0.0272	0.0000	810.1394

Category	tons/yr								MT/yr						
Electricity Mitigated					0.0000	0.0000			0.0000	332.1074	332.1074	0.0332	6.8700e-003	334.9852	
Electricity Unmitigated					0.0000	0.0000			0.0000	375.3978	375.3978	0.0375	7.7700e-003	378.6508	
NaturalGas Mitigated	0.0119	0.1078	0.0905	6.5000e-004	8.1900e-003	8.1900e-003		8.1900e-003	8.1900e-003	0.0000	117.3408	117.3408	2.2500e-003	2.1500e-003	118.0381
NaturalGas Unmitigated	0.0119	0.1078	0.0905	6.5000e-004	8.1900e-003	8.1900e-003		8.1900e-003	8.1900e-003	0.0000	117.3408	117.3408	2.2500e-003	2.1500e-003	118.0381

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	2.19888e+006	0.0119	0.1078	0.0905	6.5000e-004		8.1900e-003	8.1900e-003		8.1900e-003	8.1900e-003	0.0000	117.3408	117.3408	2.2500e-003	2.1500e-003	118.0381
Total		0.0119	0.1078	0.0905	6.5000e-004		8.1900e-003	8.1900e-003		8.1900e-003	8.1900e-003	0.0000	117.3408	117.3408	2.2500e-003	2.1500e-003	118.0381

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	2.19888e+006	0.0119	0.1078	0.0905	6.5000e-004		8.1900e-003	8.1900e-003		8.1900e-003	8.1900e-003	0.0000	117.3408	117.3408	2.2500e-003	2.1500e-003	118.0381
Total		0.0119	0.1078	0.0905	6.5000e-004		8.1900e-003	8.1900e-003		8.1900e-003	8.1900e-003	0.0000	117.3408	117.3408	2.2500e-003	2.1500e-003	118.0381

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	458832	60.3556	6.0400e-003	1.2500e-003	60.8786
General Office Building	2.395e+006	315.0422	0.0315	6.5200e-003	317.7722
Total		375.3978	0.0375	7.7700e-003	378.6508

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	390321	51.3435	5.1300e-003	1.0600e-003	51.7884
General Office Building	2.13441e+006	280.7639	0.0281	5.8100e-003	283.1969
Total		332.1074	0.0332	6.8700e-003	334.9852

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	0.6017	4.0000e-005	4.0700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.9000e-003	7.9000e-003	2.0000e-005	0.0000	8.4200e-003
Unmitigated	0.6017	4.0000e-005	4.0700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.9000e-003	7.9000e-003	2.0000e-005	0.0000	8.4200e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0717					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5297					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.8000e-004	4.0000e-005	4.0700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.9000e-003	7.9000e-003	2.0000e-005	0.0000	8.4200e-003
Total	0.6017	4.0000e-005	4.0700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.9000e-003	7.9000e-003	2.0000e-005	0.0000	8.4200e-003

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
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SubCategory	tons/yr								MT/yr							
	Architectural Coating	0.0717					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5297					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Landscaping	3.8000e-004	4.0000e-005	4.0700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.9000e-003	7.9000e-003	2.0000e-005	0.0000	8.4200e-003
Total	0.6017	4.0000e-005	4.0700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	7.9000e-003	7.9000e-003	2.0000e-005	0.0000	8.4200e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	28.8069	0.0311	0.0188	35.1838
Unmitigated	32.1752	0.0314	0.0189	38.5813

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	23.8732 / 14.632	32.1752	0.0314	0.0189	38.5813
Total		32.1752	0.0314	0.0189	38.5813

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	23.8732 / 7.31598	28.8069	0.0311	0.0188	35.1838
Total		28.8069	0.0311	0.0188	35.1838

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	25.3576	1.4986	0.0000	62.8225
Unmitigated	25.3576	1.4986	0.0000	62.8225

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	124.92	25.3576	1.4986	0.0000	62.8225
Total		25.3576	1.4986	0.0000	62.8225

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	124.92	25.3576	1.4986	0.0000	62.8225

Total		25.3576	1.4986	0.0000	62.8225
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9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	50	185	0.73	Diesel

Boilers

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

Equipment Type	Number
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10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (175,000 HP)	7.5900e-003	0.0212	0.0194	4.0000e-005		1.1200e-003	1.1200e-003		1.1200e-003	1.1200e-003	0.0000	3.5224	3.5224	4.9000e-004	0.0000	3.5347
Total	7.5900e-003	0.0212	0.0194	4.0000e-005		1.1200e-003	1.1200e-003		1.1200e-003	1.1200e-003	0.0000	3.5224	3.5224	4.9000e-004	0.0000	3.5347

11.0 Vegetation

DSP - 300 Mathilda Ave - Santa Clara County, Annual

**DSP - 300 Mathilda Ave
Santa Clara County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	162.40	1000sqft	2.00	162,396.00	0
Enclosed Parking with Elevator	294.00	Space	0.00	97,064.00	0
Parking Lot	15.00	Space	0.00	6,000.00	0
Strip Mall	7.13	1000sqft	0.00	7,131.00	0

1.2 Other Project Characteristics

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

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 rate = 290

Land Use - Applicant provided land uses, Revised 9.19.2019

Construction Phase - Applicant provided construction schedule

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Trips and VMT - 348tons pavement demo = 70 one-way trips, building const = 110 one-way cement trips, paving = 178cy = 42 one-way asphalt trips

Grading - Grading = 42,607cy export

Vehicle Trips - Vehicle Trips - After reuctions Office = 9.01, 2.01, 0.86, Retail = 35.26, 33.45, 16.25

Water And Wastewater - WTP Treatment 100% aerobic

Construction Off-road Equipment Mitigation - BMPs, Tier 4 final mitigation

Energy Mitigation - Green Building Measures - energy efficient lighting, appliances, installing solar panels

Water Mitigation - Green Building Measures - water efficient fixtures and landscaping

Stationary Sources - Emergency Generators and Fire Pumps - 100kW diesel generator, 152 hp, 50 hrs/yr

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	10.00	100.00
tblConstructionPhase	NumDays	200.00	170.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	4.00	100.00
tblConstructionPhase	NumDays	10.00	40.00
tblConstructionPhase	NumDays	2.00	15.00
tblGrading	AcresOfGrading	62.50	175.00
tblGrading	MaterialExported	0.00	42,607.00
tblLandUse	LandUseSquareFeet	162,400.00	162,396.00
tblLandUse	LandUseSquareFeet	117,600.00	97,064.00
tblLandUse	LandUseSquareFeet	7,130.00	7,131.00
tblLandUse	LotAcreage	3.73	2.00

tblLandUse	LotAcreage	2.65	0.00
tblLandUse	LotAcreage	0.13	0.00
tblLandUse	LotAcreage	0.16	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	7.00	3.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	6.00	3.00
tblOffRoadEquipment	UsageHours	8.00	3.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	3.00
tblOffRoadEquipment	UsageHours	7.00	4.00

tblOffRoadEquipment	UsageHours	8.00	5.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	152.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	0.00	70.00
tblTripsAndVMT	HaulingTripNumber	0.00	110.00
tblTripsAndVMT	HaulingTripNumber	0.00	42.00
tblTripsAndVMT	WorkerTripNumber	23.00	10.00
tblTripsAndVMT	WorkerTripNumber	20.00	15.00

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					
2019	0.0412	0.6384	0.2755	1.13E-03	0.1808	0.0176	0.1983	0.0438	0.0163	0.0601	0	106.5044	106.5044	0.0144	0	106.8638
2020	0.2572	2.6884	1.8085	5.45E-03	0.2804	0.0908	0.3712	0.0748	0.0854	0.1602	0	494.2262	494.2262	0.0674	0	495.9116
2021	0.9515	0.3484	0.4216	8.10E-04	0.0149	0.0167	0.0316	3.99E-03	0.0165	0.0205	0	71.3054	71.3054	8.33E-03	0	71.5137
Maximum	0.9515	2.6884	1.8085	5.4500e-003	0.2804	0.0908	0.3712	0.0748	0.0854	0.1602	0.0000	494.2262	494.2262	0.0674	0.0000	495.9116

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					
2019	0.0142	0.3034	0.2837	1.13E-03	0.1036	1.73E-03	0.1054	0.018	1.68E-03	0.0196	0.0000	106.5043	106.5043	0.0144	0.0000	106.8638
2020	0.0896	1.2761	1.8579	5.45E-03	0.1999	7.79E-03	0.2077	0.0449	7.59E-03	0.0525	0.0000	494.2259	494.2259	0.0674	0.0000	495.9113
2021	0.9196	0.1401	0.4382	8.10E-04	0.0149	1.02E-03	0.0159	3.99E-03	1.01E-03	5.01E-03	0.0000	71.3053	71.3053	8.3300e-003	0.0000	71.5136
Maximum	0.9196	1.2761	1.8579	5.4500e-003	0.1999	7.7900e-003	0.2077	0.0449	7.5900e-003	0.0525	0.0000	494.2259	494.2259	0.0674	0.0000	495.9113

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	18.12	53.21	-2.96	0.00	33.11	91.58	45.28	45.45	91.30	67.95	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	10-7-2019	1-6-2020	0.7218	0.3490
2	1-7-2020	4-6-2020	0.9531	0.5469
3	4-7-2020	7-6-2020	0.5450	0.1681
4	7-7-2020	10-6-2020	0.7160	0.3101
5	10-7-2020	1-6-2021	0.6713	0.3085
6	1-7-2021	4-6-2021	0.5992	0.4838
7	4-7-2021	7-6-2021	0.6583	0.5562
		Highest	0.9531	0.5562

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	0.7597	4.0000e-005	4.4000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.5500e-003	8.5500e-003	2.0000e-005	0.0000	9.1100e-003

Energy	0.0144	0.1311	0.1102	7.9000e-004		9.9700e-003	9.9700e-003		9.9700e-003	9.9700e-003	0.0000	608.7714	608.7714	0.0493	0.0123	613.6580
Mobile	0.3789	1.5958	4.3495	0.0149	1.3751	0.0127	1.3878	0.3681	0.0119	0.3800	0.0000	1,368.3366	1,368.3366	0.0465	0.0000	1,369.4998
Stationary	6.2400e-003	0.0174	0.0226	3.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	2.8941	2.8941	4.1000e-004	0.0000	2.9042
Waste						0.0000	0.0000		0.0000	0.0000	32.1781	0.0000	32.1781	1.9017	0.0000	79.7200
Water						0.0000	0.0000		0.0000	0.0000	9.3248	29.2143	38.5391	0.9607	0.0232	69.4749
Total	1.1593	1.7444	4.4867	0.0158	1.3751	0.0236	1.3987	0.3681	0.0228	0.3909	41.5029	2,009.2250	2,050.7279	2.9586	0.0355	2,135.2659

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	0.7597	4.0000e-005	4.4000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.5500e-003	8.5500e-003	2.0000e-005	0.0000	9.1100e-003
Energy	0.0144	0.1311	0.1102	7.9000e-004		9.9700e-003	9.9700e-003		9.9700e-003	9.9700e-003	0.0000	450.8591	450.8591	0.0336	8.9900e-003	454.3773
Mobile	0.3789	1.5958	4.3495	0.0149	1.3751	0.0127	1.3878	0.3681	0.0119	0.3800	0.0000	1,368.3366	1,368.3366	0.0465	0.0000	1,369.4998
Stationary	6.2400e-003	0.0174	0.0226	3.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	2.8941	2.8941	4.1000e-004	0.0000	2.9042
Waste						0.0000	0.0000		0.0000	0.0000	32.1781	0.0000	32.1781	1.9017	0.0000	79.7200
Water						0.0000	0.0000		0.0000	0.0000	9.3248	25.0674	34.3922	0.9603	0.0231	65.2920
Total	1.1593	1.7444	4.4867	0.0158	1.3751	0.0236	1.3987	0.3681	0.0228	0.3909	41.5029	1,847.1658	1,888.6686	2.9424	0.0321	1,971.8023

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.07	7.90	0.55	9.47	7.66

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/7/2019	10/25/2019	5	15	
2	Site Preparation	Site Preparation	10/28/2019	11/15/2019	5	15	
3	Grading	Grading	11/18/2019	4/3/2020	5	100	
4	Trenching	Trenching	4/13/2020	5/22/2020	5	30	
5	Building Construction	Building Construction	5/25/2020	1/15/2021	5	170	
6	Paving	Paving	5/25/2020	7/17/2020	5	40	
7	Architectural Coating	Architectural Coating	2/3/2021	6/22/2021	5	100	

Acres of Grading (Site Preparation Phase): 7.5

Acres of Grading (Grading Phase): 175

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 254,291; Non-Residential Outdoor: 84,764; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	2.00	81	0.73
Demolition	Excavators	1	4.00	158	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	3.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	3.00	247	0.40
Site Preparation	Scrapers	0	0.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Grading	Excavators	2	2.00	158	0.38
Grading	Graders	2	1.00	187	0.41
Grading	Rubber Tired Dozers	1	2.00	247	0.40
Grading	Scrapers	2	2.00	367	0.48

Grading	Sweepers/Scrubbers	1	2.00	64	0.46
Grading	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Trenching	Excavators	2	4.00	158	0.38
Trenching	Tractors/Loaders/Backhoes	2	2.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	3.00	89	0.20
Building Construction	Generator Sets	0	0.00	84	0.74
Building Construction	Pumps	1	2.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	2	3.00	97	0.37
Building Construction	Welders	4	5.00	46	0.45
Paving	Cement and Mortar Mixers	1	2.00	9	0.56
Paving	Pavers	2	6.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	4.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	3.00	97	0.37
Architectural Coating	Aerial Lifts	2	6.00	63	0.31
Architectural Coating	Air Compressors	4	4.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	70.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	9	10.00	0.00	5,326.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	98.00	45.00	110.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	6	20.00	0.00	42.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2019

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	4.2200e-003	0.0413	0.0362	6.0000e-005		2.3400e-003	2.3400e-003		2.1900e-003	2.1900e-003	0.0000	5.0353	5.0353	1.3500e-003	0.0000	5.0689
Total	4.2200e-003	0.0413	0.0362	6.0000e-005		2.3400e-003	2.3400e-003		2.1900e-003	2.1900e-003	0.0000	5.0353	5.0353	1.3500e-003	0.0000	5.0689

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	3.2000e-004	0.0109	2.1500e-003	3.0000e-005	5.9000e-004	4.0000e-005	6.4000e-004	1.6000e-004	4.0000e-005	2.0000e-004	0.0000	2.6973	2.6973	1.3000e-004	0.0000	2.7004
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	3.5000e-004	2.6000e-004	2.7200e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.8000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.6845	0.6845	2.0000e-005	0.0000	0.6850

Total	6.7000e-004	0.0112	4.8700e-003	4.0000e-005	1.3600e-003	5.0000e-005	1.4200e-003	3.7000e-004	4.0000e-005	4.1000e-004	0.0000	3.3818	3.3818	1.5000e-004	0.0000	3.3854
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Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.7000e-004	2.8900e-003	0.0387	6.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	5.0353	5.0353	1.3500e-003	0.0000	5.0689
Total	6.7000e-004	2.8900e-003	0.0387	6.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	5.0353	5.0353	1.3500e-003	0.0000	5.0689

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	3.2000e-004	0.0109	2.1500e-003	3.0000e-005	5.9000e-004	4.0000e-005	6.4000e-004	1.6000e-004	4.0000e-005	2.0000e-004	0.0000	2.6973	2.6973	1.3000e-004	0.0000	2.7004
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	3.5000e-004	2.6000e-004	2.7200e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.8000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.6845	0.6845	2.0000e-005	0.0000	0.6850
Total	6.7000e-004	0.0112	4.8700e-003	4.0000e-005	1.3600e-003	5.0000e-005	1.4200e-003	3.7000e-004	4.0000e-005	4.1000e-004	0.0000	3.3818	3.3818	1.5000e-004	0.0000	3.3854

3.3 Site Preparation - 2019

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					0.0209	0.0000	0.0209	9.7400e-003	0.0000	9.7400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.7100e-003	0.0921	0.0345	9.0000e-005		3.8200e-003	3.8200e-003		3.5200e-003	3.5200e-003	0.0000	7.6777	7.6777	2.4300e-003	0.0000	7.7385
Total	7.7100e-003	0.0921	0.0345	9.0000e-005	0.0209	3.8200e-003	0.0247	9.7400e-003	3.5200e-003	0.0133	0.0000	7.6777	7.6777	2.4300e-003	0.0000	7.7385

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.6000e-004	1.6800e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4213	0.4213	1.0000e-005	0.0000	0.4215
Total	2.2000e-004	1.6000e-004	1.6800e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4213	0.4213	1.0000e-005	0.0000	0.4215

Mitigated Construction On-Site

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

Fugitive Dust					9.4100e-003	0.0000	9.4100e-003	2.1900e-003	0.0000	2.1900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0400e-003	4.5300e-003	0.0419	9.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	7.6777	7.6777	2.4300e-003	0.0000	7.7385
Total	1.0400e-003	4.5300e-003	0.0419	9.0000e-005	9.4100e-003	1.4000e-004	9.5500e-003	2.1900e-003	1.4000e-004	2.3300e-003	0.0000	7.6777	7.6777	2.4300e-003	0.0000	7.7385

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.6000e-004	1.6800e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4213	0.4213	1.0000e-005	0.0000	0.4215
Total	2.2000e-004	1.6000e-004	1.6800e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4213	0.4213	1.0000e-005	0.0000	0.4215

3.4 Grading - 2019

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					0.1193	0.0000	0.1193	0.0236	0.0000	0.0236	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0201	0.2280	0.1415	2.6000e-004		0.0103	0.0103		9.5100e-003	9.5100e-003	0.0000	23.1937	23.1937	7.3400e-003	0.0000	23.3772
Total	0.0201	0.2280	0.1415	2.6000e-004	0.1193	0.0103	0.1296	0.0236	9.5100e-003	0.0331	0.0000	23.1937	23.1937	7.3400e-003	0.0000	23.3772

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.7400e-003	0.2653	0.0524	6.8000e-004	0.0374	1.0200e-003	0.0385	9.6100e-003	9.7000e-004	0.0106	0.0000	65.6713	65.6713	3.0800e-003	0.0000	65.7482
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	4.3000e-004	4.4700e-003	1.0000e-005	1.2700e-003	1.0000e-005	1.2800e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.1233	1.1233	3.0000e-005	0.0000	1.1241
Total	8.3200e-003	0.2658	0.0569	6.9000e-004	0.0387	1.0300e-003	0.0397	9.9500e-003	9.8000e-004	0.0109	0.0000	66.7946	66.7946	3.1100e-003	0.0000	66.8723

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					0.0537	0.0000	0.0537	5.3200e-003	0.0000	5.3200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3000e-003	0.0189	0.1397	2.6000e-004		4.2000e-004	4.2000e-004		4.2000e-004	4.2000e-004	0.0000	23.1937	23.1937	7.3400e-003	0.0000	23.3771
Total	3.3000e-003	0.0189	0.1397	2.6000e-004	0.0537	4.2000e-004	0.0541	5.3200e-003	4.2000e-004	5.7400e-003	0.0000	23.1937	23.1937	7.3400e-003	0.0000	23.3771

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.7400e-003	0.2653	0.0524	6.8000e-004	0.0374	1.0200e-003	0.0385	9.6100e-003	9.7000e-004	0.0106	0.0000	65.6713	65.6713	3.0800e-003	0.0000	65.7482
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	4.3000e-004	4.4700e-003	1.0000e-005	1.2700e-003	1.0000e-005	1.2800e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.1233	1.1233	3.0000e-005	0.0000	1.1241
Total	8.3200e-003	0.2658	0.0569	6.9000e-004	0.0387	1.0300e-003	0.0397	9.9500e-003	9.8000e-004	0.0109	0.0000	66.7946	66.7946	3.1100e-003	0.0000	66.8723

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1464	0.0000	0.1464	0.0385	0.0000	0.0385	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0401	0.4465	0.2885	5.5000e-004		0.0201	0.0201		0.0185	0.0185	0.0000	48.2099	48.2099	0.0156	0.0000	48.5997
Total	0.0401	0.4465	0.2885	5.5000e-004	0.1464	0.0201	0.1665	0.0385	0.0185	0.0570	0.0000	48.2099	48.2099	0.0156	0.0000	48.5997

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	0.0151	0.5255	0.1076	1.4300e-003	0.0415	1.7100e-003	0.0432	0.0111	1.6300e-003	0.0127	0.0000	138.1142	138.1142	6.3200e-003	0.0000	138.2722

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	1.1300e-003	8.1000e-004	8.5100e-003	3.0000e-005	2.7000e-003	2.0000e-005	2.7100e-003	7.2000e-004	2.0000e-005	7.3000e-004	0.0000	2.3125	2.3125	6.0000e-005	0.0000	2.3139
Total	0.0162	0.5263	0.1161	1.4600e-003	0.0442	1.7300e-003	0.0459	0.0118	1.6500e-003	0.0135	0.0000	140.4267	140.4267	6.3800e-003	0.0000	140.5861

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					0.0659	0.0000	0.0659	8.6700e-003	0.0000	8.6700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.0000e-003	0.0401	0.2968	5.5000e-004		9.0000e-004	9.0000e-004		9.0000e-004	9.0000e-004	0.0000	48.2099	48.2099	0.0156	0.0000	48.5997
Total	7.0000e-003	0.0401	0.2968	5.5000e-004	0.0659	9.0000e-004	0.0668	8.6700e-003	9.0000e-004	9.5700e-003	0.0000	48.2099	48.2099	0.0156	0.0000	48.5997

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	0.0151	0.5255	0.1076	1.4300e-003	0.0415	1.7100e-003	0.0432	0.0111	1.6300e-003	0.0127	0.0000	138.1142	138.1142	6.3200e-003	0.0000	138.2722
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	1.1300e-003	8.1000e-004	8.5100e-003	3.0000e-005	2.7000e-003	2.0000e-005	2.7100e-003	7.2000e-004	2.0000e-005	7.3000e-004	0.0000	2.3125	2.3125	6.0000e-005	0.0000	2.3139
Total	0.0162	0.5263	0.1161	1.4600e-003	0.0442	1.7300e-003	0.0459	0.0118	1.6500e-003	0.0135	0.0000	140.4267	140.4267	6.3800e-003	0.0000	140.5861

3.5 Trenching - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.2500e-003	0.0520	0.0661	1.0000e-004		2.7500e-003	2.7500e-003		2.5300e-003	2.5300e-003	0.0000	8.8519	8.8519	2.8600e-003	0.0000	8.9235
Total	5.2500e-003	0.0520	0.0661	1.0000e-004		2.7500e-003	2.7500e-003		2.5300e-003	2.5300e-003	0.0000	8.8519	8.8519	2.8600e-003	0.0000	8.9235

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.2400e-003	5.3600e-003	0.0763	1.0000e-004		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	8.8519	8.8519	2.8600e-003	0.0000	8.9235
Total	1.2400e-003	5.3600e-003	0.0763	1.0000e-004		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	8.8519	8.8519	2.8600e-003	0.0000	8.9235

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209

3.6 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1335	1.0140	0.8005	1.3700e-003		0.0528	0.0528		0.0503	0.0503	0.0000	113.2189	113.2189	0.0271	0.0000	113.8961

Total	0.1335	1.0140	0.8005	1.3700e-003		0.0528	0.0528		0.0503	0.0503	0.0000	113.2189	113.2189	0.0271	0.0000	113.8961
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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	4.3000e-004	0.0149	3.0600e-003	4.0000e-005	9.2000e-004	5.0000e-005	9.7000e-004	2.5000e-004	5.0000e-005	3.0000e-004	0.0000	3.9235	3.9235	1.8000e-004	0.0000	3.9280
Vendor	0.0142	0.4074	0.1085	9.8000e-004	0.0235	2.0200e-003	0.0256	6.8000e-003	1.9300e-003	8.7300e-003	0.0000	93.5312	93.5312	4.2900e-003	0.0000	93.6384
Worker	0.0259	0.0186	0.1950	5.9000e-004	0.0618	4.0000e-004	0.0622	0.0164	3.7000e-004	0.0168	0.0000	52.9905	52.9905	1.3000e-003	0.0000	53.0229
Total	0.0405	0.4409	0.3065	1.6100e-003	0.0862	2.4700e-003	0.0887	0.0235	2.3500e-003	0.0258	0.0000	150.4451	150.4451	5.7700e-003	0.0000	150.5893

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	0.0190	0.2443	0.7937	1.3700e-003		1.9600e-003	1.9600e-003		1.9600e-003	1.9600e-003	0.0000	113.2187	113.2187	0.0271	0.0000	113.8959
Total	0.0190	0.2443	0.7937	1.3700e-003		1.9600e-003	1.9600e-003		1.9600e-003	1.9600e-003	0.0000	113.2187	113.2187	0.0271	0.0000	113.8959

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	4.3000e-004	0.0149	3.0600e-003	4.0000e-005	9.2000e-004	5.0000e-005	9.7000e-004	2.5000e-004	5.0000e-005	3.0000e-004	0.0000	3.9235	3.9235	1.8000e-004	0.0000	3.9280
Vendor	0.0142	0.4074	0.1085	9.8000e-004	0.0235	2.0200e-003	0.0256	6.8000e-003	1.9300e-003	8.7300e-003	0.0000	93.5312	93.5312	4.2900e-003	0.0000	93.6384
Worker	0.0259	0.0186	0.1950	5.9000e-004	0.0618	4.0000e-004	0.0622	0.0164	3.7000e-004	0.0168	0.0000	52.9905	52.9905	1.3000e-003	0.0000	53.0229
Total	0.0405	0.4409	0.3065	1.6100e-003	0.0862	2.4700e-003	0.0887	0.0235	2.3500e-003	0.0258	0.0000	150.4451	150.4451	5.7700e-003	0.0000	150.5893

3.6 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.2600e-003	0.0645	0.0538	1.0000e-004		3.1500e-003	3.1500e-003		3.0000e-003	3.0000e-003	0.0000	7.8330	7.8330	1.8200e-003	0.0000	7.8786
Total	8.2600e-003	0.0645	0.0538	1.0000e-004		3.1500e-003	3.1500e-003		3.0000e-003	3.0000e-003	0.0000	7.8330	7.8330	1.8200e-003	0.0000	7.8786

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
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Category	tons/yr										MT/yr					
	Hauling	3.0000e-005	9.5000e-004	2.1000e-004	0.0000	7.1000e-004	0.0000	7.2000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.2680	0.2680	1.0000e-005	0.0000
Vendor	8.1000e-004	0.0254	6.7700e-003	7.0000e-005	1.6300e-003	6.0000e-005	1.6800e-003	4.7000e-004	5.0000e-005	5.2000e-004	0.0000	6.4110	6.4110	2.8000e-004	0.0000	6.4180
Worker	1.6600e-003	1.1500e-003	0.0123	4.0000e-005	4.2700e-003	3.0000e-005	4.3000e-003	1.1400e-003	2.0000e-005	1.1600e-003	0.0000	3.5388	3.5388	8.0000e-005	0.0000	3.5408
Total	2.5000e-003	0.0275	0.0193	1.1000e-004	6.6100e-003	9.0000e-005	6.7000e-003	1.7900e-003	7.0000e-005	1.8600e-003	0.0000	10.2177	10.2177	3.7000e-004	0.0000	10.2270

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3200e-003	0.0169	0.0549	1.0000e-004		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	7.8330	7.8330	1.8200e-003	0.0000	7.8786
Total	1.3200e-003	0.0169	0.0549	1.0000e-004		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	7.8330	7.8330	1.8200e-003	0.0000	7.8786

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	3.0000e-005	9.5000e-004	2.1000e-004	0.0000	7.1000e-004	0.0000	7.2000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.2680	0.2680	1.0000e-005	0.0000	0.2683
Vendor	8.1000e-004	0.0254	6.7700e-003	7.0000e-005	1.6300e-003	6.0000e-005	1.6800e-003	4.7000e-004	5.0000e-005	5.2000e-004	0.0000	6.4110	6.4110	2.8000e-004	0.0000	6.4180

Worker	1.6600e-003	1.1500e-003	0.0123	4.0000e-005	4.2700e-003	3.0000e-005	4.3000e-003	1.1400e-003	2.0000e-005	1.1600e-003	0.0000	3.5388	3.5388	8.0000e-005	0.0000	3.5408
Total	2.5000e-003	0.0275	0.0193	1.1000e-004	6.6100e-003	9.0000e-005	6.7000e-003	1.7900e-003	7.0000e-005	1.8600e-003	0.0000	10.2177	10.2177	3.7000e-004	0.0000	10.2270

3.7 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0201	0.2078	0.2195	3.4000e-004		0.0110	0.0110		0.0102	0.0102	0.0000	30.0130	30.0130	9.6600e-003	0.0000	30.2544
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0201	0.2078	0.2195	3.4000e-004		0.0110	0.0110		0.0102	0.0102	0.0000	30.0130	30.0130	9.6600e-003	0.0000	30.2544

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-003	7.2000e-004	7.5100e-003	2.0000e-005	2.3800e-003	2.0000e-005	2.3900e-003	6.3000e-004	1.0000e-005	6.5000e-004	0.0000	2.0405	2.0405	5.0000e-005	0.0000	2.0417
Total	1.0000e-003	7.2000e-004	7.5100e-003	2.0000e-005	2.3800e-003	2.0000e-005	2.3900e-003	6.3000e-004	1.0000e-005	6.5000e-004	0.0000	2.0405	2.0405	5.0000e-005	0.0000	2.0417

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	4.1700e-003	0.0181	0.2572	3.4000e-004		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004	0.0000	30.0130	30.0130	9.6600e-003	0.0000	30.2544
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	4.1700e-003	0.0181	0.2572	3.4000e-004		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004	0.0000	30.0130	30.0130	9.6600e-003	0.0000	30.2544

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-003	7.2000e-004	7.5100e-003	2.0000e-005	2.3800e-003	2.0000e-005	2.3900e-003	6.3000e-004	1.0000e-005	6.5000e-004	0.0000	2.0405	2.0405	5.0000e-005	0.0000	2.0417
Total	1.0000e-003	7.2000e-004	7.5100e-003	2.0000e-005	2.3800e-003	2.0000e-005	2.3900e-003	6.3000e-004	1.0000e-005	6.5000e-004	0.0000	2.0405	2.0405	5.0000e-005	0.0000	2.0417

3.8 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
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Category	tons/yr										MT/yr						
Archit. Coating	0.9055					0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
Off-Road	0.0320	0.2486	0.3244	5.2000e-004		0.0134	0.0134			0.0133	0.0133	0.0000	45.1079	45.1079	5.9100e-003	0.0000	45.2557
Total	0.9375	0.2486	0.3244	5.2000e-004		0.0134	0.0134			0.0133	0.0133	0.0000	45.1079	45.1079	5.9100e-003	0.0000	45.2557

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.6000e-004	5.6200e-003	1.2200e-003	2.0000e-005	3.6000e-004	2.0000e-005	3.7000e-004	1.0000e-004	2.0000e-005	1.1000e-004	0.0000	1.5814	1.5814	7.0000e-005	0.0000	1.5832
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	3.0800e-003	2.1300e-003	0.0229	7.0000e-005	7.9300e-003	5.0000e-005	7.9800e-003	2.1100e-003	5.0000e-005	2.1600e-003	0.0000	6.5654	6.5654	1.5000e-004	0.0000	6.5692
Total	3.2400e-003	7.7500e-003	0.0241	9.0000e-005	8.2900e-003	7.0000e-005	8.3500e-003	2.2100e-003	7.0000e-005	2.2700e-003	0.0000	8.1468	8.1468	2.2000e-004	0.0000	8.1523

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	0.9055					0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-Road	7.0600e-003	0.0880	0.3399	5.2000e-004		7.3000e-004	7.3000e-004			7.3000e-004	7.3000e-004	0.0000	45.1078	45.1078	5.9100e-003	0.0000	45.2557

Total	0.9125	0.0880	0.3399	5.2000e-004		7.3000e-004	7.3000e-004		7.3000e-004	7.3000e-004	0.0000	45.1078	45.1078	5.9100e-003	0.0000	45.2557
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Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.6000e-004	5.6200e-003	1.2200e-003	2.0000e-005	3.6000e-004	2.0000e-005	3.7000e-004	1.0000e-004	2.0000e-005	1.1000e-004	0.0000	1.5814	1.5814	7.0000e-005	0.0000	1.5832
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	3.0800e-003	2.1300e-003	0.0229	7.0000e-005	7.9300e-003	5.0000e-005	7.9800e-003	2.1100e-003	5.0000e-005	2.1600e-003	0.0000	6.5654	6.5654	1.5000e-004	0.0000	6.5692
Total	3.2400e-003	7.7500e-003	0.0241	9.0000e-005	8.2900e-003	7.0000e-005	8.3500e-003	2.2100e-003	7.0000e-005	2.2700e-003	0.0000	8.1468	8.1468	2.2000e-004	0.0000	8.1523

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	0.3789	1.5958	4.3495	0.0149	1.3751	0.0127	1.3878	0.3681	0.0119	0.3800	0.0000	1,368.3366	1,368.3366	0.0465	0.0000	1,369.4998
Unmitigated	0.3789	1.5958	4.3495	0.0149	1.3751	0.0127	1.3878	0.3681	0.0119	0.3800	0.0000	1,368.3366	1,368.3366	0.0465	0.0000	1,369.4998

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	1,791.27	399.50	170.52	3,252,243	3,252,243
Parking Lot	0.00	0.00	0.00		
Strip Mall	316.00	299.75	145.67	445,602	445,602
Total	2,107.27	699.25	316.19	3,697,845	3,697,845

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
General Office Building	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Parking Lot	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Strip Mall	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

Percent of Electricity Use Generated with Renewable Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	308.0937	308.0937	0.0308	6.3700e-003	310.7635
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	466.0060	466.0060	0.0466	9.6400e-003	470.0442
NaturalGas Mitigated	0.0144	0.1311	0.1102	7.9000e-004	9.9700e-003	9.9700e-003	9.9700e-003	9.9700e-003	9.9700e-003	9.9700e-003	0.0000	142.7654	142.7654	2.7400e-003	2.6200e-003	143.6138
NaturalGas Unmitigated	0.0144	0.1311	0.1102	7.9000e-004	9.9700e-003	9.9700e-003	9.9700e-003	9.9700e-003	9.9700e-003	9.9700e-003	0.0000	142.7654	142.7654	2.7400e-003	2.6200e-003	143.6138

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	2.65842e+006	0.0143	0.1303	0.1095	7.8000e-004	9.9000e-003	9.9000e-003	9.9000e-003	9.9000e-003	9.9000e-003	9.9000e-003	0.0000	141.8636	141.8636	2.7200e-003	2.6000e-003	142.7066
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	16900.5	9.0000e-005	8.3000e-004	7.0000e-004	0.0000	6.0000e-005	6.0000e-005	6.0000e-005	6.0000e-005	6.0000e-005	6.0000e-005	0.0000	0.9019	0.9019	2.0000e-005	2.0000e-005	0.9072
Total		0.0144	0.1311	0.1102	7.8000e-004	9.9600e-003	9.9600e-003	9.9600e-003	9.9600e-003	9.9600e-003	9.9600e-003	0.0000	142.7654	142.7654	2.7400e-003	2.6200e-003	143.6138

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	2.65842e+006	0.0143	0.1303	0.1095	7.8000e-004		9.9000e-003	9.9000e-003		9.9000e-003	9.9000e-003	0.0000	141.8636	141.8636	2.7200e-003	2.6000e-003	142.7066
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	16900.5	9.0000e-005	8.3000e-004	7.0000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.9019	0.9019	2.0000e-005	2.0000e-005	0.9072
Total		0.0144	0.1311	0.1102	7.8000e-004		9.9600e-003	9.9600e-003		9.9600e-003	9.9600e-003	0.0000	142.7654	142.7654	2.7400e-003	2.6200e-003	143.6138

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	568795	74.8203	7.4800e-003	1.5500e-003	75.4687
General Office Building	2.89552e+006	380.8820	0.0381	7.8800e-003	384.1825
Parking Lot	2100	0.2762	3.0000e-005	1.0000e-005	0.2786
Strip Mall	76230.4	10.0275	1.0000e-003	2.1000e-004	10.1144
Total		466.0060	0.0466	9.6500e-003	470.0442

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	362898	47.7363	4.7700e-003	9.9000e-004	48.1499
General Office Building	1.93535e+006	254.5800	0.0255	5.2700e-003	256.7860
Parking Lot	787.5	0.1036	1.0000e-005	0.0000	0.1045
Strip Mall	43133.6	5.6739	5.7000e-004	1.2000e-004	5.7230
Total		308.0937	0.0308	6.3800e-003	310.7635

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	0.7597	4.0000e-005	4.4000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.5500e-003	8.5500e-003	2.0000e-005	0.0000	9.1100e-003
Unmitigated	0.7597	4.0000e-005	4.4000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.5500e-003	8.5500e-003	2.0000e-005	0.0000	9.1100e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0906					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6688					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.1000e-004	4.0000e-005	4.4000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.5500e-003	8.5500e-003	2.0000e-005	0.0000	9.1100e-003
Total	0.7597	4.0000e-005	4.4000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.5500e-003	8.5500e-003	2.0000e-005	0.0000	9.1100e-003

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0906					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6688					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.1000e-004	4.0000e-005	4.4000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.5500e-003	8.5500e-003	2.0000e-005	0.0000	9.1100e-003
Total	0.7597	4.0000e-005	4.4000e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	8.5500e-003	8.5500e-003	2.0000e-005	0.0000	9.1100e-003

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	34.3922	0.9603	0.0231	65.2920
Unmitigated	38.5391	0.9607	0.0232	69.4749

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	28.864 / 17.6908	37.8466	0.9434	0.0228	68.2265
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.528137 / 0.323697	0.6925	0.0173	4.2000e-004	1.2484
Total		38.5391	0.9607	0.0232	69.4748

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	28.864 / 8.84541	33.7742	0.9430	0.0227	64.1188
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.528137 / 0.161848	0.6180	0.0173	4.2000e-004	1.1732
Total		34.3922	0.9602	0.0231	65.2920

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	32.1781	1.9017	0.0000	79.7200
Unmitigated	32.1781	1.9017	0.0000	79.7200

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	151.03	30.6577	1.8118	0.0000	75.9532
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	7.49	1.5204	0.0899	0.0000	3.7667
Total		32.1781	1.9017	0.0000	79.7200

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	151.03	30.6577	1.8118	0.0000	75.9532
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	7.49	1.5204	0.0899	0.0000	3.7667
Total		32.1781	1.9017	0.0000	79.7200

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	50	152	0.73	Diesel

Boilers

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

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (100 - 175 HP)	6.2400e-003	0.0174	0.0226	3.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	2.8941	2.8941	4.1000e-004	0.0000	2.9042
Total	6.2400e-003	0.0174	0.0226	3.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	2.8941	2.8941	4.1000e-004	0.0000	2.9042

11.0 Vegetation

DSP - 300 Mathilda Ave - Santa Clara County, Annual

DSP - 300 Mathilda Ave (TAC)
Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	172.20	1000sqft	2.00	172,200.00	0
Enclosed Parking with Elevator	196.00	Space	0.00	88,400.00	0
Strip Mall	10.70	1000sqft	0.00	10,700.00	0

1.2 Other Project Characteristics

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

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 rate = 290

Land Use - Applicant provided land uses

Construction Phase - Applicant provided construction schedule

Off-road Equipment - Applicant provided construction equipment and hours

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Trips and VMT - 348tons pavement demo = 70 one-way trips, building const = 110 one-way cement trips, paving = 178cy = 42 one-way asphalt trips, TAC trip length 1 mile

Grading - Grading = 42,607cy export

Vehicle Trips - Vehicle Trips - After reuctions Office = 9.01, 2.01, 0.86, Retail = 35.26, 33.45, 16.25

Water And Wastewater - WTP Treatment 100% aerobic

Construction Off-road Equipment Mitigation - BMPs, Tier 4 interim Mitigaiton

Energy Mitigation - Green Building Measures - energy efficient lighting, appliances, installing solar panels

Water Mitigation - Green Building Measures - water efficient fixtures and landscaping

Stationary Sources - Emergency Generators and Fire Pumps - 100kW diesel generator, 152 hp, 50 hrs/yr

Energy Use -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	10.00	100.00
tblConstructionPhase	NumDays	200.00	170.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	4.00	100.00
tblConstructionPhase	NumDays	10.00	40.00
tblConstructionPhase	NumDays	2.00	15.00
tblGrading	AcresOfGrading	62.50	175.00
tblGrading	MaterialExported	0.00	42,607.00
tblLandUse	LandUseSquareFeet	78,400.00	88,400.00
tblLandUse	LotAcreage	3.95	2.00
tblLandUse	LotAcreage	1.76	0.00

tblLandUse	LotAcreage	0.25	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	7.00	3.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	6.00	3.00
tblOffRoadEquipment	UsageHours	8.00	3.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	3.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290

tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	152.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripNumber	0.00	70.00
tblTripsAndVMT	HaulingTripNumber	0.00	110.00
tblTripsAndVMT	HaulingTripNumber	0.00	42.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblVehicleTrips	ST_TR	2.46	2.01
tblVehicleTrips	ST_TR	42.04	33.45
tblVehicleTrips	SU_TR	1.05	0.86

tblVehicleTrips	SU_TR	20.43	16.25
tblVehicleTrips	WD_TR	11.03	9.01
tblVehicleTrips	WD_TR	44.32	35.26
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0348	0.4567	0.2319	5.2000e-004	0.1425	0.0166	0.1592	0.0340	0.0153	0.0493	0.0000	47.8409	47.8409	0.0125	0.0000	48.1528
2020	0.2196	2.1508	1.5297	2.9900e-003	0.1584	0.0873	0.2457	0.0418	0.0820	0.1239	0.0000	259.8517	259.8517	0.0608	0.0000	261.3723
2021	1.0144	0.3316	0.3915	6.5000e-004	1.3800e-003	0.0166	0.0180	3.7000e-004	0.0164	0.0167	0.0000	56.3418	56.3418	8.0000e-003	0.0000	56.5417
Maximum	1.0144	2.1508	1.5297	2.9900e-003	0.1584	0.0873	0.2457	0.0418	0.0820	0.1239	0.0000	259.8517	259.8517	0.0608	0.0000	261.3723

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					
2019	9.5300e-003	0.2251	0.2616	5.2000e-004	0.0654	9.9000e-004	0.0664	8.1100e-003	9.9000e-004	9.0900e-003	0.0000	47.8409	47.8409	0.0125	0.0000	48.1528
2020	0.0610	1.4188	1.6483	2.9900e-003	0.0779	0.0134	0.0913	0.0120	0.0134	0.0253	0.0000	259.8515	259.8515	0.0608	0.0000	261.3721
2021	0.9862	0.2734	0.4107	6.5000e-004	1.3800e-003	4.1900e-003	5.5700e-003	3.7000e-004	4.1900e-003	4.5600e-003	0.0000	56.3417	56.3417	8.0000e-003	0.0000	56.5416
Maximum	0.9862	1.4188	1.6483	2.9900e-003	0.0779	0.0134	0.0913	0.0120	0.0134	0.0253	0.0000	259.8515	259.8515	0.0608	0.0000	261.3721

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	16.72	34.77	-7.78	0.00	52.14	84.59	61.38	73.15	83.70	79.47	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	10-7-2019	1-6-2020	0.5121	0.2482
2	1-7-2020	4-6-2020	0.6244	0.3456
3	4-7-2020	7-6-2020	0.5024	0.3376
4	7-7-2020	10-6-2020	0.6269	0.4041
5	10-7-2020	1-6-2021	0.5770	0.3713
6	1-7-2021	4-6-2021	0.6177	0.5750
7	4-7-2021	7-6-2021	0.6911	0.6591
		Highest	0.6911	0.6591

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/7/2019	10/25/2019	5	15	
2	Site Preparation	Site Preparation	10/28/2019	11/15/2019	5	15	

3	Grading	Grading	11/18/2019	4/3/2020	5	100
4	Trenching	Trenching	4/13/2020	5/22/2020	5	30
5	Building Construction	Building Construction	5/25/2020	1/15/2021	5	170
6	Paving	Paving	5/25/2020	7/17/2020	5	40
7	Architectural Coating	Architectural Coating	2/3/2021	6/22/2021	5	100

Acres of Grading (Site Preparation Phase): 7.5

Acres of Grading (Grading Phase): 175

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 274,350; Non-Residential Outdoor: 91,450; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	2.00	81	0.73
Demolition	Excavators	1	4.00	158	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	3.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	3.00	247	0.40
Site Preparation	Scrapers	0	0.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Grading	Excavators	2	2.00	158	0.38
Grading	Graders	2	1.00	187	0.41
Grading	Rubber Tired Dozers	1	2.00	247	0.40
Grading	Scrapers	2	2.00	367	0.48
Grading	Sweepers/Scrubbers	1	2.00	64	0.46
Grading	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Trenching	Excavators	2	4.00	158	0.38
Trenching	Tractors/Loaders/Backhoes	2	2.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29

Building Construction	Forklifts	2	3.00	89	0.20
Building Construction	Generator Sets	0	0.00	84	0.74
Building Construction	Pumps	1	2.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	2	3.00	97	0.37
Building Construction	Welders	4	5.00	46	0.45
Paving	Cement and Mortar Mixers	1	2.00	9	0.56
Paving	Pavers	2	6.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	4.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	3.00	97	0.37
Architectural Coating	Aerial Lifts	2	6.00	63	0.31
Architectural Coating	Air Compressors	4	4.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	70.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Grading	9	23.00	0.00	5,326.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Trenching	4	10.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	96.00	44.00	110.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	6	19.00	0.00	42.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2019

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	4.2200e-003	0.0413	0.0362	6.0000e-005		2.3400e-003	2.3400e-003		2.1900e-003	2.1900e-003	0.0000	5.0353	5.0353	1.3500e-003	0.0000	5.0689
Total	4.2200e-003	0.0413	0.0362	6.0000e-005		2.3400e-003	2.3400e-003		2.1900e-003	2.1900e-003	0.0000	5.0353	5.0353	1.3500e-003	0.0000	5.0689

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	8.0000e-005	3.7500e-003	6.3000e-004	0.0000	3.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.4534	0.4534	5.0000e-005	0.0000	0.4548
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	6.0000e-005	7.2000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0818	0.0818	0.0000	0.0000	0.0819
Total	2.0000e-004	3.8100e-003	1.3500e-003	0.0000	1.0000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.5352	0.5352	5.0000e-005	0.0000	0.5366

Mitigated Construction On-Site

Off-Road	7.7100e-003	0.0921	0.0345	9.0000e-005		3.8200e-003	3.8200e-003		3.5200e-003	3.5200e-003	0.0000	7.6777	7.6777	2.4300e-003	0.0000	7.7385
Total	7.7100e-003	0.0921	0.0345	9.0000e-005	0.0209	3.8200e-003	0.0247	9.7400e-003	3.5200e-003	0.0133	0.0000	7.6777	7.6777	2.4300e-003	0.0000	7.7385

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	3.0000e-005	4.4000e-004	0.0000	4.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0503	0.0503	0.0000	0.0000	0.0504
Total	7.0000e-005	3.0000e-005	4.4000e-004	0.0000	4.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0503	0.0503	0.0000	0.0000	0.0504

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.4100e-003	0.0000	9.4100e-003	2.1900e-003	0.0000	2.1900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.4600e-003	0.0245	0.0479	9.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	7.6777	7.6777	2.4300e-003	0.0000	7.7385
Total	1.4600e-003	0.0245	0.0479	9.0000e-005	9.4100e-003	1.4000e-004	9.5500e-003	2.1900e-003	1.4000e-004	2.3300e-003	0.0000	7.6777	7.6777	2.4300e-003	0.0000	7.7385

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	3.0000e-005	4.4000e-004	0.0000	4.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0503	0.0503	0.0000	0.0000	0.0504
Total	7.0000e-005	3.0000e-005	4.4000e-004	0.0000	4.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0503	0.0503	0.0000	0.0000	0.0504

3.4 Grading - 2019

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					0.1193	0.0000	0.1193	0.0236	0.0000	0.0236	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0201	0.2280	0.1415	2.6000e-004		0.0103	0.0103		9.5100e-003	9.5100e-003	0.0000	23.1937	23.1937	7.3400e-003	0.0000	23.3772
Total	0.0201	0.2280	0.1415	2.6000e-004	0.1193	0.0103	0.1296	0.0236	9.5100e-003	0.0331	0.0000	23.1937	23.1937	7.3400e-003	0.0000	23.3772

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	2.0700e-003	0.0913	0.0152	1.1000e-004	1.8900e-003	1.2000e-004	2.0000e-003	4.9000e-004	1.1000e-004	6.0000e-004	0.0000	11.0400	11.0400	1.2900e-003	0.0000	11.0722
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	2.1000e-004	2.7200e-003	0.0000	2.7000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	8.0000e-005	0.0000	0.3087	0.3087	1.0000e-005	0.0000	0.3091
Total	2.5200e-003	0.0915	0.0180	1.1000e-004	2.1600e-003	1.2000e-004	2.2800e-003	5.6000e-004	1.1000e-004	6.8000e-004	0.0000	11.3486	11.3486	1.3000e-003	0.0000	11.3813

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					0.0537	0.0000	0.0537	5.3200e-003	0.0000	5.3200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.2900e-003	0.0828	0.1546	2.6000e-004		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	23.1937	23.1937	7.3400e-003	0.0000	23.3771
Total	4.2900e-003	0.0828	0.1546	2.6000e-004	0.0537	6.4000e-004	0.0543	5.3200e-003	6.4000e-004	5.9600e-003	0.0000	23.1937	23.1937	7.3400e-003	0.0000	23.3771

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	2.0700e-003	0.0913	0.0152	1.1000e-004	1.8900e-003	1.2000e-004	2.0000e-003	4.9000e-004	1.1000e-004	6.0000e-004	0.0000	11.0400	11.0400	1.2900e-003	0.0000	11.0722
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	2.1000e-004	2.7200e-003	0.0000	2.7000e-004	0.0000	2.8000e-004	7.0000e-005	0.0000	8.0000e-005	0.0000	0.3087	0.3087	1.0000e-005	0.0000	0.3091
Total	2.5200e-003	0.0915	0.0180	1.1000e-004	2.1600e-003	1.2000e-004	2.2800e-003	5.6000e-004	1.1000e-004	6.8000e-004	0.0000	11.3486	11.3486	1.3000e-003	0.0000	11.3813

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1464	0.0000	0.1464	0.0385	0.0000	0.0385	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0401	0.4465	0.2885	5.5000e-004		0.0201	0.0201		0.0185	0.0185	0.0000	48.2099	48.2099	0.0156	0.0000	48.5997
Total	0.0401	0.4465	0.2885	5.5000e-004	0.1464	0.0201	0.1665	0.0385	0.0185	0.0570	0.0000	48.2099	48.2099	0.0156	0.0000	48.5997

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	3.9300e-003	0.1868	0.0305	2.4000e-004	2.1100e-003	1.8000e-004	2.2900e-003	5.7000e-004	1.7000e-004	7.4000e-004	0.0000	23.5192	23.5192	2.5000e-003	0.0000	23.5817
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.7000e-004	4.0000e-004	5.1300e-003	1.0000e-005	5.8000e-004	1.0000e-005	5.9000e-004	1.6000e-004	1.0000e-005	1.6000e-004	0.0000	0.6359	0.6359	3.0000e-005	0.0000	0.6366
Total	4.8000e-003	0.1872	0.0356	2.5000e-004	2.6900e-003	1.9000e-004	2.8800e-003	7.3000e-004	1.8000e-004	9.0000e-004	0.0000	24.1551	24.1551	2.5300e-003	0.0000	24.2183

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					0.0659	0.0000	0.0659	8.6700e-003	0.0000	8.6700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.1200e-003	0.1759	0.3285	5.5000e-004		1.3600e-003	1.3600e-003		1.3600e-003	1.3600e-003	0.0000	48.2099	48.2099	0.0156	0.0000	48.5997
Total	9.1200e-003	0.1759	0.3285	5.5000e-004	0.0659	1.3600e-003	0.0672	8.6700e-003	1.3600e-003	0.0100	0.0000	48.2099	48.2099	0.0156	0.0000	48.5997

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	3.9300e-003	0.1868	0.0305	2.4000e-004	2.1100e-003	1.8000e-004	2.2900e-003	5.7000e-004	1.7000e-004	7.4000e-004	0.0000	23.5192	23.5192	2.5000e-003	0.0000	23.5817
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.7000e-004	4.0000e-004	5.1300e-003	1.0000e-005	5.8000e-004	1.0000e-005	5.9000e-004	1.6000e-004	1.0000e-005	1.6000e-004	0.0000	0.6359	0.6359	3.0000e-005	0.0000	0.6366
Total	4.8000e-003	0.1872	0.0356	2.5000e-004	2.6900e-003	1.9000e-004	2.8800e-003	7.3000e-004	1.8000e-004	9.0000e-004	0.0000	24.1551	24.1551	2.5300e-003	0.0000	24.2183

3.5 Trenching - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.2500e-003	0.0520	0.0661	1.0000e-004		2.7500e-003	2.7500e-003		2.5300e-003	2.5300e-003	0.0000	8.8519	8.8519	2.8600e-003	0.0000	8.9235

Total	5.2500e-003	0.0520	0.0661	1.0000e-004		2.7500e-003	2.7500e-003		2.5300e-003	2.5300e-003	0.0000	8.8519	8.8519	2.8600e-003	0.0000	8.9235
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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	1.7000e-004	8.0000e-005	9.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1220	0.1220	1.0000e-005	0.0000	0.1221
Total	1.7000e-004	8.0000e-005	9.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1220	0.1220	1.0000e-005	0.0000	0.1221

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.4800e-003	0.0443	0.0763	1.0000e-004		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	8.8519	8.8519	2.8600e-003	0.0000	8.9235
Total	1.4800e-003	0.0443	0.0763	1.0000e-004		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	8.8519	8.8519	2.8600e-003	0.0000	8.9235

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	1.7000e-004	8.0000e-005	9.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1220	0.1220	1.0000e-005	0.0000	0.1221
Total	1.7000e-004	8.0000e-005	9.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1220	0.1220	1.0000e-005	0.0000	0.1221

3.6 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1335	1.0140	0.8005	1.3700e-003		0.0528	0.0528		0.0503	0.0503	0.0000	113.2189	113.2189	0.0271	0.0000	113.8961
Total	0.1335	1.0140	0.8005	1.3700e-003		0.0528	0.0528		0.0503	0.0503	0.0000	113.2189	113.2189	0.0271	0.0000	113.8961

Unmitigated Construction Off-Site

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

Hauling	1.1000e-004	5.3100e-003	8.7000e-004	1.0000e-005	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.6681	0.6681	7.0000e-005	0.0000	0.6699
Vendor	6.6100e-003	0.2339	0.0649	2.9000e-004	3.2300e-003	3.8000e-004	3.6100e-003	9.4000e-004	3.6000e-004	1.3000e-003	0.0000	28.0811	28.0811	2.7400e-003	0.0000	28.1497
Worker	8.4500e-003	3.8700e-003	0.0500	7.0000e-005	5.6700e-003	8.0000e-005	5.7500e-003	1.5200e-003	7.0000e-005	1.5900e-003	0.0000	6.2064	6.2064	2.7000e-004	0.0000	6.2131
Total	0.0152	0.2431	0.1158	3.7000e-004	8.9500e-003	4.6000e-004	9.4100e-003	2.4700e-003	4.3000e-004	2.9100e-003	0.0000	34.9556	34.9556	3.0800e-003	0.0000	35.0326

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	0.0248	0.6188	0.8312	1.3700e-003		0.0107	0.0107		0.0107	0.0107	0.0000	113.2187	113.2187	0.0271	0.0000	113.8959
Total	0.0248	0.6188	0.8312	1.3700e-003		0.0107	0.0107		0.0107	0.0107	0.0000	113.2187	113.2187	0.0271	0.0000	113.8959

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.1000e-004	5.3100e-003	8.7000e-004	1.0000e-005	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.6681	0.6681	7.0000e-005	0.0000	0.6699
Vendor	6.6100e-003	0.2339	0.0649	2.9000e-004	3.2300e-003	3.8000e-004	3.6100e-003	9.4000e-004	3.6000e-004	1.3000e-003	0.0000	28.0811	28.0811	2.7400e-003	0.0000	28.1497
Worker	8.4500e-003	3.8700e-003	0.0500	7.0000e-005	5.6700e-003	8.0000e-005	5.7500e-003	1.5200e-003	7.0000e-005	1.5900e-003	0.0000	6.2064	6.2064	2.7000e-004	0.0000	6.2131
Total	0.0152	0.2431	0.1158	3.7000e-004	8.9500e-003	4.6000e-004	9.4100e-003	2.4700e-003	4.3000e-004	2.9100e-003	0.0000	34.9556	34.9556	3.0800e-003	0.0000	35.0326

3.6 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.2600e-003	0.0645	0.0538	1.0000e-004		3.1500e-003	3.1500e-003		3.0000e-003	3.0000e-003	0.0000	7.8330	7.8330	1.8200e-003	0.0000	7.8786
Total	8.2600e-003	0.0645	0.0538	1.0000e-004		3.1500e-003	3.1500e-003		3.0000e-003	3.0000e-003	0.0000	7.8330	7.8330	1.8200e-003	0.0000	7.8786

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	3.5000e-004	6.0000e-005	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0457	0.0457	0.0000	0.0000	0.0459
Vendor	4.1000e-004	0.0154	4.1400e-003	2.0000e-005	2.2000e-004	1.0000e-005	2.4000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	1.9242	1.9242	1.8000e-004	0.0000	1.9287
Worker	5.3000e-004	2.4000e-004	3.1200e-003	0.0000	3.9000e-004	1.0000e-005	4.0000e-004	1.0000e-004	0.0000	1.1000e-004	0.0000	0.4148	0.4148	2.0000e-005	0.0000	0.4152
Total	9.5000e-004	0.0160	7.3200e-003	2.0000e-005	6.5000e-004	2.0000e-005	6.8000e-004	1.8000e-004	1.0000e-005	2.0000e-004	0.0000	2.3847	2.3847	2.0000e-004	0.0000	2.3897

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7200e-003	0.0428	0.0575	1.0000e-004		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	7.8330	7.8330	1.8200e-003	0.0000	7.8786
Total	1.7200e-003	0.0428	0.0575	1.0000e-004		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	7.8330	7.8330	1.8200e-003	0.0000	7.8786

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	3.5000e-004	6.0000e-005	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0457	0.0457	0.0000	0.0000	0.0459
Vendor	4.1000e-004	0.0154	4.1400e-003	2.0000e-005	2.2000e-004	1.0000e-005	2.4000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	1.9242	1.9242	1.8000e-004	0.0000	1.9287
Worker	5.3000e-004	2.4000e-004	3.1200e-003	0.0000	3.9000e-004	1.0000e-005	4.0000e-004	1.0000e-004	0.0000	1.1000e-004	0.0000	0.4148	0.4148	2.0000e-005	0.0000	0.4152
Total	9.5000e-004	0.0160	7.3200e-003	2.0000e-005	6.5000e-004	2.0000e-005	6.8000e-004	1.8000e-004	1.0000e-005	2.0000e-004	0.0000	2.3847	2.3847	2.0000e-004	0.0000	2.3897

3.7 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0201	0.2078	0.2195	3.4000e-004		0.0110	0.0110		0.0102	0.0102	0.0000	30.0130	30.0130	9.6600e-003	0.0000	30.2544

Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0201	0.2078	0.2195	3.4000e-004		0.0110	0.0110		0.0102	0.0102	0.0000	30.0130	30.0130	9.6600e-003	0.0000	30.2544

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	2.0000e-004	2.6200e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.3253	0.3253	1.0000e-005	0.0000	0.3256
Total	4.4000e-004	2.0000e-004	2.6200e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.3253	0.3253	1.0000e-005	0.0000	0.3256

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	4.9400e-003	0.1493	0.2572	3.4000e-004		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004	0.0000	30.0130	30.0130	9.6600e-003	0.0000	30.2544
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	4.9400e-003	0.1493	0.2572	3.4000e-004		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004	0.0000	30.0130	30.0130	9.6600e-003	0.0000	30.2544

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	2.0000e-004	2.6200e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.3253	0.3253	1.0000e-005	0.0000	0.3256
Total	4.4000e-004	2.0000e-004	2.6200e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.3253	0.3253	1.0000e-005	0.0000	0.3256

3.8 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	0.9722					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0320	0.2486	0.3244	5.2000e-004		0.0134	0.0134		0.0133	0.0133	0.0000	45.1079	45.1079	5.9100e-003	0.0000	45.2557
Total	1.0042	0.2486	0.3244	5.2000e-004		0.0134	0.0134		0.0133	0.0133	0.0000	45.1079	45.1079	5.9100e-003	0.0000	45.2557

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	4.000e-005	2.0800e-003	3.4000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.2699	0.2699	3.0000e-005	0.0000	0.2706
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	9.6000e-004	4.2000e-004	5.6100e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.2000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.7463	0.7463	3.0000e-005	0.0000	0.7471
Total	1.0000e-003	2.5000e-003	5.9500e-003	1.0000e-005	7.3000e-004	1.0000e-005	7.4000e-004	2.0000e-004	1.0000e-005	2.1000e-004	0.0000	1.0162	1.0162	6.0000e-005	0.0000	1.0176

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	0.9722					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0104	0.2121	0.3399	5.2000e-004		3.4200e-003	3.4200e-003		3.4200e-003	3.4200e-003	0.0000	45.1078	45.1078	5.9100e-003	0.0000	45.2557
Total	0.9825	0.2121	0.3399	5.2000e-004		3.4200e-003	3.4200e-003		3.4200e-003	3.4200e-003	0.0000	45.1078	45.1078	5.9100e-003	0.0000	45.2557

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	4.0000e-005	2.0800e-003	3.4000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.2699	0.2699	3.0000e-005	0.0000	0.2706
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	9.6000e-004	4.2000e-004	5.6100e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.2000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.7463	0.7463	3.0000e-005	0.0000	0.7471
Total	1.0000e-003	2.5000e-003	5.9500e-003	1.0000e-005	7.3000e-004	1.0000e-005	7.4000e-004	2.0000e-004	1.0000e-005	2.1000e-004	0.0000	1.0162	1.0162	6.0000e-005	0.0000	1.0176

DSP - Macys & Redwood Sqaure - Santa Clara County, Annual

**DSP - Macys & Redwood Sqaure
Santa Clara County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	499.77	1000sqft	0.00	499,775.00	0
Enclosed Parking with Elevator	1,336.00	Space	0.00	511,197.00	0
Apartments Mid Rise	467.00	Dwelling Unit	7.60	557,404.00	1336
Strip Mall	147.57	1000sqft	0.00	147,569.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

- Project Characteristics - PG&E 2020 Rate = 290
- Land Use - Applicant provided land uses, Revised 9.19.2019
- Construction Phase - Applicant provided construction schedule
- Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019
- Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019
- Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019
- Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Trips and VMT - 615tons pavement demo = 124 one-way trips, 796+124= 920 demo trips, building const = 460 one-way cement trips, paving = 160cy = 38 one-way asphalt trips

Demolition - Existing building demo = 175,000sf

Grading - Grading = 273,022cy export

Vehicle Trips - Vehicle Trips - After reuctions, Res = 3.97, 3.81, 3.50, Office = 9.01, 2.01, 0.86, Retail = 35.26, 33.45, 16.25

Woodstoves - No Wood All Gas

Energy Use -

Water And Wastewater - WTP treatment 100% aerobic

Construction Off-road Equipment Mitigation - BMPs, Tier 4 final mitigation

Energy Mitigation - Green Building Measures - energy efficient lighting, appliances, installing solar panels

Water Mitigation - Green Building Measures - water efficient fixtures and landscaping

Stationary Sources - Emergency Generators and Fire Pumps - Macys = 2 150kW 240hp diesel generator, 50hrs/year, Redwood Square = 1000kW 1528hp diesel generator, 50hrs/yr

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	20.00	165.00
tblConstructionPhase	NumDays	230.00	400.00
tblConstructionPhase	NumDays	20.00	90.00
tblConstructionPhase	NumDays	20.00	220.00
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	10.00	20.00
tblGrading	AcresOfGrading	467.50	10.00
tblGrading	AcresOfGrading	20.00	0.00
tblGrading	MaterialExported	0.00	273,022.00

tblLandUse	LandUseSquareFeet	499,770.00	499,775.00
tblLandUse	LandUseSquareFeet	534,400.00	511,197.00
tblLandUse	LandUseSquareFeet	467,000.00	557,404.00
tblLandUse	LotAcreage	11.47	0.00
tblLandUse	LotAcreage	12.02	0.00
tblLandUse	LotAcreage	12.29	7.60
tblLandUse	LotAcreage	3.39	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	7.00	5.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	1.00

tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,528.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	240.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	240.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	0.00	460.00
tblTripsAndVMT	HaulingTripNumber	0.00	38.00
tblTripsAndVMT	WorkerTripNumber	33.00	15.00
tblTripsAndVMT	WorkerTripNumber	10.00	18.00
tblTripsAndVMT	WorkerTripNumber	43.00	15.00
tblTripsAndVMT	WorkerTripNumber	20.00	15.00

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					
2019	0.0735	0.7831	0.5224	1.08E-03	0.0692	0.0368	0.106	0.0116	0.0343	0.0459	0	98.0678	98.0678	0.0213	0	98.6006
2020	0.6788	10.6897	5.2788	0.0211	1.0457	0.276	1.3217	0.4704	0.2546	0.7251	0	1,972.36	1,972.36	0.2782	0	1,979.32
2021	0.7249	6.3948	5.685	0.0192	1.1191	0.1767	1.2958	0.3	0.168	0.468	0	1,752.13	1,752.13	0.1397	0	1,755.63
2022	4.3537	4.4984	4.4245	0.015	0.7188	0.1184	0.8371	0.1944	0.1133	0.3076	0	1,361.43	1,361.43	0.101	0	1,363.96
2023	3.6317	0.2134	0.4418	9.30E-04	0.0482	8.95E-03	0.0572	0.0128	8.84E-03	0.0217	0	81.9444	81.9444	8.08E-03	0	82.1465
Maximum	4.3537	10.6897	5.685	0.0211	1.1191	0.276	1.3217	0.4704	0.2546	0.7251	0	1,972.36	1,972.36	0.2782	0	1,979.32

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					
2019	0.014	0.1291	0.5539	1.08E-03	0.0366	1.66E-03	0.0383	4.67E-03	1.64E-03	6.31E-03	0	98.0677	98.0677	0.0213	0	98.6005
2020	0.2415	5.2882	5.5015	0.0211	0.6404	0.0286	0.669	0.1713	0.0279	0.1992	0	1,972.36	1,972.36	0.2782	0	1,979.32
2021	0.4209	3.6281	5.9045	0.0192	1.0978	0.0187	1.1164	0.2901	0.018	0.3081	0	1,752.13	1,752.13	0.1397	0	1,755.63
2022	4.161	2.8042	4.5878	0.015	0.7188	0.0236	0.7424	0.1944	0.023	0.2174	0	1,361.43	1,361.43	0.101	0	1,363.96
2023	3.6317	0.2134	0.4418	9.30E-04	0.0482	8.95E-03	0.0572	0.0128	8.84E-03	0.0217	0	81.9444	81.9444	8.08E-03	0	82.1465
Maximum	4.161	5.2882	5.9045	0.0211	1.0978	0.0286	1.1164	0.2901	0.0279	0.3081	0	1,972.36	1,972.36	0.2782	0	1,979.32

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	10.50	46.58	-3.90	0.00	15.31	86.79	27.49	31.95	86.28	52.01	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	10-7-2019	1-6-2020	0.9042	0.1520
2	1-7-2020	4-6-2020	1.5637	0.5925
3	4-7-2020	7-6-2020	3.2393	1.6262
4	7-7-2020	10-6-2020	3.2773	1.6465
5	10-7-2020	1-6-2021	3.2949	1.6732
6	1-7-2021	4-6-2021	1.1766	0.6069
7	4-7-2021	7-6-2021	1.9315	1.1123
8	7-7-2021	10-6-2021	1.9243	1.1215
9	10-7-2021	1-6-2022	1.9374	1.1407
10	1-7-2022	4-6-2022	1.7540	1.0608
11	4-7-2022	7-6-2022	1.7531	1.0522
12	7-7-2022	10-6-2022	2.2213	1.7745
13	10-7-2022	1-6-2023	3.1751	3.1751
14	1-7-2023	4-6-2023	3.0920	3.0920
15	4-7-2023	7-6-2023	0.5149	0.5149
		Highest	3.2949	3.1751

2.2 Overall Operational Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.6622	0.0649	4.9680	3.1400e-003		0.2314	0.2314		0.2314	0.2314	21.2904	14.4446	35.7350	0.0397	1.4000e-003	37.1447

Energy	0.0678	0.6041	0.4304	3.7000e-003		0.0468	0.0468		0.0468	0.0468	0.0000	2,697.8817	2,697.8817	0.2156	0.0542	2,719.4343
Mobile	2.5135	9.4851	27.6749	0.0999	9.7573	0.0788	9.8361	2.6116	0.0733	2.6850	0.0000	9,162.6880	9,162.6880	0.2925	0.0000	9,170.0014
Stationary	0.0824	0.3354	0.2101	4.0000e-004		0.0121	0.0121		0.0121	0.0121	0.0000	38.2320	38.2320	5.3600e-003	0.0000	38.3660
Waste						0.0000	0.0000		0.0000	0.0000	169.4081	0.0000	169.4081	10.0117	0.0000	419.7015
Water						0.0000	0.0000		0.0000	0.0000	41.3013	129.6419	170.9432	4.2550	0.1029	307.9665
Total	9.3258	10.4894	33.2834	0.1072	9.7573	0.3691	10.1265	2.6116	0.3637	2.9753	231.9999	12,042.8882	12,274.8881	14.8200	0.1585	12,692.6143

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.6622	0.0649	4.9680	3.1400e-003		0.2314	0.2314		0.2314	0.2314	21.2904	14.4446	35.7350	0.0397	1.4000e-003	37.1447
Energy	0.0678	0.6041	0.4304	3.7000e-003		0.0468	0.0468		0.0468	0.0468	0.0000	1,995.9707	1,995.9707	0.1454	0.0397	2,011.4409
Mobile	2.5135	9.4851	27.6749	0.0999	9.7573	0.0788	9.8361	2.6116	0.0733	2.6850	0.0000	9,162.6880	9,162.6880	0.2925	0.0000	9,170.0014
Stationary	0.0824	0.3354	0.2101	4.0000e-004		0.0121	0.0121		0.0121	0.0121	0.0000	38.2320	38.2320	5.3600e-003	0.0000	38.3660
Waste						0.0000	0.0000		0.0000	0.0000	169.4081	0.0000	169.4081	10.0117	0.0000	419.7015
Water						0.0000	0.0000		0.0000	0.0000	41.3013	111.1516	152.4529	4.2532	0.1025	289.3159
Total	9.3258	10.4894	33.2834	0.1072	9.7573	0.3691	10.1265	2.6116	0.3637	2.9753	231.9999	11,322.4869	11,554.4867	14.7479	0.1436	11,965.9704

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.98	5.87	0.49	9.41	5.72

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/7/2019	2/7/2020	5	90	
2	Site Preparation	Site Preparation	2/10/2020	3/6/2020	5	20	
3	Grading	Grading	3/9/2020	1/8/2021	5	220	
4	Trenching	Trenching	1/11/2021	2/19/2021	5	30	
5	Building Construction	Building Construction	2/22/2021	9/2/2022	5	400	
6	Paving	Paving	2/22/2021	4/16/2021	5	40	
7	Architectural Coating	Architectural Coating	9/5/2022	4/21/2023	5	165	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 1,128,743; Residential Outdoor: 376,248; Non-Residential Indoor: 971,016; Non-Residential Outdoor: 323,672;

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	3	2.00	81	0.73
Demolition	Excavators	4	4.00	158	0.38
Demolition	Rubber Tired Dozers	4	2.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Site Preparation	Graders	2	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	6.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Grading	Excavators	6	6.00	158	0.38
Grading	Graders	2	1.00	187	0.41
Grading	Rubber Tired Dozers	2	4.00	247	0.40
Grading	Scrapers	4	4.00	367	0.48
Grading	Sweepers/Scrubbers	1	1.00	64	0.46

Grading	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Trenching	Excavators	2	4.00	158	0.38
Trenching	Tractors/Loaders/Backhoes	2	2.00	97	0.37
Building Construction	Cranes	3	5.00	231	0.29
Building Construction	Forklifts	4	4.00	89	0.20
Building Construction	Generator Sets	3	4.00	84	0.74
Building Construction	Pumps	2	3.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	4	4.00	97	0.37
Building Construction	Welders	4	5.00	46	0.45
Paving	Cement and Mortar Mixers	1	2.00	9	0.56
Paving	Pavers	2	4.00	130	0.42
Paving	Paving Equipment	2	4.00	132	0.36
Paving	Rollers	2	4.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	3.00	97	0.37
Architectural Coating	Aerial Lifts	4	6.00	63	0.31
Architectural Coating	Air Compressors	4	4.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	13	15.00	0.00	796.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	4	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	17	15.00	0.00	34,128.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	20	758.00	240.00	460.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	15.00	0.00	38.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	8	152.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2019

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					0.0593	0.0000	0.0593	8.9800e-003	0.0000	8.9800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0693	0.6965	0.4926	8.3000e-004		0.0364	0.0364		0.0340	0.0340	0.0000	73.6737	73.6737	0.0202	0.0000	74.1796
Total	0.0693	0.6965	0.4926	8.3000e-004	0.0593	0.0364	0.0958	8.9800e-003	0.0340	0.0429	0.0000	73.6737	73.6737	0.0202	0.0000	74.1796

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	2.4900e-003	0.0854	0.0169	2.2000e-004	6.2200e-003	3.3000e-004	6.5500e-003	1.6600e-003	3.1000e-004	1.9800e-003	0.0000	21.1294	21.1294	9.9000e-004	0.0000	21.1541
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	1.6900e-003	1.2600e-003	0.0130	4.0000e-005	3.6900e-003	2.0000e-005	3.7100e-003	9.8000e-004	2.0000e-005	1.0000e-003	0.0000	3.2647	3.2647	9.0000e-005	0.0000	3.2669
Total	4.1800e-003	0.0866	0.0299	2.6000e-004	9.9100e-003	3.5000e-004	0.0103	2.6400e-003	3.3000e-004	2.9800e-003	0.0000	24.3941	24.3941	1.0800e-003	0.0000	24.4210

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					0.0267	0.0000	0.0267	2.0200e-003	0.0000	2.0200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.8100e-003	0.0425	0.5241	8.3000e-004		1.3100e-003	1.3100e-003		1.3100e-003	1.3100e-003	0.0000	73.6736	73.6736	0.0202	0.0000	74.1795
Total	9.8100e-003	0.0425	0.5241	8.3000e-004	0.0267	1.3100e-003	0.0280	2.0200e-003	1.3100e-003	3.3300e-003	0.0000	73.6736	73.6736	0.0202	0.0000	74.1795

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	2.4900e-003	0.0854	0.0169	2.2000e-004	6.2200e-003	3.3000e-004	6.5500e-003	1.6600e-003	3.1000e-004	1.9800e-003	0.0000	21.1294	21.1294	9.9000e-004	0.0000	21.1541
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	1.6900e-003	1.2600e-003	0.0130	4.0000e-005	3.6900e-003	2.0000e-005	3.7100e-003	9.8000e-004	2.0000e-005	1.0000e-003	0.0000	3.2647	3.2647	9.0000e-005	0.0000	3.2669
Total	4.1800e-003	0.0866	0.0299	2.6000e-004	9.9100e-003	3.5000e-004	0.0103	2.6400e-003	3.3000e-004	2.9800e-003	0.0000	24.3941	24.3941	1.0800e-003	0.0000	24.4210

3.2 Demolition - 2020

Unmitigated Construction On-Site

Off-Road	4.4300e-003	0.0192	0.2367	3.7000e-004		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004	0.0000	32.6766	32.6766	9.1000e-003	0.0000	32.9041
Total	4.4300e-003	0.0192	0.2367	3.7000e-004	0.0121	5.9000e-004	0.0127	9.1000e-004	5.9000e-004	1.5000e-003	0.0000	32.6766	32.6766	9.1000e-003	0.0000	32.9041

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0300e-003	0.0359	7.3600e-003	1.0000e-004	5.5800e-003	1.2000e-004	5.7000e-003	1.4300e-003	1.1000e-004	1.5400e-003	0.0000	9.4440	9.4440	4.3000e-004	0.0000	9.4548
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-004	5.0000e-004	5.2600e-003	2.0000e-005	1.6700e-003	1.0000e-005	1.6800e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.4283	1.4283	4.0000e-005	0.0000	1.4292
Total	1.7300e-003	0.0364	0.0126	1.2000e-004	7.2500e-003	1.3000e-004	7.3800e-003	1.8700e-003	1.2000e-004	1.9900e-003	0.0000	10.8723	10.8723	4.7000e-004	0.0000	10.8840

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0192	0.2273	0.0844	2.2000e-004		9.2100e-003	9.2100e-003		8.4700e-003	8.4700e-003	0.0000	19.3368	19.3368	6.2500e-003	0.0000	19.4932
Total	0.0192	0.2273	0.0844	2.2000e-004	0.0452	9.2100e-003	0.0544	0.0248	8.4700e-003	0.0333	0.0000	19.3368	19.3368	6.2500e-003	0.0000	19.4932

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.3000e-004	4.5000e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2243	1.2243	3.0000e-005	0.0000	1.2250
Total	6.0000e-004	4.3000e-004	4.5000e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2243	1.2243	3.0000e-005	0.0000	1.2250

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					0.0203	0.0000	0.0203	5.5900e-003	0.0000	5.5900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6900e-003	0.0117	0.1058	2.2000e-004		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004	0.0000	19.3368	19.3368	6.2500e-003	0.0000	19.4932
Total	2.6900e-003	0.0117	0.1058	2.2000e-004	0.0203	3.6000e-004	0.0207	5.5900e-003	3.6000e-004	5.9500e-003	0.0000	19.3368	19.3368	6.2500e-003	0.0000	19.4932

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	tons/yr										MT/yr					
	Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.3000e-004	4.5000e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2243	1.2243	3.0000e-005	0.0000	1.2250
Total	6.0000e-004	4.3000e-004	4.5000e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2243	1.2243	3.0000e-005	0.0000	1.2250

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6651	0.0000	0.6651	0.3571	0.0000	0.3571	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4847	5.3148	3.9307	7.1900e-003		0.2359	0.2359		0.2170	0.2170	0.0000	631.3475	631.3475	0.2042	0.0000	636.4522
Total	0.4847	5.3148	3.9307	7.1900e-003	0.6651	0.2359	0.9010	0.3571	0.2170	0.5741	0.0000	631.3475	631.3475	0.2042	0.0000	636.4522

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	0.1379	4.8167	0.9864	0.0131	0.2873	0.0157	0.3029	0.0788	0.0150	0.0938	0.0000	1,265.9898	1,265.9898	0.0579	0.0000	1,267.4377
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	5.3300e-003	3.8300e-003	0.0402	1.2000e-004	0.0127	8.0000e-005	0.0128	3.3900e-003	8.0000e-005	3.4600e-003	0.0000	10.9164	10.9164	2.7000e-004	0.0000	10.9231
Total	0.1433	4.8205	1.0266	0.0132	0.3000	0.0157	0.3157	0.0822	0.0151	0.0973	0.0000	1,276.9062	1,276.9062	0.0582	0.0000	1,278.3608

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					0.2993	0.0000	0.2993	0.0804	0.0000	0.0804	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0887	0.4000	4.1153	7.1900e-003		0.0118	0.0118		0.0118	0.0118	0.0000	631.3467	631.3467	0.2042	0.0000	636.4515
Total	0.0887	0.4000	4.1153	7.1900e-003	0.2993	0.0118	0.3111	0.0804	0.0118	0.0921	0.0000	631.3467	631.3467	0.2042	0.0000	636.4515

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	0.1379	4.8167	0.9864	0.0131	0.2873	0.0157	0.3029	0.0788	0.0150	0.0938	0.0000	1,265.9898	1,265.9898	0.0579	0.0000	1,267.4377
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3300e-003	3.8300e-003	0.0402	1.2000e-004	0.0127	8.0000e-005	0.0128	3.3900e-003	8.0000e-005	3.4600e-003	0.0000	10.9164	10.9164	2.7000e-004	0.0000	10.9231
Total	0.1433	4.8205	1.0266	0.0132	0.3000	0.0157	0.3157	0.0822	0.0151	0.0973	0.0000	1,276.9062	1,276.9062	0.0582	0.0000	1,278.3608

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0388	0.0000	0.0388	0.0128	0.0000	0.0128	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0128	0.1371	0.1072	2.0000e-004		6.0400e-003	6.0400e-003		5.5600e-003	5.5600e-003	0.0000	17.7068	17.7068	5.7300e-003	0.0000	17.8500
Total	0.0128	0.1371	0.1072	2.0000e-004	0.0388	6.0400e-003	0.0449	0.0128	5.5600e-003	0.0184	0.0000	17.7068	17.7068	5.7300e-003	0.0000	17.8500

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	3.6500e-003	0.1245	0.0271	3.6000e-004	0.2186	3.9000e-004	0.2190	0.0539	3.7000e-004	0.0543	0.0000	35.0448	35.0448	1.5900e-003	0.0000	35.0845
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.0000e-004	1.0300e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.2954	0.2954	1.0000e-005	0.0000	0.2956
Total	3.7900e-003	0.1246	0.0282	3.6000e-004	0.2190	3.9000e-004	0.2194	0.0540	3.7000e-004	0.0544	0.0000	35.3402	35.3402	1.6000e-003	0.0000	35.3802

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	tons/yr										MT/yr					
Fugitive Dust					0.0175	0.0000	0.0175	2.8900e-003	0.0000	2.8900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4900e-003	0.0112	0.1154	2.0000e-004		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004	0.0000	17.7068	17.7068	5.7300e-003	0.0000	17.8499
Total	2.4900e-003	0.0112	0.1154	2.0000e-004	0.0175	3.3000e-004	0.0178	2.8900e-003	3.3000e-004	3.2200e-003	0.0000	17.7068	17.7068	5.7300e-003	0.0000	17.8499

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	3.6500e-003	0.1245	0.0271	3.6000e-004	0.2186	3.9000e-004	0.2190	0.0539	3.7000e-004	0.0543	0.0000	35.0448	35.0448	1.5900e-003	0.0000	35.0845
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.0000e-004	1.0300e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.2954	0.2954	1.0000e-005	0.0000	0.2956
Total	3.7900e-003	0.1246	0.0282	3.6000e-004	0.2190	3.9000e-004	0.2194	0.0540	3.7000e-004	0.0544	0.0000	35.3402	35.3402	1.6000e-003	0.0000	35.3802

3.5 Trenching - 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	4.8400e-003	0.0465	0.0660	1.0000e-004		2.4000e-003	2.4000e-003		2.2100e-003	2.2100e-003	0.0000	8.8538	8.8538	2.8600e-003	0.0000	8.9254
Total	4.8400e-003	0.0465	0.0660	1.0000e-004		2.4000e-003	2.4000e-003		2.2100e-003	2.2100e-003	0.0000	8.8538	8.8538	2.8600e-003	0.0000	8.9254

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.4300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9848	0.9848	2.0000e-005	0.0000	0.9854
Total	4.6000e-004	3.2000e-004	3.4300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9848	0.9848	2.0000e-005	0.0000	0.9854

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.2400e-003	5.3600e-003	0.0763	1.0000e-004		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	8.8538	8.8538	2.8600e-003	0.0000	8.9254
Total	1.2400e-003	5.3600e-003	0.0763	1.0000e-004		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	8.8538	8.8538	2.8600e-003	0.0000	8.9254

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.2000e-004	3.4300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9848	0.9848	2.0000e-005	0.0000	0.9854
Total	4.6000e-004	3.2000e-004	3.4300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9848	0.9848	2.0000e-005	0.0000	0.9854

3.6 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3359	2.9443	2.6104	4.6400e-003		0.1497	0.1497		0.1428	0.1428	0.0000	394.5594	394.5594	0.0786	0.0000	396.5238
Total	0.3359	2.9443	2.6104	4.6400e-003		0.1497	0.1497		0.1428	0.1428	0.0000	394.5594	394.5594	0.0786	0.0000	396.5238

Unmitigated Construction Off-Site

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

Hauling	1.0100e-003	0.0346	7.5400e-003	1.0000e-004	3.4700e-003	1.1000e-004	3.5800e-003	9.2000e-004	1.0000e-004	1.0200e-003	0.0000	9.7424	9.7424	4.4000e-004	0.0000	9.7534
Vendor	0.0881	2.7745	0.7386	7.2900e-003	0.1776	6.1500e-003	0.1838	0.0514	5.8800e-003	0.0572	0.0000	699.3794	699.3794	0.0305	0.0000	700.1413
Worker	0.2627	0.1819	1.9507	6.1900e-003	0.6763	4.2600e-003	0.6806	0.1799	3.9200e-003	0.1838	0.0000	559.8660	559.8660	0.0127	0.0000	560.1844
Total	0.3518	2.9910	2.6968	0.0136	0.8574	0.0105	0.8679	0.2322	9.9000e-003	0.2421	0.0000	1,268.9878	1,268.9878	0.0437	0.0000	1,270.0791

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	0.0567	0.4747	2.7844	4.6400e-003		6.7400e-003	6.7400e-003		6.7400e-003	6.7400e-003	0.0000	394.5589	394.5589	0.0786	0.0000	396.5233
Total	0.0567	0.4747	2.7844	4.6400e-003		6.7400e-003	6.7400e-003		6.7400e-003	6.7400e-003	0.0000	394.5589	394.5589	0.0786	0.0000	396.5233

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0100e-003	0.0346	7.5400e-003	1.0000e-004	3.4700e-003	1.1000e-004	3.5800e-003	9.2000e-004	1.0000e-004	1.0200e-003	0.0000	9.7424	9.7424	4.4000e-004	0.0000	9.7534
Vendor	0.0881	2.7745	0.7386	7.2900e-003	0.1776	6.1500e-003	0.1838	0.0514	5.8800e-003	0.0572	0.0000	699.3794	699.3794	0.0305	0.0000	700.1413
Worker	0.2627	0.1819	1.9507	6.1900e-003	0.6763	4.2600e-003	0.6806	0.1799	3.9200e-003	0.1838	0.0000	559.8660	559.8660	0.0127	0.0000	560.1844

Total	0.3518	2.9910	2.6968	0.0136	0.8574	0.0105	0.8679	0.2322	9.9000e-003	0.2421	0.0000	1,268.9878	1,268.9878	0.0437	0.0000	1,270.0791
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3.6 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2368	2.0635	2.0023	3.6100e-003		0.1000	0.1000		0.0955	0.0955	0.0000	306.9469	306.9469	0.0603	0.0000	308.4547
Total	0.2368	2.0635	2.0023	3.6100e-003		0.1000	0.1000		0.0955	0.0955	0.0000	306.9469	306.9469	0.0603	0.0000	308.4547

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.4000e-004	0.0247	5.7600e-003	8.0000e-005	3.3500e-003	7.0000e-005	3.4200e-003	8.7000e-004	7.0000e-005	9.4000e-004	0.0000	7.4752	7.4752	3.4000e-004	0.0000	7.4836
Vendor	0.0639	2.0399	0.5410	5.6100e-003	0.1382	4.1600e-003	0.1423	0.0400	3.9800e-003	0.0439	0.0000	538.7577	538.7577	0.0226	0.0000	539.3235
Worker	0.1907	0.1269	1.3945	4.6400e-003	0.5260	3.2400e-003	0.5293	0.1399	2.9800e-003	0.1429	0.0000	419.6341	419.6341	8.8800e-003	0.0000	419.8562
Total	0.2553	2.1915	1.9413	0.0103	0.6676	7.4700e-003	0.6750	0.1807	7.0300e-003	0.1877	0.0000	965.8670	965.8670	0.0319	0.0000	966.6633

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	0.0441	0.3692	2.1656	3.6100e-003		5.2400e-003	5.2400e-003		5.2400e-003	5.2400e-003	0.0000	306.9465	306.9465	0.0603	0.0000	308.4543
Total	0.0441	0.3692	2.1656	3.6100e-003		5.2400e-003	5.2400e-003		5.2400e-003	5.2400e-003	0.0000	306.9465	306.9465	0.0603	0.0000	308.4543

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.4000e-004	0.0247	5.7600e-003	8.0000e-005	3.3500e-003	7.0000e-005	3.4200e-003	8.7000e-004	7.0000e-005	9.4000e-004	0.0000	7.4752	7.4752	3.4000e-004	0.0000	7.4836
Vendor	0.0639	2.0399	0.5410	5.6100e-003	0.1382	4.1600e-003	0.1423	0.0400	3.9800e-003	0.0439	0.0000	538.7577	538.7577	0.0226	0.0000	539.3235
Worker	0.1907	0.1269	1.3945	4.6400e-003	0.5260	3.2400e-003	0.5293	0.1399	2.9800e-003	0.1429	0.0000	419.6341	419.6341	8.8800e-003	0.0000	419.8562
Total	0.2553	2.1915	1.9413	0.0103	0.6676	7.4700e-003	0.6750	0.1807	7.0300e-003	0.1877	0.0000	965.8670	965.8670	0.0319	0.0000	966.6633

3.7 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	0.0143	0.1453	0.1650	2.5000e-004		7.6900e-003	7.6900e-003		7.0800e-003	7.0800e-003	0.0000	22.2999	22.2999	7.1600e-003	0.0000	22.4790
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0143	0.1453	0.1650	2.5000e-004		7.6900e-003	7.6900e-003		7.0800e-003	7.0800e-003	0.0000	22.2999	22.2999	7.1600e-003	0.0000	22.4790

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5000e-004	5.0800e-003	1.1100e-003	1.0000e-005	3.2000e-004	2.0000e-005	3.4000e-004	9.0000e-005	2.0000e-005	1.0000e-004	0.0000	1.4308	1.4308	6.0000e-005	0.0000	1.4324
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	9.2000e-004	6.4000e-004	6.8600e-003	2.0000e-005	2.3800e-003	1.0000e-005	2.3900e-003	6.3000e-004	1.0000e-005	6.5000e-004	0.0000	1.9696	1.9696	4.0000e-005	0.0000	1.9708
Total	1.0700e-003	5.7200e-003	7.9700e-003	3.0000e-005	2.7000e-003	3.0000e-005	2.7300e-003	7.2000e-004	3.0000e-005	7.5000e-004	0.0000	3.4004	3.4004	1.0000e-004	0.0000	3.4031

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	3.3800e-003	0.0152	0.1921	2.5000e-004		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	22.2999	22.2999	7.1600e-003	0.0000	22.4789
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.3800e-003	0.0152	0.1921	2.5000e-004		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	22.2999	22.2999	7.1600e-003	0.0000	22.4789

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5000e-004	5.0800e-003	1.1100e-003	1.0000e-005	3.2000e-004	2.0000e-005	3.4000e-004	9.0000e-005	2.0000e-005	1.0000e-004	0.0000	1.4308	1.4308	6.0000e-005	0.0000	1.4324
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	9.2000e-004	6.4000e-004	6.8600e-003	2.0000e-005	2.3800e-003	1.0000e-005	2.3900e-003	6.3000e-004	1.0000e-005	6.5000e-004	0.0000	1.9696	1.9696	4.0000e-005	0.0000	1.9708
Total	1.0700e-003	5.7200e-003	7.9700e-003	3.0000e-005	2.7000e-003	3.0000e-005	2.7300e-003	7.2000e-004	3.0000e-005	7.5000e-004	0.0000	3.4004	3.4004	1.0000e-004	0.0000	3.4031

3.8 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.8152					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0278	0.2311	0.3450	5.5000e-004		0.0106	0.0106		0.0105	0.0105	0.0000	47.7465	47.7465	7.9700e-003	0.0000	47.9457
Total	3.8430	0.2311	0.3450	5.5000e-004		0.0106	0.0106		0.0105	0.0105	0.0000	47.7465	47.7465	7.9700e-003	0.0000	47.9457

Unmitigated Construction Off-Site

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	0.0186	0.0124	0.1358	4.5000e-004	0.0512	3.2000e-004	0.0516	0.0136	2.9000e-004	0.0139	0.0000	40.8720	40.8720	8.7000e-004	0.0000	40.8936
Total	0.0186	0.0124	0.1358	4.5000e-004	0.0512	3.2000e-004	0.0516	0.0136	2.9000e-004	0.0139	0.0000	40.8720	40.8720	8.7000e-004	0.0000	40.8936

3.8 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.5908					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0246	0.2030	0.3242	5.2000e-004		8.6600e-003	8.6600e-003		8.5700e-003	8.5700e-003	0.0000	44.9379	44.9379	7.3500e-003	0.0000	45.1217
Total	3.6154	0.2030	0.3242	5.2000e-004		8.6600e-003	8.6600e-003		8.5700e-003	8.5700e-003	0.0000	44.9379	44.9379	7.3500e-003	0.0000	45.1217

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	0.0164	0.0105	0.1176	4.1000e-004	0.0482	2.9000e-004	0.0485	0.0128	2.7000e-004	0.0131	0.0000	37.0066	37.0066	7.3000e-004	0.0000	37.0248
Total	0.0164	0.0105	0.1176	4.1000e-004	0.0482	2.9000e-004	0.0485	0.0128	2.7000e-004	0.0131	0.0000	37.0066	37.0066	7.3000e-004	0.0000	37.0248

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	3.5908					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0246	0.2030	0.3242	5.2000e-004		8.6600e-003	8.6600e-003		8.5700e-003	8.5700e-003	0.0000	44.9378	44.9378	7.3500e-003	0.0000	45.1217
Total	3.6154	0.2030	0.3242	5.2000e-004		8.6600e-003	8.6600e-003		8.5700e-003	8.5700e-003	0.0000	44.9378	44.9378	7.3500e-003	0.0000	45.1217

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	0.0164	0.0105	0.1176	4.1000e-004	0.0482	2.9000e-004	0.0485	0.0128	2.7000e-004	0.0131	0.0000	37.0066	37.0066	7.3000e-004	0.0000	37.0248
Total	0.0164	0.0105	0.1176	4.1000e-004	0.0482	2.9000e-004	0.0485	0.0128	2.7000e-004	0.0131	0.0000	37.0066	37.0066	7.3000e-004	0.0000	37.0248

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	2.5135	9.4851	27.6749	0.0999	9.7573	0.0788	9.8361	2.6116	0.0733	2.6850	0.0000	9,162.6880	9,162.6880	0.2925	0.0000	9,170.0014
Unmitigated	2.5135	9.4851	27.6749	0.0999	9.7573	0.0788	9.8361	2.6116	0.0733	2.6850	0.0000	9,162.6880	9,162.6880	0.2925	0.0000	9,170.0014

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	3,105.55	2,984.13	2736.62	7,010,813	7,010,813
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	5,512.46	1,229.43	524.76	10,008,458	10,008,458
Strip Mall	6,540.26	6,203.80	3014.83	9,222,582	9,222,582
Total	15,158.27	10,417.36	6,276.21	26,241,853	26,241,853

4.3 Trip Type Information

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

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.614951	0.035734	0.181842	0.104158	0.013506	0.005015	0.012793	0.021727	0.002177	0.001514	0.005249	0.000632	0.000704
Enclosed Parking with Elevator	0.614951	0.035734	0.181842	0.104158	0.013506	0.005015	0.012793	0.021727	0.002177	0.001514	0.005249	0.000632	0.000704

Apartments Mid Rise	4.03462e+006	0.0218	0.1859	0.0791	1.1900e-003		0.0150	0.0150		0.0150	0.0150	0.0000	215.3029	215.3029	4.1300e-003	3.9500e-003	216.5823
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	8.18132e+006	0.0441	0.4010	0.3369	2.4100e-003		0.0305	0.0305		0.0305	0.0305	0.0000	436.5862	436.5862	8.3700e-003	8.0000e-003	439.1806
Strip Mall	349739	1.8900e-003	0.0171	0.0144	1.0000e-004		1.3000e-003	1.3000e-003		1.3000e-003	1.3000e-003	0.0000	18.6634	18.6634	3.6000e-004	3.4000e-004	18.7743
Total		0.0678	0.6041	0.4304	3.7000e-003		0.0468	0.0468		0.0468	0.0468	0.0000	670.5525	670.5525	0.0129	0.0123	674.5372

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	4.03462e+006	0.0218	0.1859	0.0791	1.1900e-003		0.0150	0.0150		0.0150	0.0150	0.0000	215.3029	215.3029	4.1300e-003	3.9500e-003	216.5823
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	8.18132e+006	0.0441	0.4010	0.3369	2.4100e-003		0.0305	0.0305		0.0305	0.0305	0.0000	436.5862	436.5862	8.3700e-003	8.0000e-003	439.1806
Strip Mall	349739	1.8900e-003	0.0171	0.0144	1.0000e-004		1.3000e-003	1.3000e-003		1.3000e-003	1.3000e-003	0.0000	18.6634	18.6634	3.6000e-004	3.4000e-004	18.7743
Total		0.0678	0.6041	0.4304	3.7000e-003		0.0468	0.0468		0.0468	0.0468	0.0000	670.5525	670.5525	0.0129	0.0123	674.5372

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.92794e+006	253.6046	0.0254	5.2500e-003	255.8022

Enclosed Parking with Elevator	2.99561e+006	394.0485	0.0394	8.1500e-003	397.4631
General Office Building	8.91099e+006	1,172.1673	0.1172	0.0243	1,182.3248
Strip Mall	1.57751e+006	207.5088	0.0208	4.2900e-003	209.3070
Total		2,027.3292	0.2027	0.0419	2,044.8971

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.31611e+006	173.1235	0.0173	3.5800e-003	174.6237
Enclosed Parking with Elevator	1.91124e+006	251.4076	0.0251	5.2000e-003	253.5862
General Office Building	5.95607e+006	783.4719	0.0784	0.0162	790.2611
Strip Mall	892608	117.4153	0.0117	2.4300e-003	118.4327
Total		1,325.4182	0.1325	0.0274	1,336.9037

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
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Hearth	1.0775	0.0248	1.4838	2.9500e-003		0.2121	0.2121		0.2121	0.2121	21.2904	8.7450	30.0354	0.0342	1.4000e-003	31.3069
Landscaping	0.1059	0.0401	3.4843	1.8000e-004		0.0193	0.0193		0.0193	0.0193	0.0000	5.6996	5.6996	5.5300e-003	0.0000	5.8378
Total	6.6622	0.0649	4.9680	3.1300e-003		0.2314	0.2314		0.2314	0.2314	21.2904	14.4446	35.7350	0.0398	1.4000e-003	37.1447

7.0 Water Detail

7.1 Mitigation Measures Water

- Apply Water Conservation Strategy
- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	152.4529	4.2532	0.1025	289.3159
Unmitigated	170.9432	4.2550	0.1029	307.9665

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e

Land Use	Mgal	MT/yr			
Apartments Mid Rise	30.4269 / 19.1822	40.1415	0.9945	0.0240	72.1686
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	88.826 / 54.4417	116.4691	2.9032	0.0702	209.9603
Strip Mall	10.9309 / 6.69957	14.3326	0.3573	8.6400e-003	25.8376
Total		170.9432	4.2550	0.1029	307.9665

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	30.4269 / 9.5911	35.7258	0.9941	0.0240	67.7147
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	88.826 / 27.2209	103.9367	2.9020	0.0699	197.3193
Strip Mall	10.9309 / 3.34979	12.7904	0.3571	8.6000e-003	24.2820
Total		152.4529	4.2532	0.1025	289.3159

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	169.4081	10.0117	0.0000	419.7015
Unmitigated	169.4081	10.0117	0.0000	419.7015

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	214.82	43.6065	2.5771	0.0000	108.0333
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	464.79	94.3482	5.5758	0.0000	233.7436
Strip Mall	154.95	31.4535	1.8589	0.0000	77.9246
Total		169.4081	10.0117	0.0000	419.7015

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
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Land Use	tons	MT/yr			
Apartments Mid Rise	214.82	43.6065	2.5771	0.0000	108.0333
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	464.79	94.3482	5.5758	0.0000	233.7436
Strip Mall	154.95	31.4535	1.8589	0.0000	77.9246
Total		169.4081	10.0117	0.0000	419.7015

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	50	240	0.73	Diesel
Emergency Generator	1	0	50	240	0.73	Diesel
Emergency Generator	1	0	50	1528	0.73	Diesel

Boilers

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

Equipment Type	Number
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10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										Mt/yr					
Emergency Generator - Diesel (175,000 HP)	0.0197	0.0550	0.0502	9.0000e-005		2.9000e-003	2.9000e-003		2.9000e-003	2.9000e-003	0.0000	9.1391	9.1391	1.2800e-003	0.0000	9.1712
Emergency Generator - Diesel (750,000 HP)	0.0627	0.2803	0.1598	3.0000e-004		9.2200e-003	9.2200e-003		9.2200e-003	9.2200e-003	0.0000	29.0929	29.0929	4.0800e-003	0.0000	29.1949
Total	0.0824	0.3354	0.2101	3.9000e-004		0.0121	0.0121		0.0121	0.0121	0.0000	38.2320	38.2320	5.3600e-003	0.0000	38.3661

11.0 Vegetation

DSP - Macys & Redwood Sqaure - Santa Clara County, Annual

DSP - Macys & Redwood Sqaure (TAC)
Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	482.95	1000sqft	0.00	482,950.00	0
Enclosed Parking with Elevator	1,375.00	Space	0.00	536,748.00	0
Apartments Mid Rise	400.00	Dwelling Unit	7.60	471,575.00	1144
Strip Mall	100.66	1000sqft	0.00	100,658.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 Rate = 290

Land Use - Applicant provided land uses

Construction Phase - Applicant provided construction scheudle

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Trips and VMT - 615tons pavement demo = 124 one-way trips, 796+124= 920 demo trips, building const = 460 one-way cement trips, paving = 160cy = 38 one-way asphalt trips, TAC trip length 1 mile

Demolition - Existing building demo = 175,000sf

Grading - Grading = 273,022cy export

Vehicle Trips - Vehicle Trips - After reuctions, Res = 3.97, 3.81, 3.50, Office = 9.01, 2.01, 0.86, Retail = 35.26, 33.45, 16.25

Woodstoves - No Wood All Gas

Water And Wastewater - WTP treatment 100% aerobic

Construction Off-road Equipment Mitigation - BMPs, Tier 4 interim mitigation

Energy Mitigation - Green Building Measures - energy efficient lighting, appliances, installing solar panels

Water Mitigation - Green Building Measures - water efficient fixtures and landscaping

Stationary Sources - Emergency Generators and Fire Pumps - Macys = 2 150kW 240hp diesel generator, 50hrs/year, Redwood Square = 1000kW 1528hp diesel generator, 50hrs/yr

Energy Use -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
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tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	20.00	165.00
tblConstructionPhase	NumDays	230.00	400.00
tblConstructionPhase	NumDays	20.00	90.00
tblConstructionPhase	NumDays	20.00	220.00
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	10.00	20.00

tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	60.00	128.00
tblFireplaces	NumberWood	68.00	0.00
tblGrading	AcresOfGrading	467.50	797.50
tblGrading	MaterialExported	0.00	273,022.00
tblLandUse	LandUseSquareFeet	550,000.00	536,748.00
tblLandUse	LandUseSquareFeet	400,000.00	471,575.00
tblLandUse	LandUseSquareFeet	100,660.00	100,658.00
tblLandUse	LotAcreage	11.09	0.00
tblLandUse	LotAcreage	12.37	0.00
tblLandUse	LotAcreage	10.53	7.60
tblLandUse	LotAcreage	2.31	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	7.00	5.00

tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,528.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	240.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	240.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00

tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripNumber	796.00	920.00
tblTripsAndVMT	HaulingTripNumber	0.00	460.00
tblTripsAndVMT	HaulingTripNumber	0.00	38.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblVehicleTrips	ST_TR	6.39	3.81
tblVehicleTrips	ST_TR	2.46	2.01
tblVehicleTrips	ST_TR	42.04	33.45
tblVehicleTrips	SU_TR	5.86	3.50
tblVehicleTrips	SU_TR	1.05	0.86
tblVehicleTrips	SU_TR	20.43	16.25
tblVehicleTrips	WD_TR	6.65	3.97
tblVehicleTrips	WD_TR	11.03	9.01
tblVehicleTrips	WD_TR	44.32	35.26
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00

tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0713	0.7310	0.5058	8.8000e-004	0.0605	0.0365	0.0970	9.2900e-003	0.0340	0.0433	0.0000	78.6372	78.6372	0.0208	0.0000	79.1561
2020	0.5753	7.5616	4.5508	0.0101	1.1841	0.2618	1.4459	0.4374	0.2411	0.6784	0.0000	905.0010	905.0010	0.2429	0.0000	911.0723
2021	0.4923	4.9841	3.8630	8.0800e-003	0.5500	0.1680	0.7180	0.0833	0.1597	0.2431	0.0000	715.6222	715.6222	0.1163	0.0000	718.5302
2022	3.6936	3.5480	3.0246	6.3600e-003	0.0684	0.1121	0.1806	0.0187	0.1074	0.1262	0.0000	562.8184	562.8184	0.0840	0.0000	564.9174
2023	3.1687	0.2057	0.3516	5.7000e-004	4.1800e-003	8.7100e-003	0.0129	1.1200e-003	8.6200e-003	9.7400e-003	0.0000	49.1342	49.1342	7.5000e-003	0.0000	49.3217
Maximum	3.6936	7.5616	4.5508	0.0101	1.1841	0.2618	1.4459	0.4374	0.2411	0.6784	0.0000	905.0010	905.0010	0.2429	0.0000	911.0723

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					
2019	0.0151	0.3393	0.5589	8.8000e-004	0.0278	1.3600e-003	0.0292	2.3200e-003	1.3600e-003	3.6800e-003	0.0000	78.6371	78.6371	0.0208	0.0000	79.1560
2020	0.1616	4.3339	5.1544	0.0101	0.5432	0.0151	0.5584	0.1024	0.0151	0.1175	0.0000	905.0001	905.0001	0.2429	0.0000	911.0715
2021	0.2191	3.7717	4.1906	8.0800e-003	0.2990	0.0222	0.3212	0.0384	0.0221	0.0605	0.0000	715.6217	715.6217	0.1163	0.0000	718.5297
2022	3.5075	2.9238	3.2905	6.3600e-003	0.0684	0.0218	0.0902	0.0187	0.0217	0.0404	0.0000	562.8180	562.8180	0.0840	0.0000	564.9170
2023	3.1548	0.2290	0.3758	5.7000e-004	4.1800e-003	5.1100e-003	9.2800e-003	1.1200e-003	5.1000e-003	6.2200e-003	0.0000	49.1341	49.1341	7.5000e-003	0.0000	49.3216
Maximum	3.5075	4.3339	5.1544	0.0101	0.5432	0.0222	0.5584	0.1024	0.0221	0.1175	0.0000	905.0001	905.0001	0.2429	0.0000	911.0715

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	11.79	31.90	-10.36	0.00	49.51	88.83	58.92	70.35	88.15	79.26	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	10-7-2019	1-6-2020	0.8457	0.3749
2	1-7-2020	4-6-2020	1.2320	0.6024
3	4-7-2020	7-6-2020	2.3001	1.3024
4	7-7-2020	10-6-2020	2.3244	1.3158
5	10-7-2020	1-6-2021	2.3003	1.3008
6	1-7-2021	4-6-2021	0.9279	0.6789
7	4-7-2021	7-6-2021	1.4991	1.0995
8	7-7-2021	10-6-2021	1.4859	1.0900
9	10-7-2021	1-6-2022	1.4677	1.0779
10	1-7-2022	4-6-2022	1.3326	1.0375
11	4-7-2022	7-6-2022	1.3577	1.0593

12	7-7-2022	10-6-2022	1.8345	1.6424
13	10-7-2022	1-6-2023	2.7848	2.7803
14	1-7-2023	4-6-2023	2.7116	2.7193
15	4-7-2023	7-6-2023	0.4520	0.4533
		Highest	2.7848	2.7803

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/7/2019	2/7/2020	5	90	
2	Site Preparation	Site Preparation	2/10/2020	3/6/2020	5	20	
3	Grading	Grading	3/9/2020	1/8/2021	5	220	
4	Trenching	Trenching	1/11/2021	2/19/2021	5	30	
5	Building Construction	Building Construction	2/22/2021	9/2/2022	5	400	
6	Paving	Paving	2/22/2021	4/16/2021	5	40	
7	Architectural Coating	Architectural Coating	9/5/2022	4/21/2023	5	165	

Acres of Grading (Site Preparation Phase): 20

Acres of Grading (Grading Phase): 797.5

Acres of Paving: 0

Residential Indoor: 954,939; Residential Outdoor: 318,313; Non-Residential Indoor: 875,412; Non-Residential Outdoor: 291,804; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	3	2.00	81	0.73
Demolition	Excavators	4	4.00	158	0.38
Demolition	Rubber Tired Dozers	4	2.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Site Preparation	Graders	2	8.00	187	0.41

Site Preparation	Rubber Tired Dozers	1	6.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Grading	Excavators	6	6.00	158	0.38
Grading	Graders	2	1.00	187	0.41
Grading	Rubber Tired Dozers	2	4.00	247	0.40
Grading	Scrapers	4	4.00	367	0.48
Grading	Sweepers/Scrubbers	1	1.00	64	0.46
Grading	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Trenching	Excavators	2	4.00	158	0.38
Trenching	Tractors/Loaders/Backhoes	2	2.00	97	0.37
Building Construction	Cranes	3	5.00	231	0.29
Building Construction	Forklifts	4	4.00	89	0.20
Building Construction	Generator Sets	3	4.00	84	0.74
Building Construction	Pumps	2	3.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	4	4.00	97	0.37
Building Construction	Welders	4	5.00	46	0.45
Paving	Cement and Mortar Mixers	1	2.00	9	0.56
Paving	Pavers	2	4.00	130	0.42
Paving	Paving Equipment	2	4.00	132	0.36
Paving	Rollers	2	4.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	3.00	97	0.37
Architectural Coating	Aerial Lifts	4	6.00	63	0.31
Architectural Coating	Air Compressors	4	4.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	13	33.00	0.00	920.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	4	10.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Grading	17	43.00	0.00	34,128.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT

Trenching	4	10.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Building Construction	20	700.00	226.00	460.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	8	140.00	0.00	38.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2019

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					0.0593	0.0000	0.0593	8.9800e-003	0.0000	8.9800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0693	0.6965	0.4926	8.3000e-004		0.0364	0.0364		0.0340	0.0340	0.0000	73.6737	73.6737	0.0202	0.0000	74.1796
Total	0.0693	0.6965	0.4926	8.3000e-004	0.0593	0.0364	0.0958	8.9800e-003	0.0340	0.0429	0.0000	73.6737	73.6737	0.0202	0.0000	74.1796

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
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Category	tons/yr										MT/yr					
Hauling	7.7000e-004	0.0340	5.6600e-003	4.0000e-005	3.7000e-004	4.0000e-005	4.1000e-004	1.0000e-004	4.0000e-005	1.4000e-004	0.0000	4.1054	4.1054	4.8000e-004	0.0000	4.1174
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	1.2500e-003	5.9000e-004	7.5600e-003	1.0000e-005	7.6000e-004	1.0000e-005	7.7000e-004	2.0000e-004	1.0000e-005	2.1000e-004	0.0000	0.8581	0.8581	4.0000e-005	0.0000	0.8592
Total	2.0200e-003	0.0345	0.0132	5.0000e-005	1.1300e-003	5.0000e-005	1.1800e-003	3.0000e-004	5.0000e-005	3.5000e-004	0.0000	4.9635	4.9635	5.2000e-004	0.0000	4.9765

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					0.0267	0.0000	0.0267	2.0200e-003	0.0000	2.0200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0131	0.3047	0.5457	8.3000e-004		1.3100e-003	1.3100e-003		1.3100e-003	1.3100e-003	0.0000	73.6736	73.6736	0.0202	0.0000	74.1795
Total	0.0131	0.3047	0.5457	8.3000e-004	0.0267	1.3100e-003	0.0280	2.0200e-003	1.3100e-003	3.3300e-003	0.0000	73.6736	73.6736	0.0202	0.0000	74.1795

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.7000e-004	0.0340	5.6600e-003	4.0000e-005	3.7000e-004	4.0000e-005	4.1000e-004	1.0000e-004	4.0000e-005	1.4000e-004	0.0000	4.1054	4.1054	4.8000e-004	0.0000	4.1174
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	1.2500e-003	5.9000e-004	7.5600e-003	1.0000e-005	7.6000e-004	1.0000e-005	7.7000e-004	2.0000e-004	1.0000e-005	2.1000e-004	0.0000	0.8581	0.8581	4.0000e-005	0.0000	0.8592

Total	2.0200e-003	0.0345	0.0132	5.0000e-005	1.1300e-003	5.0000e-005	1.1800e-003	3.0000e-004	5.0000e-005	3.5000e-004	0.0000	4.9635	4.9635	5.2000e-004	0.0000	4.9765
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3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0268	0.0000	0.0268	4.0600e-003	0.0000	4.0600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0293	0.2903	0.2200	3.7000e-004		0.0150	0.0150		0.0140	0.0140	0.0000	32.6767	32.6767	9.1000e-003	0.0000	32.9042
Total	0.0293	0.2903	0.2200	3.7000e-004	0.0268	0.0150	0.0418	4.0600e-003	0.0140	0.0180	0.0000	32.6767	32.6767	9.1000e-003	0.0000	32.9042

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	3.1000e-004	0.0148	2.4100e-003	2.0000e-005	3.3000e-004	1.0000e-005	3.4000e-004	8.0000e-005	1.0000e-005	1.0000e-004	0.0000	1.8587	1.8587	2.0000e-004	0.0000	1.8637
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-004	2.3000e-004	3.0300e-003	0.0000	3.4000e-004	0.0000	3.5000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3757	0.3757	2.0000e-005	0.0000	0.3761
Total	8.2000e-004	0.0150	5.4400e-003	2.0000e-005	6.7000e-004	1.0000e-005	6.9000e-004	1.7000e-004	1.0000e-005	2.0000e-004	0.0000	2.2344	2.2344	2.2000e-004	0.0000	2.2398

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					0.0121	0.0000	0.0121	9.1000e-004	0.0000	9.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.9100e-003	0.1376	0.2464	3.7000e-004		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004	0.0000	32.6766	32.6766	9.1000e-003	0.0000	32.9041
Total	5.9100e-003	0.1376	0.2464	3.7000e-004	0.0121	5.9000e-004	0.0127	9.1000e-004	5.9000e-004	1.5000e-003	0.0000	32.6766	32.6766	9.1000e-003	0.0000	32.9041

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	3.1000e-004	0.0148	2.4100e-003	2.0000e-005	3.3000e-004	1.0000e-005	3.4000e-004	8.0000e-005	1.0000e-005	1.0000e-004	0.0000	1.8587	1.8587	2.0000e-004	0.0000	1.8637
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-004	2.3000e-004	3.0300e-003	0.0000	3.4000e-004	0.0000	3.5000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3757	0.3757	2.0000e-005	0.0000	0.3761
Total	8.2000e-004	0.0150	5.4400e-003	2.0000e-005	6.7000e-004	1.0000e-005	6.9000e-004	1.7000e-004	1.0000e-005	2.0000e-004	0.0000	2.2344	2.2344	2.2000e-004	0.0000	2.2398

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

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

Fugitive Dust					0.0558	0.0000	0.0558	0.0260	0.0000	0.0260	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0192	0.2273	0.0844	2.2000e-004		9.2100e-003	9.2100e-003		8.4700e-003	8.4700e-003	0.0000	19.3368	19.3368	6.2500e-003	0.0000	19.4932
Total	0.0192	0.2273	0.0844	2.2000e-004	0.0558	9.2100e-003	0.0650	0.0260	8.4700e-003	0.0344	0.0000	19.3368	19.3368	6.2500e-003	0.0000	19.4932

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	5.0000e-005	6.6000e-004	0.0000	7.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0813	0.0813	0.0000	0.0000	0.0814
Total	1.1000e-004	5.0000e-005	6.6000e-004	0.0000	7.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0813	0.0813	0.0000	0.0000	0.0814

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0251	0.0000	0.0251	5.8400e-003	0.0000	5.8400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.7300e-003	0.0619	0.1219	2.2000e-004		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004	0.0000	19.3368	19.3368	6.2500e-003	0.0000	19.4932
Total	3.7300e-003	0.0619	0.1219	2.2000e-004	0.0251	3.6000e-004	0.0255	5.8400e-003	3.6000e-004	6.2000e-003	0.0000	19.3368	19.3368	6.2500e-003	0.0000	19.4932

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	5.0000e-005	6.6000e-004	0.0000	7.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0813	0.0813	0.0000	0.0000	0.0814
Total	1.1000e-004	5.0000e-005	6.6000e-004	0.0000	7.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0813	0.0813	0.0000	0.0000	0.0814

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0827	0.0000	1.0827	0.4022	0.0000	0.4022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.4847	5.3148	3.9307	7.1900e-003		0.2359	0.2359		0.2170	0.2170	0.0000	631.3475	631.3475	0.2042	0.0000	636.4522
Total	0.4847	5.3148	3.9307	7.1900e-003	1.0827	0.2359	1.3186	0.4022	0.2170	0.6192	0.0000	631.3475	631.3475	0.2042	0.0000	636.4522

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
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Category	tons/yr										MT/yr					
Hauling	0.0361	1.7119	0.2795	2.2300e-003	0.0147	1.6100e-003	0.0163	4.0600e-003	1.5400e-003	5.6000e-003	0.0000	215.5827	215.5827	0.0229	0.0000	216.1560
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-003	2.3300e-003	0.0302	4.0000e-005	3.4200e-003	5.0000e-005	3.4700e-003	9.1000e-004	4.0000e-005	9.6000e-004	0.0000	3.7416	3.7416	1.6000e-004	0.0000	3.7456
Total	0.0412	1.7142	0.3096	2.2700e-003	0.0181	1.6600e-003	0.0198	4.9700e-003	1.5800e-003	6.5600e-003	0.0000	219.3242	219.3242	0.0231	0.0000	219.9016

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					0.4872	0.0000	0.4872	0.0905	0.0000	0.0905	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1099	2.4051	4.4703	7.1900e-003		0.0125	0.0125		0.0125	0.0125	0.0000	631.3467	631.3467	0.2042	0.0000	636.4515
Total	0.1099	2.4051	4.4703	7.1900e-003	0.4872	0.0125	0.4997	0.0905	0.0125	0.1030	0.0000	631.3467	631.3467	0.2042	0.0000	636.4515

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	0.0361	1.7119	0.2795	2.2300e-003	0.0147	1.6100e-003	0.0163	4.0600e-003	1.5400e-003	5.6000e-003	0.0000	215.5827	215.5827	0.0229	0.0000	216.1560
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-003	2.3300e-003	0.0302	4.0000e-005	3.4200e-003	5.0000e-005	3.4700e-003	9.1000e-004	4.0000e-005	9.6000e-004	0.0000	3.7416	3.7416	1.6000e-004	0.0000	3.7456

Total	0.0412	1.7142	0.3096	2.2700e-003	0.0181	1.6600e-003	0.0198	4.9700e-003	1.5800e-003	6.5600e-003	0.0000	219.3242	219.3242	0.0231	0.0000	219.9016
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3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4564	0.0000	0.4564	0.0579	0.0000	0.0579	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0128	0.1371	0.1072	2.0000e-004		6.0400e-003	6.0400e-003		5.5600e-003	5.5600e-003	0.0000	17.7068	17.7068	5.7300e-003	0.0000	17.8500
Total	0.0128	0.1371	0.1072	2.0000e-004	0.4564	6.0400e-003	0.4624	0.0579	5.5600e-003	0.0635	0.0000	17.7068	17.7068	5.7300e-003	0.0000	17.8500

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.5000e-004	0.0462	7.5500e-003	6.0000e-005	0.0109	4.0000e-005	0.0110	2.7000e-003	4.0000e-005	2.7400e-003	0.0000	5.9808	5.9808	6.1000e-004	0.0000	5.9960
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	1.3000e-004	6.0000e-005	7.6000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1013	0.1013	0.0000	0.0000	0.1014
Total	1.0800e-003	0.0462	8.3100e-003	6.0000e-005	0.0110	4.0000e-005	0.0111	2.7300e-003	4.0000e-005	2.7700e-003	0.0000	6.0821	6.0821	6.1000e-004	0.0000	6.0975

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					0.2054	0.0000	0.2054	0.0130	0.0000	0.0130	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0800e-003	0.0674	0.1253	2.0000e-004		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	17.7068	17.7068	5.7300e-003	0.0000	17.8499
Total	3.0800e-003	0.0674	0.1253	2.0000e-004	0.2054	3.5000e-004	0.2057	0.0130	3.5000e-004	0.0134	0.0000	17.7068	17.7068	5.7300e-003	0.0000	17.8499

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.5000e-004	0.0462	7.5500e-003	6.0000e-005	0.0109	4.0000e-005	0.0110	2.7000e-003	4.0000e-005	2.7400e-003	0.0000	5.9808	5.9808	6.1000e-004	0.0000	5.9960
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	1.3000e-004	6.0000e-005	7.6000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1013	0.1013	0.0000	0.0000	0.1014
Total	1.0800e-003	0.0462	8.3100e-003	6.0000e-005	0.0110	4.0000e-005	0.0111	2.7300e-003	4.0000e-005	2.7700e-003	0.0000	6.0821	6.0821	6.1000e-004	0.0000	6.0975

3.5 Trenching - 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	4.8400e-003	0.0465	0.0660	1.0000e-004		2.4000e-003	2.4000e-003		2.2100e-003	2.2100e-003	0.0000	8.8538	8.8538	2.8600e-003	0.0000	8.9254
Total	4.8400e-003	0.0465	0.0660	1.0000e-004		2.4000e-003	2.4000e-003		2.2100e-003	2.2100e-003	0.0000	8.8538	8.8538	2.8600e-003	0.0000	8.9254

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-004	7.0000e-005	8.9000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1178	0.1178	0.0000	0.0000	0.1180
Total	1.5000e-004	7.0000e-005	8.9000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1178	0.1178	0.0000	0.0000	0.1180

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.4800e-003	0.0443	0.0763	1.0000e-004		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	8.8538	8.8538	2.8600e-003	0.0000	8.9254
Total	1.4800e-003	0.0443	0.0763	1.0000e-004		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	8.8538	8.8538	2.8600e-003	0.0000	8.9254

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-004	7.0000e-005	8.9000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1178	0.1178	0.0000	0.0000	0.1180
Total	1.5000e-004	7.0000e-005	8.9000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1178	0.1178	0.0000	0.0000	0.1180

3.6 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3359	2.9443	2.6104	4.6400e-003		0.1497	0.1497		0.1428	0.1428	0.0000	394.5594	394.5594	0.0786	0.0000	396.5238
Total	0.3359	2.9443	2.6104	4.6400e-003		0.1497	0.1497		0.1428	0.1428	0.0000	394.5594	394.5594	0.0786	0.0000	396.5238

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
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Category	tons/yr										MT/yr					
	Hauling	2.6000e-004	0.0128	2.1000e-003	2.0000e-005	1.8000e-004	1.0000e-005	1.9000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	1.6626	1.6626	1.7000e-004	0.0000
Vendor	0.0429	1.6164	0.4354	2.1000e-003	0.0235	1.3600e-003	0.0249	6.8500e-003	1.3000e-003	8.1500e-003	0.0000	202.1600	202.1600	0.0188	0.0000	202.6289
Worker	0.0797	0.0352	0.4653	6.9000e-004	0.0585	7.8000e-004	0.0593	0.0157	7.2000e-004	0.0164	0.0000	61.8656	61.8656	2.4300e-003	0.0000	61.9264
Total	0.1229	1.6645	0.9028	2.8100e-003	0.0822	2.1500e-003	0.0844	0.0226	2.0300e-003	0.0246	0.0000	265.6882	265.6882	0.0214	0.0000	266.2221

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	0.0862	1.8385	2.8841	4.6400e-003		0.0191	0.0191		0.0191	0.0191	0.0000	394.5589	394.5589	0.0786	0.0000	396.5233
Total	0.0862	1.8385	2.8841	4.6400e-003		0.0191	0.0191		0.0191	0.0191	0.0000	394.5589	394.5589	0.0786	0.0000	396.5233

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	2.6000e-004	0.0128	2.1000e-003	2.0000e-005	1.8000e-004	1.0000e-005	1.9000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	1.6626	1.6626	1.7000e-004	0.0000	1.6669
Vendor	0.0429	1.6164	0.4354	2.1000e-003	0.0235	1.3600e-003	0.0249	6.8500e-003	1.3000e-003	8.1500e-003	0.0000	202.1600	202.1600	0.0188	0.0000	202.6289
Worker	0.0797	0.0352	0.4653	6.9000e-004	0.0585	7.8000e-004	0.0593	0.0157	7.2000e-004	0.0164	0.0000	61.8656	61.8656	2.4300e-003	0.0000	61.9264

Total	0.1229	1.6645	0.9028	2.8100e-003	0.0822	2.1500e-003	0.0844	0.0226	2.0300e-003	0.0246	0.0000	265.6882	265.6882	0.0214	0.0000	266.2221
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3.6 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2368	2.0635	2.0023	3.6100e-003		0.1000	0.1000		0.0955	0.0955	0.0000	306.9469	306.9469	0.0603	0.0000	308.4547
Total	0.2368	2.0635	2.0023	3.6100e-003		0.1000	0.1000		0.0955	0.0955	0.0000	306.9469	306.9469	0.0603	0.0000	308.4547

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9000e-004	9.6000e-003	1.5900e-003	1.0000e-005	1.7000e-004	1.0000e-005	1.8000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	1.2798	1.2798	1.2000e-004	0.0000	1.2829
Vendor	0.0309	1.2163	0.3157	1.6200e-003	0.0183	9.1000e-004	0.0192	5.3300e-003	8.7000e-004	6.2000e-003	0.0000	155.8126	155.8126	0.0137	0.0000	156.1552
Worker	0.0569	0.0242	0.3279	5.2000e-004	0.0455	6.0000e-004	0.0461	0.0122	5.5000e-004	0.0127	0.0000	46.4007	46.4007	1.6800e-003	0.0000	46.4426
Total	0.0880	1.2502	0.6452	2.1500e-003	0.0640	1.5200e-003	0.0655	0.0176	1.4300e-003	0.0190	0.0000	203.4931	203.4931	0.0155	0.0000	203.8807

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	0.0671	1.4299	2.2432	3.6100e-003		0.0148	0.0148		0.0148	0.0148	0.0000	306.9465	306.9465	0.0603	0.0000	308.4543
Total	0.0671	1.4299	2.2432	3.6100e-003		0.0148	0.0148		0.0148	0.0148	0.0000	306.9465	306.9465	0.0603	0.0000	308.4543

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9000e-004	9.6000e-003	1.5900e-003	1.0000e-005	1.7000e-004	1.0000e-005	1.8000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	1.2798	1.2798	1.2000e-004	0.0000	1.2829
Vendor	0.0309	1.2163	0.3157	1.6200e-003	0.0183	9.1000e-004	0.0192	5.3300e-003	8.7000e-004	6.2000e-003	0.0000	155.8126	155.8126	0.0137	0.0000	156.1552
Worker	0.0569	0.0242	0.3279	5.2000e-004	0.0455	6.0000e-004	0.0461	0.0122	5.5000e-004	0.0127	0.0000	46.4007	46.4007	1.6800e-003	0.0000	46.4426
Total	0.0880	1.2502	0.6452	2.1500e-003	0.0640	1.5200e-003	0.0655	0.0176	1.4300e-003	0.0190	0.0000	203.4931	203.4931	0.0155	0.0000	203.8807

3.7 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	0.0143	0.1453	0.1650	2.5000e-004		7.6900e-003	7.6900e-003		7.0800e-003	7.0800e-003	0.0000	22.2999	22.2999	7.1600e-003	0.0000	22.4790
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0143	0.1453	0.1650	2.5000e-004		7.6900e-003	7.6900e-003		7.0800e-003	7.0800e-003	0.0000	22.2999	22.2999	7.1600e-003	0.0000	22.4790

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	1.8000e-004	2.3600e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.3142	0.3142	1.0000e-005	0.0000	0.3146
Total	4.0000e-004	1.8000e-004	2.3600e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.3142	0.3142	1.0000e-005	0.0000	0.3146

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	3.8600e-003	0.1106	0.1905	2.5000e-004		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	22.2999	22.2999	7.1600e-003	0.0000	22.4789
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.8600e-003	0.1106	0.1905	2.5000e-004		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	22.2999	22.2999	7.1600e-003	0.0000	22.4789

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	1.8000e-004	2.3600e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.3142	0.3142	1.0000e-005	0.0000	0.3146
Total	4.0000e-004	1.8000e-004	2.3600e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.3142	0.3142	1.0000e-005	0.0000	0.3146

3.8 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.3355					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0278	0.2311	0.3450	5.5000e-004		0.0106	0.0106		0.0105	0.0105	0.0000	47.7465	47.7465	7.9700e-003	0.0000	47.9457
Total	3.3632	0.2311	0.3450	5.5000e-004		0.0106	0.0106		0.0105	0.0105	0.0000	47.7465	47.7465	7.9700e-003	0.0000	47.9457

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
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Category	tons/yr										MT/yr						
Hauling	2.000e-005	9.3000e-004	1.5000e-004	0.0000	1.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.1245	0.1245	1.0000e-005	0.0000	0.1248
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	0.0000
Worker	5.5300e-003	2.3600e-003	0.0319	5.0000e-005	4.4200e-003	6.0000e-005	4.4800e-003	1.1800e-003	5.0000e-005	1.2400e-003	0.0000	4.5075	4.5075	1.6000e-004	0.0000	4.5116	
Total	5.5500e-003	3.2900e-003	0.0320	5.0000e-005	4.4300e-003	6.0000e-005	4.5000e-003	1.1800e-003	5.0000e-005	1.2400e-003	0.0000	4.6320	4.6320	1.7000e-004	0.0000	4.6364	

Mitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Archit. Coating	3.3355					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0114	0.2405	0.3702	5.5000e-004		5.3700e-003	5.3700e-003		5.3700e-003	5.3700e-003	0.0000	47.7464	47.7464	7.9700e-003	0.0000	47.9456
Total	3.3469	0.2405	0.3702	5.5000e-004		5.3700e-003	5.3700e-003		5.3700e-003	5.3700e-003	0.0000	47.7464	47.7464	7.9700e-003	0.0000	47.9456

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	2.000e-005	9.3000e-004	1.5000e-004	0.0000	1.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.1245	0.1245	1.0000e-005	0.0000	0.1248
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5300e-003	2.3600e-003	0.0319	5.0000e-005	4.4200e-003	6.0000e-005	4.4800e-003	1.1800e-003	5.0000e-005	1.2400e-003	0.0000	4.5075	4.5075	1.6000e-004	0.0000	4.5116

Total	5.5500e-003	3.2900e-003	0.0320	5.0000e-005	4.4300e-003	6.0000e-005	4.5000e-003	1.1800e-003	5.0000e-005	1.2400e-003	0.0000	4.6320	4.6320	1.7000e-004	0.0000	4.6364
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3.8 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.1393					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0246	0.2030	0.3242	5.2000e-004		8.6600e-003	8.6600e-003		8.5700e-003	8.5700e-003	0.0000	44.9379	44.9379	7.3500e-003	0.0000	45.1217
Total	3.1639	0.2030	0.3242	5.2000e-004		8.6600e-003	8.6600e-003		8.5700e-003	8.5700e-003	0.0000	44.9379	44.9379	7.3500e-003	0.0000	45.1217

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	7.2000e-004	1.3000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.1126	0.1126	1.0000e-005	0.0000	0.1128
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7900e-003	1.9700e-003	0.0272	5.0000e-005	4.1600e-003	5.0000e-005	4.2200e-003	1.1100e-003	5.0000e-005	1.1600e-003	0.0000	4.0837	4.0837	1.4000e-004	0.0000	4.0871
Total	4.8000e-003	2.6900e-003	0.0274	5.0000e-005	4.1700e-003	5.0000e-005	4.2300e-003	1.1100e-003	5.0000e-005	1.1600e-003	0.0000	4.1963	4.1963	1.5000e-004	0.0000	4.1999

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	3.1393					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0108	0.2263	0.3484	5.2000e-004		5.0500e-003	5.0500e-003		5.0500e-003	5.0500e-003	0.0000	44.9378	44.9378	7.3500e-003	0.0000	45.1217
Total	3.1500	0.2263	0.3484	5.2000e-004		5.0500e-003	5.0500e-003		5.0500e-003	5.0500e-003	0.0000	44.9378	44.9378	7.3500e-003	0.0000	45.1217

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	7.2000e-004	1.3000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.1126	0.1126	1.0000e-005	0.0000	0.1128
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.7900e-003	1.9700e-003	0.0272	5.0000e-005	4.1600e-003	5.0000e-005	4.2200e-003	1.1100e-003	5.0000e-005	1.1600e-003	0.0000	4.0837	4.0837	1.4000e-004	0.0000	4.0871
Total	4.8000e-003	2.6900e-003	0.0274	5.0000e-005	4.1700e-003	5.0000e-005	4.2300e-003	1.1100e-003	5.0000e-005	1.1600e-003	0.0000	4.1963	4.1963	1.5000e-004	0.0000	4.1999

DSP - Murphy Square - Santa Clara County, Annual

DSP - Murphy Square (AQ)
Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	69.10	1000sqft	0.78	69,100.00	0
Enclosed Parking with Elevator	163.00	Space	0.00	67,800.00	0
Parking Lot	13.00	Space	0.00	11,380.00	0

1.2 Other Project Characteristics

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

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 Rate = 290

Land Use - Applicant provided land uses

Construction Phase - Applicant provided construction schedule

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Trips and VMT - Building const = 200 one-way cement trips, paving = 44 one-way asphalt trips

Demolition - Demo = 800 hauling tons

Grading - Grading = 85,378cy export

Vehicle Trips - Vehicle Trips - After reuctions Office = 9.01, 2.01, 0.86

Woodstoves -

Water And Wastewater - WTP treatment 100% aerobic

Construction Off-road Equipment Mitigation - BMPs, Tier 4 interim mitigation

Stationary Sources - Emergency Generators and Fire Pumps - 450kW diesel generator = 555hp, 50hrs/yr

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	5.00	35.00
tblConstructionPhase	NumDays	100.00	220.00
tblConstructionPhase	NumDays	10.00	15.00
tblConstructionPhase	NumDays	2.00	66.00
tblConstructionPhase	NumDays	5.00	40.00
tblConstructionPhase	NumDays	1.00	15.00
tblGrading	AcresOfGrading	0.94	2.81
tblGrading	MaterialExported	0.00	85,378.00
tblLandUse	LandUseSquareFeet	65,200.00	67,800.00
tblLandUse	LandUseSquareFeet	5,200.00	11,380.00
tblLandUse	LotAcreage	1.59	0.78
tblLandUse	LotAcreage	1.47	0.00
tblLandUse	LotAcreage	0.12	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	6.00	2.00

tblOffRoadEquipment	UsageHours	6.00	1.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	4.00	2.00
tblOffRoadEquipment	UsageHours	6.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	6.00	1.00
tblOffRoadEquipment	UsageHours	6.00	1.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	555.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	0.00	200.00
tblTripsAndVMT	HaulingTripNumber	0.00	44.00
tblVehicleTrips	ST_TR	2.46	2.01
tblVehicleTrips	SU_TR	1.05	0.86
tblVehicleTrips	WD_TR	11.03	9.01
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00

tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

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	0.0910	2.0355	0.6427	5.3400e-003	0.1766	0.0190	0.1957	0.0530	0.0178	0.0708	0.0000	511.1538	511.1538	0.0306	0.0000	511.9177
2021	0.4018	0.2500	0.1931	7.3000e-004	0.0324	5.9800e-003	0.0384	8.7900e-003	5.6000e-003	0.0144	0.0000	67.0456	67.0456	6.0000e-003	0.0000	67.1956
Maximum	0.4018	2.0355	0.6427	5.3400e-003	0.1766	0.0190	0.1957	0.0530	0.0178	0.0708	0.0000	511.1538	511.1538	0.0306	0.0000	511.9177

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	0.0702	1.8819	0.6785	5.3400e-003	0.1536	7.0900e-003	0.1607	0.0405	6.8100e-003	0.0473	0.0000	511.1538	511.1538	0.0306	0.0000	511.9176
2021	0.3930	0.2000	0.2083	7.3000e-004	0.0324	1.1200e-003	0.0336	8.7900e-003	1.0900e-003	9.8800e-003	0.0000	67.0456	67.0456	6.0000e-003	0.0000	67.1955
Maximum	0.3930	1.8819	0.6785	5.3400e-003	0.1536	7.0900e-003	0.1607	0.0405	6.8100e-003	0.0473	0.0000	511.1538	511.1538	0.0306	0.0000	511.9176

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Percent Reduction	6.02	8.91	-6.09	0.00	11.02	67.17	17.03	20.18	66.21	32.81	0.00	0.00	0.00	0.00	0.00	0.00
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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	2-10-2020	5-9-2020	0.9186	0.8639
2	5-10-2020	8-9-2020	0.8769	0.8265
3	8-10-2020	11-9-2020	0.1831	0.1408
4	11-10-2020	2-9-2021	0.1768	0.1375
5	2-10-2021	5-9-2021	0.1569	0.1232
6	5-10-2021	8-9-2021	0.2791	0.2776
7	8-10-2021	9-30-2021	0.1407	0.1331
		Highest	0.9186	0.8639

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	0.3129	2.0000e-005	2.2600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.3800e-003	4.3800e-003	1.0000e-005	0.0000	4.6700e-003
Energy	6.1000e-003	0.0555	0.0466	3.3000e-004		4.2100e-003	4.2100e-003		4.2100e-003	4.2100e-003	0.0000	275.2164	275.2164	0.0226	5.5500e-003	277.4369
Mobile	0.1110	0.4736	1.3072	4.5500e-003	0.4204	3.8500e-003	0.4242	0.1125	3.6000e-003	0.1161	0.0000	416.4212	416.4212	0.0140	0.0000	416.7706
Stationary	0.0228	0.0636	0.0581	1.1000e-004		3.3500e-003	3.3500e-003		3.3500e-003	3.3500e-003	0.0000	10.5671	10.5671	1.4800e-003	0.0000	10.6042
Waste						0.0000	0.0000		0.0000	0.0000	13.0442	0.0000	13.0442	0.7709	0.0000	32.3165
Water						0.0000	0.0000		0.0000	0.0000	4.3452	12.2071	16.5523	0.0162	9.7000e-003	19.8479
Total	0.4527	0.5927	1.4141	4.9900e-003	0.4204	0.0114	0.4318	0.1125	0.0112	0.1237	17.3894	714.4162	731.8056	0.8252	0.0153	756.9807

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	0.3129	2.0000e-005	2.2600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.3800e-003	4.3800e-003	1.0000e-005	0.0000	4.6700e-003
Energy	6.1000e-003	0.0555	0.0466	3.3000e-004		4.2100e-003	4.2100e-003		4.2100e-003	4.2100e-003	0.0000	275.2164	275.2164	0.0226	5.5500e-003	277.4369
Mobile	0.1110	0.4736	1.3072	4.5500e-003	0.4204	3.8500e-003	0.4242	0.1125	3.6000e-003	0.1161	0.0000	416.4212	416.4212	0.0140	0.0000	416.7706
Stationary	0.0228	0.0636	0.0581	1.1000e-004		3.3500e-003	3.3500e-003		3.3500e-003	3.3500e-003	0.0000	10.5671	10.5671	1.4800e-003	0.0000	10.6042
Waste						0.0000	0.0000		0.0000	0.0000	13.0442	0.0000	13.0442	0.7709	0.0000	32.3165
Water						0.0000	0.0000		0.0000	0.0000	4.3452	12.2071	16.5523	0.0162	9.7000e-003	19.8479
Total	0.4527	0.5927	1.4141	4.9900e-003	0.4204	0.0114	0.4318	0.1125	0.0112	0.1237	17.3894	714.4162	731.8056	0.8252	0.0153	756.9807

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	2/10/2020	2/28/2020	5	15	
2	Site Preparation	Site Preparation	3/2/2020	3/20/2020	5	15	
3	Grading	Grading	3/23/2020	6/22/2020	5	66	
4	Trenching	Trenching	6/22/2020	7/3/2020	5	10	
5	Building Construction	Building Construction	7/6/2020	5/7/2021	5	220	
6	Architectural Coating	Architectural Coating	7/6/2021	8/23/2021	5	35	
7	Paving	Paving	8/10/2021	10/4/2021	5	40	

Acres of Grading (Site Preparation Phase): 2.81

Acres of Grading (Grading Phase): 4.13

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 103,650; Non-Residential Outdoor: 34,550; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	0.00	81	0.73
Demolition	Excavators	1	1.00	158	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Site Preparation	Graders	1	1.00	187	0.41
Site Preparation	Graders	1	1.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Grading	Concrete/Industrial Saws	0	0.00	81	0.73
Grading	Excavators	1	3.00	158	0.38
Grading	Graders	1	1.00	187	0.41
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Trenching	Excavators	1	2.00	158	0.38
Trenching	Tractors/Loaders/Backhoes	1	2.00	97	0.37
Building Construction	Cranes	1	2.00	231	0.29
Building Construction	Forklifts	1	1.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Building Construction	Welders	1	1.00	46	0.45
Architectural Coating	Aerial Lifts	1	2.00	63	0.31
Architectural Coating	Air Compressors	1	2.00	78	0.48
Paving	Cement and Mortar Mixers	1	1.00	9	0.56
Paving	Pavers	1	1.00	130	0.42
Paving	Paving Equipment	1	1.00	132	0.36

Off-Road	1.4400e-003	0.0149	9.0700e-003	2.0000e-005		7.5000e-004	7.5000e-004		6.9000e-004	6.9000e-004	0.0000	1.3848	1.3848	4.5000e-004	0.0000	1.3960
Total	1.4400e-003	0.0149	9.0700e-003	2.0000e-005	8.5600e-003	7.5000e-004	9.3100e-003	1.3000e-003	6.9000e-004	1.9900e-003	0.0000	1.3848	1.3848	4.5000e-004	0.0000	1.3960

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	3.3000e-004	0.0115	2.3500e-003	3.0000e-005	6.7000e-004	4.0000e-005	7.1000e-004	1.8000e-004	4.0000e-005	2.2000e-004	0.0000	3.0127	3.0127	1.4000e-004	0.0000	3.0161
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	1.4000e-004	1.5000e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4081	0.4081	1.0000e-005	0.0000	0.4083
Total	5.3000e-004	0.0116	3.8500e-003	3.0000e-005	1.1500e-003	4.0000e-005	1.1900e-003	3.1000e-004	4.0000e-005	3.5000e-004	0.0000	3.4208	3.4208	1.5000e-004	0.0000	3.4245

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					3.8500e-003	0.0000	3.8500e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6000e-004	5.5100e-003	0.0101	2.0000e-005		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	1.3848	1.3848	4.5000e-004	0.0000	1.3960
Total	2.6000e-004	5.5100e-003	0.0101	2.0000e-005	3.8500e-003	3.0000e-005	3.8800e-003	2.9000e-004	3.0000e-005	3.2000e-004	0.0000	1.3848	1.3848	4.5000e-004	0.0000	1.3960

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	3.3000e-004	0.0115	2.3500e-003	3.0000e-005	6.7000e-004	4.0000e-005	7.1000e-004	1.8000e-004	4.0000e-005	2.2000e-004	0.0000	3.0127	3.0127	1.4000e-004	0.0000	3.0161
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	1.4000e-004	1.5000e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4081	0.4081	1.0000e-005	0.0000	0.4083
Total	5.3000e-004	0.0116	3.8500e-003	3.0000e-005	1.1500e-003	4.0000e-005	1.1900e-003	3.1000e-004	4.0000e-005	3.5000e-004	0.0000	3.4208	3.4208	1.5000e-004	0.0000	3.4245

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.4900e-003	0.0000	1.4900e-003	1.6000e-004	0.0000	1.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0900e-003	0.0138	5.5400e-003	2.0000e-005		5.0000e-004	5.0000e-004		4.6000e-004	4.6000e-004	0.0000	1.3491	1.3491	4.4000e-004	0.0000	1.3600
Total	1.0900e-003	0.0138	5.5400e-003	2.0000e-005	1.4900e-003	5.0000e-004	1.9900e-003	1.6000e-004	4.6000e-004	6.2000e-004	0.0000	1.3491	1.3491	4.4000e-004	0.0000	1.3600

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	2.0000e-004	1.4000e-004	1.5000e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4081	0.4081	1.0000e-005	0.0000	0.4083
Total	2.0000e-004	1.4000e-004	1.5000e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4081	0.4081	1.0000e-005	0.0000	0.4083

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					6.7000e-004	0.0000	6.7000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-004	4.5400e-003	8.7900e-003	2.0000e-005		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	1.3490	1.3490	4.4000e-004	0.0000	1.3600
Total	2.7000e-004	4.5400e-003	8.7900e-003	2.0000e-005	6.7000e-004	3.0000e-005	7.0000e-004	4.0000e-005	3.0000e-005	7.0000e-005	0.0000	1.3490	1.3490	4.4000e-004	0.0000	1.3600

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	2.0000e-004	1.4000e-004	1.5000e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4081	0.4081	1.0000e-005	0.0000	0.4083
Total	2.0000e-004	1.4000e-004	1.5000e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4081	0.4081	1.0000e-005	0.0000	0.4083

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0319	0.0000	0.0319	0.0146	0.0000	0.0146	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0103	0.1114	0.0744	1.4000e-004		5.1200e-003	5.1200e-003		4.7100e-003	4.7100e-003	0.0000	12.2412	12.2412	3.9600e-003	0.0000	12.3402
Total	0.0103	0.1114	0.0744	1.4000e-004	0.0319	5.1200e-003	0.0370	0.0146	4.7100e-003	0.0193	0.0000	12.2412	12.2412	3.9600e-003	0.0000	12.3402

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	0.0443	1.5484	0.3171	4.2000e-003	0.0905	5.0300e-003	0.0955	0.0249	4.8100e-003	0.0297	0.0000	406.9810	406.9810	0.0186	0.0000	407.4464
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-003	7.9000e-004	8.2600e-003	2.0000e-005	2.6200e-003	2.0000e-005	2.6300e-003	7.0000e-004	2.0000e-005	7.1000e-004	0.0000	2.2445	2.2445	6.0000e-005	0.0000	2.2459
Total	0.0454	1.5492	0.3254	4.2200e-003	0.0931	5.0500e-003	0.0981	0.0256	4.8300e-003	0.0304	0.0000	409.2255	409.2255	0.0187	0.0000	409.6923

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					0.0143	0.0000	0.0143	3.2900e-003	0.0000	3.2900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0900e-003	0.0502	0.0913	1.4000e-004		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	12.2412	12.2412	3.9600e-003	0.0000	12.3402
Total	2.0900e-003	0.0502	0.0913	1.4000e-004	0.0143	2.3000e-004	0.0146	3.2900e-003	2.3000e-004	3.5200e-003	0.0000	12.2412	12.2412	3.9600e-003	0.0000	12.3402

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	0.0443	1.5484	0.3171	4.2000e-003	0.0905	5.0300e-003	0.0955	0.0249	4.8100e-003	0.0297	0.0000	406.9810	406.9810	0.0186	0.0000	407.4464
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-003	7.9000e-004	8.2600e-003	2.0000e-005	2.6200e-003	2.0000e-005	2.6300e-003	7.0000e-004	2.0000e-005	7.1000e-004	0.0000	2.2445	2.2445	6.0000e-005	0.0000	2.2459
Total	0.0454	1.5492	0.3254	4.2200e-003	0.0931	5.0500e-003	0.0981	0.0256	4.8300e-003	0.0304	0.0000	409.2255	409.2255	0.0187	0.0000	409.6923

3.5 Trenching - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.7000e-004	5.6500e-003	6.9300e-003	1.0000e-005		3.1000e-004	3.1000e-004		2.9000e-004	2.9000e-004	0.0000	0.9082	0.9082	2.9000e-004	0.0000	0.9155

Total	5.7000e-004	5.6500e-003	6.9300e-003	1.0000e-005		3.1000e-004	3.1000e-004		2.9000e-004	2.9000e-004	0.0000	0.9082	0.9082	2.9000e-004	0.0000	0.9155
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Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	6.0000e-005	6.3000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1700	0.1700	0.0000	0.0000	0.1701
Total	8.0000e-005	6.0000e-005	6.3000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1700	0.1700	0.0000	0.0000	0.1701

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7000e-004	4.5400e-003	7.8300e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.9082	0.9082	2.9000e-004	0.0000	0.9155
Total	1.7000e-004	4.5400e-003	7.8300e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.9082	0.9082	2.9000e-004	0.0000	0.9155

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	6.0000e-005	6.3000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1700	0.1700	0.0000	0.0000	0.1701
Total	8.0000e-005	6.0000e-005	6.3000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1700	0.1700	0.0000	0.0000	0.1701

3.6 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0129	0.1270	0.0763	1.5000e-004		6.1400e-003	6.1400e-003		5.7000e-003	5.7000e-003	0.0000	12.9743	12.9743	3.9300e-003	0.0000	13.0725
Total	0.0129	0.1270	0.0763	1.5000e-004		6.1400e-003	6.1400e-003		5.7000e-003	5.7000e-003	0.0000	12.9743	12.9743	3.9300e-003	0.0000	13.0725

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	4.9000e-004	0.0170	3.4800e-003	5.0000e-005	1.5200e-003	6.0000e-005	1.5700e-003	4.0000e-004	5.0000e-005	4.6000e-004	0.0000	4.4722	4.4722	2.0000e-004	0.0000	4.4774
Vendor	6.1300e-003	0.1763	0.0469	4.2000e-004	0.0102	8.7000e-004	0.0111	2.9400e-003	8.4000e-004	3.7800e-003	0.0000	40.4713	40.4713	1.8600e-003	0.0000	40.5177
Worker	0.0118	8.4700e-003	0.0888	2.7000e-004	0.0281	1.8000e-004	0.0283	7.4800e-003	1.7000e-004	7.6500e-003	0.0000	24.1283	24.1283	5.9000e-004	0.0000	24.1431
Total	0.0184	0.2018	0.1392	7.4000e-004	0.0398	1.1100e-003	0.0410	0.0108	1.0600e-003	0.0119	0.0000	69.0719	69.0719	2.6500e-003	0.0000	69.1382

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.7200e-003	0.0543	0.0899	1.5000e-004		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004	0.0000	12.9743	12.9743	3.9300e-003	0.0000	13.0725
Total	2.7200e-003	0.0543	0.0899	1.5000e-004		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004	0.0000	12.9743	12.9743	3.9300e-003	0.0000	13.0725

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	4.9000e-004	0.0170	3.4800e-003	5.0000e-005	1.5200e-003	6.0000e-005	1.5700e-003	4.0000e-004	5.0000e-005	4.6000e-004	0.0000	4.4722	4.4722	2.0000e-004	0.0000	4.4774
Vendor	6.1300e-003	0.1763	0.0469	4.2000e-004	0.0102	8.7000e-004	0.0111	2.9400e-003	8.4000e-004	3.7800e-003	0.0000	40.4713	40.4713	1.8600e-003	0.0000	40.5177
Worker	0.0118	8.4700e-003	0.0888	2.7000e-004	0.0281	1.8000e-004	0.0283	7.4800e-003	1.7000e-004	7.6500e-003	0.0000	24.1283	24.1283	5.9000e-004	0.0000	24.1431
Total	0.0184	0.2018	0.1392	7.4000e-004	0.0398	1.1100e-003	0.0410	0.0108	1.0600e-003	0.0119	0.0000	69.0719	69.0719	2.6500e-003	0.0000	69.1382

3.6 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.2200e-003	0.0812	0.0518	1.1000e-004		3.7700e-003	3.7700e-003		3.5000e-003	3.5000e-003	0.0000	9.1526	9.1526	2.7500e-003	0.0000	9.2214
Total	8.2200e-003	0.0812	0.0518	1.1000e-004		3.7700e-003	3.7700e-003		3.5000e-003	3.5000e-003	0.0000	9.1526	9.1526	2.7500e-003	0.0000	9.2214

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	3.2000e-004	0.0111	2.4100e-003	3.0000e-005	1.4500e-003	3.0000e-005	1.4800e-003	3.8000e-004	3.0000e-005	4.1000e-004	0.0000	3.1148	3.1148	1.4000e-004	0.0000	3.1184
Vendor	3.5600e-003	0.1122	0.0299	2.9000e-004	7.1800e-003	2.5000e-004	7.4300e-003	2.0800e-003	2.4000e-004	2.3100e-003	0.0000	28.2860	28.2860	1.2300e-003	0.0000	28.3168
Worker	7.7100e-003	5.3400e-003	0.0573	1.8000e-004	0.0199	1.2000e-004	0.0200	5.2800e-003	1.2000e-004	5.3900e-003	0.0000	16.4300	16.4300	3.7000e-004	0.0000	16.4393
Total	0.0116	0.1286	0.0895	5.0000e-004	0.0285	4.0000e-004	0.0289	7.7400e-003	3.9000e-004	8.1100e-003	0.0000	47.8308	47.8308	1.7400e-003	0.0000	47.8745

Mitigated Construction On-Site

Off-Road	1.4400e-003	0.0115	0.0154	2.0000e-005		6.0000e-004	6.0000e-004		6.0000e-004	6.0000e-004	0.0000	2.1348	2.1348	3.1000e-004	0.0000	2.1426
Total	0.3783	0.0115	0.0154	2.0000e-005		6.0000e-004	6.0000e-004		6.0000e-004	6.0000e-004	0.0000	2.1348	2.1348	3.1000e-004	0.0000	2.1426

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.9000e-004	4.1000e-004	4.4000e-003	1.0000e-005	1.5300e-003	1.0000e-005	1.5400e-003	4.1000e-004	1.0000e-005	4.1000e-004	0.0000	1.2638	1.2638	3.0000e-005	0.0000	1.2646
Total	5.9000e-004	4.1000e-004	4.4000e-003	1.0000e-005	1.5300e-003	1.0000e-005	1.5400e-003	4.1000e-004	1.0000e-005	4.1000e-004	0.0000	1.2638	1.2638	3.0000e-005	0.0000	1.2646

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	0.3768					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.0000e-004	0.0103	0.0163	2.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.1348	2.1348	3.1000e-004	0.0000	2.1426
Total	0.3773	0.0103	0.0163	2.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.1348	2.1348	3.1000e-004	0.0000	2.1426

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.9000e-004	4.1000e-004	4.4000e-003	1.0000e-005	1.5300e-003	1.0000e-005	1.5400e-003	4.1000e-004	1.0000e-005	4.1000e-004	0.0000	1.2638	1.2638	3.0000e-005	0.0000	1.2646
Total	5.9000e-004	4.1000e-004	4.4000e-003	1.0000e-005	1.5300e-003	1.0000e-005	1.5400e-003	4.1000e-004	1.0000e-005	4.1000e-004	0.0000	1.2638	1.2638	3.0000e-005	0.0000	1.2646

3.8 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	2.1800e-003	0.0218	0.0247	4.0000e-005		1.1600e-003	1.1600e-003		1.0700e-003	1.0700e-003	0.0000	3.2999	3.2999	1.0400e-003	0.0000	3.3260
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.1800e-003	0.0218	0.0247	4.0000e-005		1.1600e-003	1.1600e-003		1.0700e-003	1.0700e-003	0.0000	3.2999	3.2999	1.0400e-003	0.0000	3.3260

Unmitigated Construction Off-Site

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

Hauling	1.7000e-004	5.8800e-003	1.2800e-003	2.0000e-005	3.7000e-004	2.0000e-005	3.9000e-004	1.0000e-004	2.0000e-005	1.2000e-004	0.0000	1.6567	1.6567	8.0000e-005	0.0000	1.6586
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-004	5.5000e-004	5.9500e-003	2.0000e-005	2.0600e-003	1.0000e-005	2.0800e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.7070	1.7070	4.0000e-005	0.0000	1.7080
Total	9.7000e-004	6.4300e-003	7.2300e-003	4.0000e-005	2.4300e-003	3.0000e-005	2.4700e-003	6.5000e-004	3.0000e-005	6.8000e-004	0.0000	3.3637	3.3637	1.2000e-004	0.0000	3.3665

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.9000e-004	0.0159	0.0275	4.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.2999	3.2999	1.0400e-003	0.0000	3.3260
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	5.9000e-004	0.0159	0.0275	4.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.2999	3.2999	1.0400e-003	0.0000	3.3260

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7000e-004	5.8800e-003	1.2800e-003	2.0000e-005	3.7000e-004	2.0000e-005	3.9000e-004	1.0000e-004	2.0000e-005	1.2000e-004	0.0000	1.6567	1.6567	8.0000e-005	0.0000	1.6586
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-004	5.5000e-004	5.9500e-003	2.0000e-005	2.0600e-003	1.0000e-005	2.0800e-003	5.5000e-004	1.0000e-005	5.6000e-004	0.0000	1.7070	1.7070	4.0000e-005	0.0000	1.7080
Total	9.7000e-004	6.4300e-003	7.2300e-003	4.0000e-005	2.4300e-003	3.0000e-005	2.4700e-003	6.5000e-004	3.0000e-005	6.8000e-004	0.0000	3.3637	3.3637	1.2000e-004	0.0000	3.3665

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	0.1110	0.4736	1.3072	4.5500e-003	0.4204	3.8500e-003	0.4242	0.1125	3.6000e-003	0.1161	0.0000	416.4212	416.4212	0.0140	0.0000	416.7706
Unmitigated	0.1110	0.4736	1.3072	4.5500e-003	0.4204	3.8500e-003	0.4242	0.1125	3.6000e-003	0.1161	0.0000	416.4212	416.4212	0.0140	0.0000	416.7706

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	622.59	138.89	59.43	1,130,446	1,130,446
Parking Lot	0.00	0.00	0.00		
Total	622.59	138.89	59.43	1,130,446	1,130,446

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

General Office Building	1.13117e+006	6.1000e-003	0.0555	0.0466	3.3000e-004		4.2100e-003	4.2100e-003		4.2100e-003	4.2100e-003	0.0000	60.3634	60.3634	1.1600e-003	1.1100e-003	60.7221
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
Total		6.1000e-003	0.0555	0.0466	3.3000e-004		4.2100e-003	4.2100e-003		4.2100e-003	4.2100e-003	0.0000	60.3634	60.3634	1.1600e-003	1.1100e-003	60.7221

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	1.13117e+006	6.1000e-003	0.0555	0.0466	3.3000e-004		4.2100e-003	4.2100e-003		4.2100e-003	4.2100e-003	0.0000	60.3634	60.3634	1.1600e-003	1.1100e-003	60.7221
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
Total		6.1000e-003	0.0555	0.0466	3.3000e-004		4.2100e-003	4.2100e-003		4.2100e-003	4.2100e-003	0.0000	60.3634	60.3634	1.1600e-003	1.1100e-003	60.7221

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	397308	52.2626	5.2300e-003	1.0800e-003	52.7155
General Office Building	1.23205e+006	162.0665	0.0162	3.3500e-003	163.4708
Parking Lot	3983	0.5239	5.0000e-005	1.0000e-005	0.5285
Total		214.8530	0.0215	4.4400e-003	216.7148

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	397308	52.2626	5.2300e-003	1.0800e-003	52.7155
General Office Building	1.23205e+006	162.0665	0.0162	3.3500e-003	163.4708
Parking Lot	3983	0.5239	5.0000e-005	1.0000e-005	0.5285
Total		214.8530	0.0215	4.4400e-003	216.7148

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	0.3129	2.0000e-005	2.2600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.3800e-003	4.3800e-003	1.0000e-005	0.0000	4.6700e-003
Unmitigated	0.3129	2.0000e-005	2.2600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.3800e-003	4.3800e-003	1.0000e-005	0.0000	4.6700e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0377					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2750					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.1000e-004	2.0000e-005	2.2600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.3800e-003	4.3800e-003	1.0000e-005	0.0000	4.6700e-003
Total	0.3129	2.0000e-005	2.2600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.3800e-003	4.3800e-003	1.0000e-005	0.0000	4.6700e-003

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0377					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2750					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.1000e-004	2.0000e-005	2.2600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.3800e-003	4.3800e-003	1.0000e-005	0.0000	4.6700e-003
Total	0.3129	2.0000e-005	2.2600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.3800e-003	4.3800e-003	1.0000e-005	0.0000	4.6700e-003

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	16.5523	0.0162	9.7000e-003	19.8479
Unmitigated	16.5523	0.0162	9.7000e-003	19.8479

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	12.2814 / 7.52731	16.5523	0.0162	9.7000e-003	19.8479
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		16.5523	0.0162	9.7000e-003	19.8479

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
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Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	12.2814 / 7.52731	16.5523	0.0162	9.7000e-003	19.8479
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		16.5523	0.0162	9.7000e-003	19.8479

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	13.0442	0.7709	0.0000	32.3165
Unmitigated	13.0442	0.7709	0.0000	32.3165

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			

Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	64.26	13.0442	0.7709	0.0000	32.3165
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		13.0442	0.7709	0.0000	32.3165

Mitigated

Land Use	Waste Disposed tons	Total CO2 MT/yr	CH4 MT/yr	N2O MT/yr	CO2e MT/yr
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	64.26	13.0442	0.7709	0.0000	32.3165
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		13.0442	0.7709	0.0000	32.3165

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	50	555	0.73	Diesel

Boilers

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

Equipment Type	Number
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10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (600,000 HP)	0.0228	0.0636	0.0581	1.1000e-004		3.3500e-003	3.3500e-003		3.3500e-003	3.3500e-003	0.0000	10.5671	10.5671	1.4800e-003	0.0000	10.6042
Total	0.0228	0.0636	0.0581	1.1000e-004		3.3500e-003	3.3500e-003		3.3500e-003	3.3500e-003	0.0000	10.5671	10.5671	1.4800e-003	0.0000	10.6042

11.0 Vegetation

DSP - Murphy Square - Santa Clara County, Annual

DSP - Murphy Square (TAC)
Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	69.10	1000sqft	0.78	69,100.00	0
Enclosed Parking with Elevator	163.00	Space	0.00	67,800.00	0
Parking Lot	13.00	Space	0.00	11,380.00	0

1.2 Other Project Characteristics

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

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 Rate = 290

Land Use - Applicant provided land uses

Construction Phase - Applicant provided construction schedule

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Trips and VMT - Building const = 200 one-way cement trips, paving = 44 one-way asphalt trips, TAC trip length 1 mile

Demolition - Demo = 800 hauling tons

Grading - Grading = 85,378cy export

Vehicle Trips - Vehicle Trips - After reuctions Office = 9.01, 2.01, 0.86

Woodstoves -

Water And Wastewater - WTP treatment 100% aerobic

Construction Off-road Equipment Mitigation - BMPs, Tier 4 interim mitigation

Stationary Sources - Emergency Generators and Fire Pumps - 450kW diesel generator = 555hp, 50hrs/yr

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	5.00	35.00
tblConstructionPhase	NumDays	100.00	220.00
tblConstructionPhase	NumDays	10.00	15.00
tblConstructionPhase	NumDays	2.00	66.00
tblConstructionPhase	NumDays	5.00	40.00
tblConstructionPhase	NumDays	1.00	15.00
tblGrading	AcresOfGrading	0.94	2.81
tblGrading	MaterialExported	0.00	85,378.00
tblLandUse	LandUseSquareFeet	65,200.00	67,800.00
tblLandUse	LandUseSquareFeet	5,200.00	11,380.00
tblLandUse	LotAcreage	1.59	0.78
tblLandUse	LotAcreage	1.47	0.00
tblLandUse	LotAcreage	0.12	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00

tblOffRoadEquipment	UsageHours	6.00	2.00
tblOffRoadEquipment	UsageHours	6.00	1.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	4.00	2.00
tblOffRoadEquipment	UsageHours	6.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	6.00	1.00
tblOffRoadEquipment	UsageHours	6.00	1.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	555.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripNumber	0.00	200.00
tblTripsAndVMT	HaulingTripNumber	0.00	44.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00

tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblVehicleTrips	ST_TR	2.46	2.01
tblVehicleTrips	SU_TR	1.05	0.86
tblVehicleTrips	WD_TR	11.03	9.01
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0455	0.9388	0.3188	1.2300e-003	0.0511	0.0136	0.0646	0.0186	0.0126	0.0312	0.0000	115.1342	115.1342	0.0179	0.0000	115.5823
2021	0.3936	0.1916	0.1291	2.9000e-004	3.3000e-003	5.6300e-003	8.9200e-003	9.1000e-004	5.2600e-003	6.1700e-003	0.0000	26.4058	26.4058	5.0900e-003	0.0000	26.5330
Maximum	0.3936	0.9388	0.3188	1.2300e-003	0.0511	0.0136	0.0646	0.0186	0.0126	0.0312	0.0000	115.1342	115.1342	0.0179	0.0000	115.5823

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	0.0247	0.7851	0.3545	1.2300e-003	0.0280	1.6200e-003	0.0296	6.1500e-003	1.5900e-003	7.7400e-003	0.0000	115.1341	115.1341	0.0179	0.0000	115.5823
2021	0.3848	0.1416	0.1443	2.9000e-004	3.3000e-003	7.6000e-004	4.0600e-003	9.1000e-004	7.6000e-004	1.6600e-003	0.0000	26.4058	26.4058	5.0900e-003	0.0000	26.5330
Maximum	0.3848	0.7851	0.3545	1.2300e-003	0.0280	1.6200e-003	0.0296	6.1500e-003	1.5900e-003	7.7400e-003	0.0000	115.1341	115.1341	0.0179	0.0000	115.5823

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	6.76	18.02	-11.37	0.00	42.39	87.60	54.18	63.83	86.81	74.83	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	2-10-2020	5-9-2020	0.3889	0.3342
2	5-10-2020	8-9-2020	0.3841	0.3337
3	8-10-2020	11-9-2020	0.1317	0.0894
4	11-10-2020	2-9-2021	0.1267	0.0874
5	2-10-2021	5-9-2021	0.1150	0.0814
6	5-10-2021	8-9-2021	0.2787	0.2771

7	8-10-2021	9-30-2021	0.1362	0.1287
		Highest	0.3889	0.3342

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	2/10/2020	2/28/2020	5	15	
2	Site Preparation	Site Preparation	3/2/2020	3/20/2020	5	15	
3	Grading	Grading	3/23/2020	6/22/2020	5	66	
4	Trenching	Trenching	6/22/2020	7/3/2020	5	10	
5	Building Construction	Building Construction	7/6/2020	5/7/2021	5	220	
6	Architectural Coating	Architectural Coating	7/6/2021	8/23/2021	5	35	
7	Paving	Paving	8/10/2021	10/4/2021	5	40	

Acres of Grading (Site Preparation Phase): 2.81

Acres of Grading (Grading Phase): 4.13

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 103,650; Non-Residential Outdoor: 34,550; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	0.00	81	0.73
Demolition	Excavators	1	1.00	158	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Site Preparation	Graders	1	1.00	187	0.41
Site Preparation	Graders	1	1.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Grading	Concrete/Industrial Saws	0	0.00	81	0.73

Grading	Excavators	1	3.00	158	0.38
Grading	Graders	1	1.00	187	0.41
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Trenching	Excavators	1	2.00	158	0.38
Trenching	Tractors/Loaders/Backhoes	1	2.00	97	0.37
Building Construction	Cranes	1	2.00	231	0.29
Building Construction	Forklifts	1	1.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Building Construction	Welders	1	1.00	46	0.45
Architectural Coating	Aerial Lifts	1	2.00	63	0.31
Architectural Coating	Air Compressors	1	2.00	78	0.48
Paving	Cement and Mortar Mixers	1	1.00	9	0.56
Paving	Pavers	1	1.00	130	0.42
Paving	Paving Equipment	1	1.00	132	0.36
Paving	Rollers	1	1.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	1.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	3	8.00	0.00	79.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	10,672.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	5.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Building Construction	4	55.00	24.00	200.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	11.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	44.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.5600e-003	0.0000	8.5600e-003	1.3000e-003	0.0000	1.3000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.4400e-003	0.0149	9.0700e-003	2.0000e-005		7.5000e-004	7.5000e-004		6.9000e-004	6.9000e-004	0.0000	1.3848	1.3848	4.5000e-004	0.0000	1.3960
Total	1.4400e-003	0.0149	9.0700e-003	2.0000e-005	8.5600e-003	7.5000e-004	9.3100e-003	1.3000e-003	6.9000e-004	1.9900e-003	0.0000	1.3848	1.3848	4.5000e-004	0.0000	1.3960

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.0000e-005	4.0700e-003	6.7000e-004	1.0000e-005	3.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.5130	0.5130	5.0000e-005	0.0000	0.5144
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	3.0000e-005	3.9000e-004	0.0000	4.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0488	0.0488	0.0000	0.0000	0.0488
Total	1.6000e-004	4.1000e-003	1.0600e-003	1.0000e-005	7.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.5618	0.5618	5.0000e-005	0.0000	0.5632

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					3.8500e-003	0.0000	3.8500e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6000e-004	5.5100e-003	0.0101	2.0000e-005		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	1.3848	1.3848	4.5000e-004	0.0000	1.3960
Total	2.6000e-004	5.5100e-003	0.0101	2.0000e-005	3.8500e-003	3.0000e-005	3.8800e-003	2.9000e-004	3.0000e-005	3.2000e-004	0.0000	1.3848	1.3848	4.5000e-004	0.0000	1.3960

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.0000e-005	4.0700e-003	6.7000e-004	1.0000e-005	3.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.5130	0.5130	5.0000e-005	0.0000	0.5144
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	3.0000e-005	3.9000e-004	0.0000	4.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0488	0.0488	0.0000	0.0000	0.0488
Total	1.6000e-004	4.1000e-003	1.0600e-003	1.0000e-005	7.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.5618	0.5618	5.0000e-005	0.0000	0.5632

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

Off-Road	2.7000e-004	4.5400e-003	8.7900e-003	2.0000e-005		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	1.3490	1.3490	4.4000e-004	0.0000	1.3600
Total	2.7000e-004	4.5400e-003	8.7900e-003	2.0000e-005	6.7000e-004	3.0000e-005	7.0000e-004	4.0000e-005	3.0000e-005	7.0000e-005	0.0000	1.3490	1.3490	4.4000e-004	0.0000	1.3600

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	3.0000e-005	3.9000e-004	0.0000	4.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0488	0.0488	0.0000	0.0000	0.0488
Total	7.0000e-005	3.0000e-005	3.9000e-004	0.0000	4.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0488	0.0488	0.0000	0.0000	0.0488

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0319	0.0000	0.0319	0.0146	0.0000	0.0146	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0103	0.1114	0.0744	1.4000e-004		5.1200e-003	5.1200e-003		4.7100e-003	4.7100e-003	0.0000	12.2412	12.2412	3.9600e-003	0.0000	12.3402
Total	0.0103	0.1114	0.0744	1.4000e-004	0.0319	5.1200e-003	0.0370	0.0146	4.7100e-003	0.0193	0.0000	12.2412	12.2412	3.9600e-003	0.0000	12.3402

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	0.0116	0.5503	0.0898	7.2000e-004	4.6300e-003	5.2000e-004	5.1500e-003	1.2800e-003	5.0000e-004	1.7800e-003	0.0000	69.3039	69.3039	7.3700e-003	0.0000	69.4882
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	3.7000e-004	1.7000e-004	2.1600e-003	0.0000	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2684	0.2684	1.0000e-005	0.0000	0.2687
Total	0.0120	0.5505	0.0920	7.2000e-004	4.8800e-003	5.2000e-004	5.4000e-003	1.3500e-003	5.0000e-004	1.8500e-003	0.0000	69.5723	69.5723	7.3800e-003	0.0000	69.7569

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					0.0143	0.0000	0.0143	3.2900e-003	0.0000	3.2900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0900e-003	0.0502	0.0913	1.4000e-004		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	12.2412	12.2412	3.9600e-003	0.0000	12.3402
Total	2.0900e-003	0.0502	0.0913	1.4000e-004	0.0143	2.3000e-004	0.0146	3.2900e-003	2.3000e-004	3.5200e-003	0.0000	12.2412	12.2412	3.9600e-003	0.0000	12.3402

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	0.0116	0.5503	0.0898	7.2000e-004	4.6300e-003	5.2000e-004	5.1500e-003	1.2800e-003	5.0000e-004	1.7800e-003	0.0000	69.3039	69.3039	7.3700e-003	0.0000	69.4882
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	3.7000e-004	1.7000e-004	2.1600e-003	0.0000	2.5000e-004	0.0000	2.5000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2684	0.2684	1.0000e-005	0.0000	0.2687
Total	0.0120	0.5505	0.0920	7.2000e-004	4.8800e-003	5.2000e-004	5.4000e-003	1.3500e-003	5.0000e-004	1.8500e-003	0.0000	69.5723	69.5723	7.3800e-003	0.0000	69.7569

3.5 Trenching - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.7000e-004	5.6500e-003	6.9300e-003	1.0000e-005		3.1000e-004	3.1000e-004		2.9000e-004	2.9000e-004	0.0000	0.9082	0.9082	2.9000e-004	0.0000	0.9155
Total	5.7000e-004	5.6500e-003	6.9300e-003	1.0000e-005		3.1000e-004	3.1000e-004		2.9000e-004	2.9000e-004	0.0000	0.9082	0.9082	2.9000e-004	0.0000	0.9155

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	1.0000e-005	1.6000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0203	0.0203	0.0000	0.0000	0.0204
Total	3.0000e-005	1.0000e-005	1.6000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0203	0.0203	0.0000	0.0000	0.0204

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7000e-004	4.5400e-003	7.8300e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.9082	0.9082	2.9000e-004	0.0000	0.9155
Total	1.7000e-004	4.5400e-003	7.8300e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.9082	0.9082	2.9000e-004	0.0000	0.9155

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	1.0000e-005	1.6000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0203	0.0203	0.0000	0.0000	0.0204
Total	3.0000e-005	1.0000e-005	1.6000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0203	0.0203	0.0000	0.0000	0.0204

3.6 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0129	0.1270	0.0763	1.5000e-004		6.1400e-003	6.1400e-003		5.7000e-003	5.7000e-003	0.0000	12.9743	12.9743	3.9300e-003	0.0000	13.0725
Total	0.0129	0.1270	0.0763	1.5000e-004		6.1400e-003	6.1400e-003		5.7000e-003	5.7000e-003	0.0000	12.9743	12.9743	3.9300e-003	0.0000	13.0725

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3000e-004	6.0500e-003	9.9000e-004	1.0000e-005	8.0000e-005	1.0000e-005	8.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.7616	0.7616	8.0000e-005	0.0000	0.7636
Vendor	2.9200e-003	0.1035	0.0287	1.3000e-004	1.4300e-003	1.7000e-004	1.6000e-003	4.2000e-004	1.6000e-004	5.8000e-004	0.0000	12.4270	12.4270	1.2100e-003	0.0000	12.4573
Worker	3.9300e-003	1.8000e-003	0.0233	3.0000e-005	2.6400e-003	4.0000e-005	2.6700e-003	7.1000e-004	3.0000e-005	7.4000e-004	0.0000	2.8848	2.8848	1.2000e-004	0.0000	2.8879
Total	6.9800e-003	0.1114	0.0530	1.7000e-004	4.1500e-003	2.2000e-004	4.3500e-003	1.1500e-003	2.0000e-004	1.3500e-003	0.0000	16.0734	16.0734	1.4100e-003	0.0000	16.1088

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.7200e-003	0.0543	0.0899	1.5000e-004		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004	0.0000	12.9743	12.9743	3.9300e-003	0.0000	13.0725

Total	2.7200e-003	0.0543	0.0899	1.5000e-004		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004	0.0000	12.9743	12.9743	3.9300e-003	0.0000	13.0725
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Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3000e-004	6.0500e-003	9.9000e-004	1.0000e-005	8.0000e-005	1.0000e-005	8.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.7616	0.7616	8.0000e-005	0.0000	0.7636
Vendor	2.9200e-003	0.1035	0.0287	1.3000e-004	1.4300e-003	1.7000e-004	1.6000e-003	4.2000e-004	1.6000e-004	5.8000e-004	0.0000	12.4270	12.4270	1.2100e-003	0.0000	12.4573
Worker	3.9300e-003	1.8000e-003	0.0233	3.0000e-005	2.6400e-003	4.0000e-005	2.6700e-003	7.1000e-004	3.0000e-005	7.4000e-004	0.0000	2.8848	2.8848	1.2000e-004	0.0000	2.8879
Total	6.9800e-003	0.1114	0.0530	1.7000e-004	4.1500e-003	2.2000e-004	4.3500e-003	1.1500e-003	2.0000e-004	1.3500e-003	0.0000	16.0734	16.0734	1.4100e-003	0.0000	16.1088

3.6 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.2200e-003	0.0812	0.0518	1.1000e-004		3.7700e-003	3.7700e-003		3.5000e-003	3.5000e-003	0.0000	9.1526	9.1526	2.7500e-003	0.0000	9.2214
Total	8.2200e-003	0.0812	0.0518	1.1000e-004		3.7700e-003	3.7700e-003		3.5000e-003	3.5000e-003	0.0000	9.1526	9.1526	2.7500e-003	0.0000	9.2214

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	8.0000e-005	4.1000e-003	6.7000e-004	1.0000e-005	7.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.5316	0.5316	5.0000e-005	0.0000	0.5329
Vendor	1.8400e-003	0.0694	0.0187	9.0000e-005	1.0100e-003	6.0000e-005	1.0700e-003	2.9000e-004	6.0000e-005	3.5000e-004	0.0000	8.6827	8.6827	8.1000e-004	0.0000	8.7029
Worker	2.5300e-003	1.1200e-003	0.0148	2.0000e-005	1.8600e-003	2.0000e-005	1.8900e-003	5.0000e-004	2.0000e-005	5.2000e-004	0.0000	1.9660	1.9660	8.0000e-005	0.0000	1.9679
Total	4.4500e-003	0.0746	0.0342	1.2000e-004	2.9400e-003	8.0000e-005	3.0400e-003	8.1000e-004	8.0000e-005	8.9000e-004	0.0000	11.1803	11.1803	9.4000e-004	0.0000	11.2037

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9200e-003	0.0383	0.0634	1.1000e-004		4.2000e-004	4.2000e-004		4.2000e-004	4.2000e-004	0.0000	9.1526	9.1526	2.7500e-003	0.0000	9.2214
Total	1.9200e-003	0.0383	0.0634	1.1000e-004		4.2000e-004	4.2000e-004		4.2000e-004	4.2000e-004	0.0000	9.1526	9.1526	2.7500e-003	0.0000	9.2214

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	8.0000e-005	4.1000e-003	6.7000e-004	1.0000e-005	7.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.5316	0.5316	5.0000e-005	0.0000	0.5329
Vendor	1.8400e-003	0.0694	0.0187	9.0000e-005	1.0100e-003	6.0000e-005	1.0700e-003	2.9000e-004	6.0000e-005	3.5000e-004	0.0000	8.6827	8.6827	8.1000e-004	0.0000	8.7029
Worker	2.5300e-003	1.1200e-003	0.0148	2.0000e-005	1.8600e-003	2.0000e-005	1.8900e-003	5.0000e-004	2.0000e-005	5.2000e-004	0.0000	1.9660	1.9660	8.0000e-005	0.0000	1.9679
Total	4.4500e-003	0.0746	0.0342	1.2000e-004	2.9400e-003	8.0000e-005	3.0400e-003	8.1000e-004	8.0000e-005	8.9000e-004	0.0000	11.1803	11.1803	9.4000e-004	0.0000	11.2037

3.7 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	0.3768					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.4400e-003	0.0115	0.0154	2.0000e-005		6.0000e-004	6.0000e-004		6.0000e-004	6.0000e-004	0.0000	2.1348	2.1348	3.1000e-004	0.0000	2.1426
Total	0.3783	0.0115	0.0154	2.0000e-005		6.0000e-004	6.0000e-004		6.0000e-004	6.0000e-004	0.0000	2.1348	2.1348	3.1000e-004	0.0000	2.1426

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	1.9000e-004	9.0000e-005	1.1400e-003	0.0000	1.4000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1512	0.1512	1.0000e-005	0.0000	0.1514
Total	1.9000e-004	9.0000e-005	1.1400e-003	0.0000	1.4000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1512	0.1512	1.0000e-005	0.0000	0.1514

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	0.3768					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.0000e-004	0.0103	0.0163	2.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.1348	2.1348	3.1000e-004	0.0000	2.1426
Total	0.3773	0.0103	0.0163	2.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.1348	2.1348	3.1000e-004	0.0000	2.1426

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	1.9000e-004	9.0000e-005	1.1400e-003	0.0000	1.4000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1512	0.1512	1.0000e-005	0.0000	0.1514
Total	1.9000e-004	9.0000e-005	1.1400e-003	0.0000	1.4000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1512	0.1512	1.0000e-005	0.0000	0.1514

3.8 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	2.1800e-003	0.0218	0.0247	4.0000e-005		1.1600e-003	1.1600e-003		1.0700e-003	1.0700e-003	0.0000	3.2999	3.2999	1.0400e-003	0.0000	3.3260
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.1800e-003	0.0218	0.0247	4.0000e-005		1.1600e-003	1.1600e-003		1.0700e-003	1.0700e-003	0.0000	3.2999	3.2999	1.0400e-003	0.0000	3.3260

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	4.0000e-005	2.1800e-003	3.6000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.2827	0.2827	3.0000e-005	0.0000	0.2835
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	2.6000e-004	1.2000e-004	1.5400e-003	0.0000	1.9000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.2043	0.2043	1.0000e-005	0.0000	0.2045
Total	3.0000e-004	2.3000e-003	1.9000e-003	0.0000	2.1000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.4870	0.4870	4.0000e-005	0.0000	0.4879

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.9000e-004	0.0159	0.0275	4.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.2999	3.2999	1.0400e-003	0.0000	3.3260

Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	5.9000e-004	0.0159	0.0275	4.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.2999	3.2999	1.0400e-003	0.0000	3.3260

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	4.0000e-005	2.1800e-003	3.6000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.2827	0.2827	3.0000e-005	0.0000	0.2835
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	2.6000e-004	1.2000e-004	1.5400e-003	0.0000	1.9000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.2043	0.2043	1.0000e-005	0.0000	0.2045
Total	3.0000e-004	2.3000e-003	1.9000e-003	0.0000	2.1000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.4870	0.4870	4.0000e-005	0.0000	0.4879

DSP - SubBlock 6 - Santa Clara County, Annual

DSP - SubBlock 6
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	950.00	Space	0.00	348,000.00	0
Apartments Mid Rise	325.00	Dwelling Unit	4.40	422,850.00	930
Strip Mall	36.00	1000sqft	0.00	36,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 Rate = 290

Land Use - Applicant provided land uses, Revised 9.4.2019

Construction Phase - Applicant provided construction schedule

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Trips and VMT - 2,960tons pavement demo = 592 one-way trips, building const = 280 one-way cement trips, paving = 90cy = 22 one-way asphalt trips

Grading - Grading = 64,789cy export

Vehicle Trips - Vehicle Trips - After reuctions, Res = 3.97, 3.81, 3.50, Retail = 35.26, 33.45, 16.25

Woodstoves - No Wood All Gas

Energy Use -

Water And Wastewater - WTP treatment 100% aerobic

Construction Off-road Equipment Mitigation - BMPs, Tier 4 final mitigation

Energy Mitigation - Green Building Measures - energy efficient lighting, appliances, installing solar panels

Water Mitigation - Green Building Measures - water efficient fixtures and landscaping

Stationary Sources - Emergency Generators and Fire Pumps -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	13.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	18.00	145.00
tblConstructionPhase	NumDays	230.00	360.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	8.00	180.00
tblConstructionPhase	NumDays	18.00	20.00
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	PhaseEndDate	3/11/2021	1/20/2023
tblConstructionPhase	PhaseEndDate	1/20/2021	5/6/2022
tblConstructionPhase	PhaseEndDate	2/14/2020	2/7/2020

tblConstructionPhase	PhaseEndDate	3/4/2020	10/30/2020
tblConstructionPhase	PhaseEndDate	2/15/2021	1/17/2022
tblConstructionPhase	PhaseStartDate	2/16/2021	7/4/2022
tblConstructionPhase	PhaseStartDate	3/5/2020	12/21/2020
tblConstructionPhase	PhaseStartDate	2/22/2020	2/24/2020
tblConstructionPhase	PhaseStartDate	1/21/2021	12/21/2021
tblConstructionPhase	PhaseStartDate	2/15/2020	2/10/2020
tblGrading	AcresOfGrading	202.50	652.00
tblGrading	AcresOfGrading	10.00	0.00
tblGrading	MaterialExported	0.00	64,789.00
tblLandUse	LandUseSquareFeet	380,000.00	348,000.00
tblLandUse	LandUseSquareFeet	325,000.00	422,850.00
tblLandUse	LotAcreage	8.55	0.00
tblLandUse	LotAcreage	8.55	4.40
tblLandUse	LotAcreage	0.83	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	6.00	3.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	3.00
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tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	6.00	4.00
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tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	3.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	HaulingTripNumber	0.00	592.00
tblTripsAndVMT	HaulingTripNumber	0.00	280.00
tblTripsAndVMT	HaulingTripNumber	0.00	22.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-20-2020	4-19-2020	0.9703	0.4044
2	4-20-2020	7-19-2020	1.1767	0.4982
3	7-20-2020	10-19-2020	1.1920	0.5060
4	10-20-2020	1-19-2021	0.5800	0.2558
5	1-20-2021	4-19-2021	1.0998	0.5421
6	4-20-2021	7-19-2021	1.1028	0.5389
7	7-20-2021	10-19-2021	1.1173	0.5473
8	10-20-2021	1-19-2022	1.1640	0.5609
9	1-20-2022	4-19-2022	1.0103	0.5174
10	4-20-2022	7-19-2022	0.4813	0.3727
11	7-20-2022	10-19-2022	1.6795	1.5904
12	10-20-2022	1-19-2023	1.6777	1.5913
13	1-20-2023	4-19-2023	0.0181	0.0173
		Highest	1.6795	1.5913

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/20/2020	2/7/2020	5	15	
2	Site Preparation	Site Preparation	2/10/2020	2/21/2020	5	10	
3	Grading	Grading	2/24/2020	10/30/2020	5	180	
4	Trenching	Trenching	11/2/2020	12/11/2020	5	30	
5	Building Construction	Building Construction	12/21/2020	5/6/2022	5	360	
6	Paving	Paving	12/21/2021	1/17/2022	5	20	
7	Architectural Coating	Architectural Coating	7/4/2022	1/20/2023	5	145	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 652

Acres of Paving: 0

Residential Indoor: 856,271; Residential Outdoor: 285,424; Non-Residential Indoor: 54,000; Non-Residential Outdoor: 18,000; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	2	2.00	81	0.73
Demolition	Excavators	2	5.00	158	0.38
Demolition	Rubber Tired Dozers	2	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Site Preparation	Graders	2	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	3.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Grading	Excavators	4	2.00	158	0.38
Grading	Graders	2	1.00	187	0.41
Grading	Rubber Tired Dozers	1	2.00	247	0.40
Grading	Scrapers	4	2.00	367	0.48
Grading	Sweepers/Scrubbers	1	1.00	64	0.46
Grading	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Trenching	Excavators	2	4.00	158	0.38
Trenching	Tractors/Loaders/Backhoes	2	2.00	97	0.37
Building Construction	Cranes	2	4.00	231	0.29
Building Construction	Forklifts	4	4.00	89	0.20
Building Construction	Generator Sets	3	3.00	84	0.74
Building Construction	Pumps	2	1.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	4	4.00	97	0.37
Building Construction	Welders	4	5.00	46	0.45
Paving	Cement and Mortar Mixers	1	3.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	6.00	132	0.36
Paving	Rollers	1	4.00	80	0.38

Paving	Tractors/Loaders/Backhoes	1	3.00	97	0.37
Architectural Coating	Aerial Lifts	4	6.00	63	0.31
Architectural Coating	Air Compressors	4	4.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	8	20.00	0.00	592.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	14	35.00	0.00	8,099.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	19	392.00	98.00	280.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	22.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	8	78.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2020

Unmitigated Construction On-Site

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

Off-Road	7.4600e-003	0.0720	0.0693	1.1000e-004		3.8800e-003	3.8800e-003		3.6300e-003	3.6300e-003	0.0000	9.7233	9.7233	2.6200e-003	0.0000	9.7888
Total	7.4600e-003	0.0720	0.0693	1.1000e-004		3.8800e-003	3.8800e-003		3.6300e-003	3.6300e-003	0.0000	9.7233	9.7233	2.6200e-003	0.0000	9.7888

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	2.4600e-003	0.0859	0.0176	2.3000e-004	5.0200e-003	2.8000e-004	5.3000e-003	1.3800e-003	2.7000e-004	1.6500e-003	0.0000	22.5762	22.5762	1.0300e-003	0.0000	22.6020
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	2.9600e-003	0.0863	0.0213	2.4000e-004	6.2100e-003	2.9000e-004	6.5000e-003	1.7000e-003	2.8000e-004	1.9700e-003	0.0000	23.5964	23.5964	1.0600e-003	0.0000	23.6228

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3100e-003	5.6800e-003	0.0760	1.1000e-004		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	9.7233	9.7233	2.6200e-003	0.0000	9.7888
Total	1.3100e-003	5.6800e-003	0.0760	1.1000e-004		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	9.7233	9.7233	2.6200e-003	0.0000	9.7888

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	2.4600e-003	0.0859	0.0176	2.3000e-004	5.0200e-003	2.8000e-004	5.3000e-003	1.3800e-003	2.7000e-004	1.6500e-003	0.0000	22.5762	22.5762	1.0300e-003	0.0000	22.6020
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	2.9600e-003	0.0863	0.0213	2.4000e-004	6.2100e-003	2.9000e-004	6.5000e-003	1.7000e-003	2.8000e-004	1.9700e-003	0.0000	23.5964	23.5964	1.0600e-003	0.0000	23.6228

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0113	0.0000	0.0113	6.2100e-003	0.0000	6.2100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.8300e-003	0.0950	0.0373	1.0000e-004		3.7300e-003	3.7300e-003		3.4300e-003	3.4300e-003	0.0000	8.6022	8.6022	2.7800e-003	0.0000	8.6718
Total	7.8300e-003	0.0950	0.0373	1.0000e-004	0.0113	3.7300e-003	0.0150	6.2100e-003	3.4300e-003	9.6400e-003	0.0000	8.6022	8.6022	2.7800e-003	0.0000	8.6718

Unmitigated Construction Off-Site

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

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4849	0.0000	0.4849	0.1124	0.0000	0.1124	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1683	1.8878	1.3267	2.4800e-003		0.0829	0.0829		0.0763	0.0763	0.0000	217.6854	217.6854	0.0704	0.0000	219.4455
Total	0.1683	1.8878	1.3267	2.4800e-003	0.4849	0.0829	0.5678	0.1124	0.0763	0.1886	0.0000	217.6854	217.6854	0.0704	0.0000	219.4455

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	0.0337	1.1751	0.2407	3.1900e-003	0.0686	3.8200e-003	0.0725	0.0189	3.6500e-003	0.0225	0.0000	308.8586	308.8586	0.0141	0.0000	309.2118
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	0.0105	7.5200e-003	0.0788	2.4000e-004	0.0250	1.6000e-004	0.0251	6.6400e-003	1.5000e-004	6.7900e-003	0.0000	21.4247	21.4247	5.3000e-004	0.0000	21.4379
Total	0.0441	1.1826	0.3195	3.4300e-003	0.0936	3.9800e-003	0.0976	0.0255	3.8000e-003	0.0293	0.0000	330.2833	330.2833	0.0147	0.0000	330.6497

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					0.2182	0.0000	0.2182	0.0253	0.0000	0.0253	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0308	0.1464	1.3534	2.4800e-003		4.0600e-003	4.0600e-003		4.0600e-003	4.0600e-003	0.0000	217.6851	217.6851	0.0704	0.0000	219.4452
Total	0.0308	0.1464	1.3534	2.4800e-003	0.2182	4.0600e-003	0.2223	0.0253	4.0600e-003	0.0293	0.0000	217.6851	217.6851	0.0704	0.0000	219.4452

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	0.0337	1.1751	0.2407	3.1900e-003	0.0686	3.8200e-003	0.0725	0.0189	3.6500e-003	0.0225	0.0000	308.8586	308.8586	0.0141	0.0000	309.2118
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	0.0105	7.5200e-003	0.0788	2.4000e-004	0.0250	1.6000e-004	0.0251	6.6400e-003	1.5000e-004	6.7900e-003	0.0000	21.4247	21.4247	5.3000e-004	0.0000	21.4379
Total	0.0441	1.1826	0.3195	3.4300e-003	0.0936	3.9800e-003	0.0976	0.0255	3.8000e-003	0.0293	0.0000	330.2833	330.2833	0.0147	0.0000	330.6497

3.5 Trenching - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.2500e-003	0.0520	0.0661	1.0000e-004		2.7500e-003	2.7500e-003		2.5300e-003	2.5300e-003	0.0000	8.8519	8.8519	2.8600e-003	0.0000	8.9235
Total	5.2500e-003	0.0520	0.0661	1.0000e-004		2.7500e-003	2.7500e-003		2.5300e-003	2.5300e-003	0.0000	8.8519	8.8519	2.8600e-003	0.0000	8.9235

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.2400e-003	5.3600e-003	0.0763	1.0000e-004		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	8.8519	8.8519	2.8600e-003	0.0000	8.9235

Total	1.2400e-003	5.3600e-003	0.0763	1.0000e-004		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	8.8519	8.8519	2.8600e-003	0.0000	8.9235
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Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209
Total	5.0000e-004	3.6000e-004	3.7500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0202	1.0202	3.0000e-005	0.0000	1.0209

3.6 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0116	0.0941	0.0835	1.4000e-004		5.2700e-003	5.2700e-003		5.0300e-003	5.0300e-003	0.0000	11.5602	11.5602	2.4400e-003	0.0000	11.6210
Total	0.0116	0.0941	0.0835	1.4000e-004		5.2700e-003	5.2700e-003		5.0300e-003	5.0300e-003	0.0000	11.5602	11.5602	2.4400e-003	0.0000	11.6210

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	3.0000e-005	1.0200e-003	2.1000e-004	0.0000	1.7900e-003	0.0000	1.8000e-003	4.4000e-004	0.0000	4.4000e-004	0.0000	0.2670	0.2670	1.0000e-005	0.0000	0.2673
Vendor	1.7500e-003	0.0502	0.0134	1.2000e-004	2.9000e-003	2.5000e-004	3.1500e-003	8.4000e-004	2.4000e-004	1.0800e-003	0.0000	11.5296	11.5296	5.3000e-004	0.0000	11.5429
Worker	5.8600e-003	4.2100e-003	0.0442	1.3000e-004	0.0140	9.0000e-005	0.0141	3.7200e-003	8.0000e-005	3.8000e-003	0.0000	11.9978	11.9978	2.9000e-004	0.0000	12.0052
Total	7.6400e-003	0.0554	0.0577	2.5000e-004	0.0187	3.4000e-004	0.0190	5.0000e-003	3.2000e-004	5.3200e-003	0.0000	23.7944	23.7944	8.3000e-004	0.0000	23.8153

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7300e-003	0.0167	0.0852	1.4000e-004		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	11.5602	11.5602	2.4400e-003	0.0000	11.6210
Total	1.7300e-003	0.0167	0.0852	1.4000e-004		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	11.5602	11.5602	2.4400e-003	0.0000	11.6210

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	tons/yr										MT/yr					
	Hauling	3.0000e-005	1.0200e-003	2.1000e-004	0.0000	1.7900e-003	0.0000	1.8000e-003	4.4000e-004	0.0000	4.4000e-004	0.0000	0.2670	0.2670	1.0000e-005	0.0000
Vendor	1.7500e-003	0.0502	0.0134	1.2000e-004	2.9000e-003	2.5000e-004	3.1500e-003	8.4000e-004	2.4000e-004	1.0800e-003	0.0000	11.5296	11.5296	5.3000e-004	0.0000	11.5429
Worker	5.8600e-003	4.2100e-003	0.0442	1.3000e-004	0.0140	9.0000e-005	0.0141	3.7200e-003	8.0000e-005	3.8000e-003	0.0000	11.9978	11.9978	2.9000e-004	0.0000	12.0052
Total	7.6400e-003	0.0554	0.0577	2.5000e-004	0.0187	3.4000e-004	0.0190	5.0000e-003	3.2000e-004	5.3200e-003	0.0000	23.7944	23.7944	8.3000e-004	0.0000	23.8153

3.6 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3001	2.4972	2.3773	3.9800e-003		0.1313	0.1313		0.1252	0.1252	0.0000	335.2699	335.2699	0.0690	0.0000	336.9951
Total	0.3001	2.4972	2.3773	3.9800e-003		0.1313	0.1313		0.1252	0.1252	0.0000	335.2699	335.2699	0.0690	0.0000	336.9951

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	8.0000e-004	0.0271	5.9100e-003	8.0000e-005	2.2100e-003	8.0000e-005	2.2900e-003	5.9000e-004	8.0000e-005	6.7000e-004	0.0000	7.6433	7.6433	3.5000e-004	0.0000	7.6520
Vendor	0.0417	1.3142	0.3498	3.4500e-003	0.0841	2.9100e-003	0.0871	0.0243	2.7900e-003	0.0271	0.0000	331.2727	331.2727	0.0144	0.0000	331.6336

Worker	0.1576	0.1091	1.1702	3.7100e-003	0.4057	2.5500e-003	0.4083	0.1079	2.3500e-003	0.1103	0.0000	335.8605	335.8605	7.6400e-003	0.0000	336.0515
Total	0.2001	1.4505	1.5260	7.2400e-003	0.4921	5.5400e-003	0.4976	0.1328	5.2200e-003	0.1380	0.0000	674.7765	674.7765	0.0224	0.0000	675.3371

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	0.0502	0.4830	2.4699	3.9800e-003		5.7400e-003	5.7400e-003		5.7400e-003	5.7400e-003	0.0000	335.2695	335.2695	0.0690	0.0000	336.9947
Total	0.0502	0.4830	2.4699	3.9800e-003		5.7400e-003	5.7400e-003		5.7400e-003	5.7400e-003	0.0000	335.2695	335.2695	0.0690	0.0000	336.9947

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	8.0000e-004	0.0271	5.9100e-003	8.0000e-005	2.2100e-003	8.0000e-005	2.2900e-003	5.9000e-004	8.0000e-005	6.7000e-004	0.0000	7.6433	7.6433	3.5000e-004	0.0000	7.6520
Vendor	0.0417	1.3142	0.3498	3.4500e-003	0.0841	2.9100e-003	0.0871	0.0243	2.7900e-003	0.0271	0.0000	331.2727	331.2727	0.0144	0.0000	331.6336
Worker	0.1576	0.1091	1.1702	3.7100e-003	0.4057	2.5500e-003	0.4083	0.1079	2.3500e-003	0.1103	0.0000	335.8605	335.8605	7.6400e-003	0.0000	336.0515
Total	0.2001	1.4505	1.5260	7.2400e-003	0.4921	5.5400e-003	0.4976	0.1328	5.2200e-003	0.1380	0.0000	674.7765	674.7765	0.0224	0.0000	675.3371

3.6 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0936	0.7803	0.8093	1.3700e-003		0.0386	0.0386		0.0368	0.0368	0.0000	115.6417	115.6417	0.0235	0.0000	116.2282
Total	0.0936	0.7803	0.8093	1.3700e-003		0.0386	0.0386		0.0368	0.0368	0.0000	115.6417	115.6417	0.0235	0.0000	116.2282

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	2.6000e-004	8.6000e-003	2.0000e-003	3.0000e-005	1.9300e-003	3.0000e-005	1.9500e-003	4.9000e-004	2.0000e-005	5.1000e-004	0.0000	2.6001	2.6001	1.2000e-004	0.0000	2.6030
Vendor	0.0134	0.4284	0.1136	1.1800e-003	0.0290	8.7000e-004	0.0299	8.3900e-003	8.4000e-004	9.2200e-003	0.0000	113.1391	113.1391	4.7500e-003	0.0000	113.2579
Worker	0.0507	0.0338	0.3709	1.2300e-003	0.1399	8.6000e-004	0.1408	0.0372	7.9000e-004	0.0380	0.0000	111.6072	111.6072	2.3600e-003	0.0000	111.6662
Total	0.0644	0.4707	0.4865	2.4400e-003	0.1709	1.7600e-003	0.1726	0.0461	1.6500e-003	0.0477	0.0000	227.3464	227.3464	7.2300e-003	0.0000	227.5272

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Total	2.3200e-003	0.0235	0.0270	4.0000e-005		1.2200e-003	1.2200e-003		1.1300e-003	1.1300e-003	0.0000	3.6576	3.6576	1.1700e-003	0.0000	3.6868
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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	4.0000e-005	1.3200e-003	2.9000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	5.0000e-005	0.0000	0.3728	0.3728	2.0000e-005	0.0000	0.3732
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	1.8000e-004	1.2000e-004	1.3400e-003	0.0000	4.6000e-004	0.0000	4.7000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.3841	0.3841	1.0000e-005	0.0000	0.3843
Total	2.2000e-004	1.4400e-003	1.6300e-003	0.0000	6.2000e-004	0.0000	6.3000e-004	1.6000e-004	0.0000	1.8000e-004	0.0000	0.7568	0.7568	3.0000e-005	0.0000	0.7575

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.0000e-004	2.1700e-003	0.0309	4.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	3.6576	3.6576	1.1700e-003	0.0000	3.6868
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	5.0000e-004	2.1700e-003	0.0309	4.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	3.6576	3.6576	1.1700e-003	0.0000	3.6868

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	4.0000e-005	1.3200e-003	2.9000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	5.0000e-005	0.0000	0.3728	0.3728	2.0000e-005	0.0000	0.3732
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	1.8000e-004	1.2000e-004	1.3400e-003	0.0000	4.6000e-004	0.0000	4.7000e-004	1.2000e-004	0.0000	1.3000e-004	0.0000	0.3841	0.3841	1.0000e-005	0.0000	0.3843
Total	2.2000e-004	1.4400e-003	1.6300e-003	0.0000	6.2000e-004	0.0000	6.3000e-004	1.6000e-004	0.0000	1.8000e-004	0.0000	0.7568	0.7568	3.0000e-005	0.0000	0.7575

3.7 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.5100e-003	0.0248	0.0328	5.0000e-005		1.2500e-003	1.2500e-003		1.1500e-003	1.1500e-003	0.0000	4.4719	4.4719	1.4300e-003	0.0000	4.5075
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.5100e-003	0.0248	0.0328	5.0000e-005		1.2500e-003	1.2500e-003		1.1500e-003	1.1500e-003	0.0000	4.4719	4.4719	1.4300e-003	0.0000	4.5075

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	4.0000e-005	1.4900e-003	3.5000e-004	0.0000	1.7000e-004	0.0000	1.7000e-004	4.0000e-005	0.0000	5.0000e-005	0.0000	0.4494	0.4494	2.0000e-005	0.0000	0.4500
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	2.1000e-004	1.4000e-004	1.5000e-003	1.0000e-005	5.7000e-004	0.0000	5.7000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4524	0.4524	1.0000e-005	0.0000	0.4526
Total	2.5000e-004	1.6300e-003	1.8500e-003	1.0000e-005	7.4000e-004	0.0000	7.4000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.9018	0.9018	3.0000e-005	0.0000	0.9026

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	6.1000e-004	2.6500e-003	0.0378	5.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	4.4719	4.4719	1.4300e-003	0.0000	4.5075
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	6.1000e-004	2.6500e-003	0.0378	5.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	4.4719	4.4719	1.4300e-003	0.0000	4.5075

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	4.0000e-005	1.4900e-003	3.5000e-004	0.0000	1.7000e-004	0.0000	1.7000e-004	4.0000e-005	0.0000	5.0000e-005	0.0000	0.4494	0.4494	2.0000e-005	0.0000	0.4500
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	2.1000e-004	1.4000e-004	1.5000e-003	1.0000e-005	5.7000e-004	0.0000	5.7000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4524	0.4524	1.0000e-005	0.0000	0.4526

Total	2.5000e-004	1.6300e-003	1.8500e-003	1.0000e-005	7.4000e-004	0.0000	7.4000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.9018	0.9018	3.0000e-005	0.0000	0.9026
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3.8 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.9021					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0425	0.3534	0.5277	8.4000e-004		0.0162	0.0162		0.0160	0.0160	0.0000	73.0240	73.0240	0.0122	0.0000	73.3287
Total	2.9446	0.3534	0.5277	8.4000e-004		0.0162	0.0162		0.0160	0.0160	0.0000	73.0240	73.0240	0.0122	0.0000	73.3287

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	0.0146	9.7000e-003	0.1066	3.5000e-004	0.0402	2.5000e-004	0.0405	0.0107	2.3000e-004	0.0109	0.0000	32.0776	32.0776	6.8000e-004	0.0000	32.0946
Total	0.0146	9.7000e-003	0.1066	3.5000e-004	0.0402	2.5000e-004	0.0405	0.0107	2.3000e-004	0.0109	0.0000	32.0776	32.0776	6.8000e-004	0.0000	32.0946

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	2.9021					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0132	0.2064	0.5661	8.4000e-004		1.2200e-003	1.2200e-003		1.2200e-003	1.2200e-003	0.0000	73.0239	73.0239	0.0122	0.0000	73.3286
Total	2.9153	0.2064	0.5661	8.4000e-004		1.2200e-003	1.2200e-003		1.2200e-003	1.2200e-003	0.0000	73.0239	73.0239	0.0122	0.0000	73.3286

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	0.0146	9.7000e-003	0.1066	3.5000e-004	0.0402	2.5000e-004	0.0405	0.0107	2.3000e-004	0.0109	0.0000	32.0776	32.0776	6.8000e-004	0.0000	32.0946
Total	0.0146	9.7000e-003	0.1066	3.5000e-004	0.0402	2.5000e-004	0.0405	0.0107	2.3000e-004	0.0109	0.0000	32.0776	32.0776	6.8000e-004	0.0000	32.0946

3.8 Architectural Coating - 2023

Unmitigated Construction On-Site

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

Archit. Coating	0.3349					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.6100e-003	0.0381	0.0608	1.0000e-004		1.6200e-003	1.6200e-003		1.6100e-003	1.6100e-003	0.0000	8.4259	8.4259	1.3800e-003	0.0000	8.4603
Total	0.3395	0.0381	0.0608	1.0000e-004		1.6200e-003	1.6200e-003		1.6100e-003	1.6100e-003	0.0000	8.4259	8.4259	1.3800e-003	0.0000	8.4603

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	1.5700e-003	1.0100e-003	0.0113	4.0000e-005	4.6400e-003	3.0000e-005	4.6700e-003	1.2300e-003	3.0000e-005	1.2600e-003	0.0000	3.5607	3.5607	7.0000e-005	0.0000	3.5624
Total	1.5700e-003	1.0100e-003	0.0113	4.0000e-005	4.6400e-003	3.0000e-005	4.6700e-003	1.2300e-003	3.0000e-005	1.2600e-003	0.0000	3.5607	3.5607	7.0000e-005	0.0000	3.5624

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	0.3349					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5200e-003	0.0238	0.0653	1.0000e-004		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	8.4258	8.4258	1.3800e-003	0.0000	8.4603
Total	0.3364	0.0238	0.0653	1.0000e-004		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	8.4258	8.4258	1.3800e-003	0.0000	8.4603

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	1.5700e-003	1.0100e-003	0.0113	4.0000e-005	4.6400e-003	3.0000e-005	4.6700e-003	1.2300e-003	3.0000e-005	1.2600e-003	0.0000	3.5607	3.5607	7.0000e-005	0.0000	3.5624
Total	1.5700e-003	1.0100e-003	0.0113	4.0000e-005	4.6400e-003	3.0000e-005	4.6700e-003	1.2300e-003	3.0000e-005	1.2600e-003	0.0000	3.5607	3.5607	7.0000e-005	0.0000	3.5624

DSP - SubBlock 6 - Santa Clara County, Annual

DSP - SubBlock 6 (TAC)
Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	750.00	Space	0.00	275,000.00	0
Apartments Mid Rise	392.00	Dwelling Unit	4.40	510,000.00	1121
Strip Mall	61.19	1000sqft	0.00	61,185.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 Rate = 290

Land Use - Applicant provided land uses

Construction Phase - Applicant provided construction schedule

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Off-road Equipment - Applicant provided construction equipment and hours, rev construction hours 4.29.2019

Trips and VMT - 2,960tons pavement demo = 592 one-way trips, building const = 280 one-way cement trips, paving = 90cy = 22 one-way asphalt trips, TAC 1 mile trip length

Grading - Grading = 64,789cy export

Vehicle Trips - Vehicle Trips - After reuctions, Res = 3.97, 3.81, 3.50, Retail = 35.26, 33.45, 16.25

Woodstoves - No Wood All Gas

Water And Wastewater - WTP treatment 100% aerobic

Construction Off-road Equipment Mitigation - BMPs, Tier 4 interim mitigation

Energy Mitigation - Green Building Measures - energy efficient lighting, appliances, installing solar panels

Water Mitigation - Green Building Measures - water efficient fixtures and landscaping

Stationary Sources - Emergency Generators and Fire Pumps -

Energy Use -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	13.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
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tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	18.00	145.00
tblConstructionPhase	NumDays	230.00	360.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	8.00	180.00
tblConstructionPhase	NumDays	18.00	20.00
tblConstructionPhase	NumDays	5.00	10.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	58.80	125.44
tblFireplaces	NumberWood	66.64	0.00

tblGrading	AcresOfGrading	202.50	652.50
tblGrading	MaterialExported	0.00	64,789.00
tblLandUse	LandUseSquareFeet	300,000.00	275,000.00
tblLandUse	LandUseSquareFeet	392,000.00	510,000.00
tblLandUse	LandUseSquareFeet	61,190.00	61,185.00
tblLandUse	LotAcreage	6.75	0.00
tblLandUse	LotAcreage	10.32	4.40
tblLandUse	LotAcreage	1.40	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	6.00	3.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblOffRoadEquipment	UsageHours	8.00	2.00

tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblVehicleTrips	ST_TR	6.39	3.81
tblVehicleTrips	ST_TR	42.04	33.45
tblVehicleTrips	SU_TR	5.86	3.50
tblVehicleTrips	SU_TR	20.43	16.25
tblVehicleTrips	WD_TR	6.65	3.97
tblVehicleTrips	WD_TR	44.32	35.26
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.2192	2.7070	1.7270	3.6400e-003	0.5101	0.1004	0.6105	0.1214	0.0926	0.2141	0.0000	324.5020	324.5020	0.0888	0.0000	326.7223
2021	0.3797	3.3651	2.9506	5.5700e-003	0.0523	0.1340	0.1864	0.0143	0.1277	0.1420	0.0000	484.5024	484.5024	0.0816	0.0000	486.5421
2022	3.7216	1.4160	1.5367	2.7800e-003	0.0221	0.0552	0.0773	6.0100e-003	0.0533	0.0593	0.0000	241.9320	241.9320	0.0394	0.0000	242.9167
2023	0.4155	0.0384	0.0638	1.0000e-004	4.7000e-004	1.6300e-003	2.1000e-003	1.3000e-004	1.6100e-003	1.7400e-003	0.0000	8.8937	8.8937	1.4000e-003	0.0000	8.9286
Maximum	3.7216	3.3651	2.9506	5.5700e-003	0.5101	0.1340	0.6105	0.1214	0.1277	0.2141	0.0000	484.5024	484.5024	0.0888	0.0000	486.5421

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	0.0651	1.4669	1.9373	3.6400e-003	0.2341	6.4500e-003	0.2406	0.0291	6.4200e-003	0.0355	0.0000	324.5017	324.5017	0.0888	0.0000	326.7220
2021	0.1529	2.5519	3.1097	5.5700e-003	0.0523	0.0213	0.0737	0.0143	0.0213	0.0355	0.0000	484.5020	484.5020	0.0816	0.0000	486.5417
2022	3.6290	1.2331	1.6388	2.7800e-003	0.0221	0.0156	0.0377	6.0100e-003	0.0155	0.0215	0.0000	241.9318	241.9318	0.0394	0.0000	242.9165
2023	0.4129	0.0427	0.0684	1.0000e-004	4.7000e-004	9.5000e-004	1.4200e-003	1.3000e-004	9.5000e-004	1.0800e-003	0.0000	8.8937	8.8937	1.4000e-003	0.0000	8.9286
Maximum	3.6290	2.5519	3.1097	5.5700e-003	0.2341	0.0213	0.2406	0.0291	0.0213	0.0355	0.0000	484.5020	484.5020	0.0888	0.0000	486.5417

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	10.05	29.65	-7.58	0.00	47.18	84.79	59.68	65.11	83.95	77.54	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-20-2020	4-19-2020	0.7402	0.3759

2	4-20-2020	7-19-2020	0.9000	0.4587
3	7-20-2020	10-19-2020	0.9090	0.4628
4	10-20-2020	1-19-2021	0.5323	0.3584
5	1-20-2021	4-19-2021	0.9137	0.6598
6	4-20-2021	7-19-2021	0.9282	0.6714
7	7-20-2021	10-19-2021	0.9373	0.6777
8	10-20-2021	1-19-2022	0.9174	0.6714
9	1-20-2022	4-19-2022	0.8402	0.6510
10	4-20-2022	7-19-2022	0.5077	0.4710
11	7-20-2022	10-19-2022	2.0022	1.9968
12	10-20-2022	1-19-2023	1.9991	1.9964
13	1-20-2023	4-19-2023	0.0216	0.0217
		Highest	2.0022	1.9968

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/20/2020	2/7/2020	5	15	
2	Site Preparation	Site Preparation	2/10/2020	2/21/2020	5	10	
3	Grading	Grading	2/24/2020	10/30/2020	5	180	
4	Trenching	Trenching	11/2/2020	12/11/2020	5	30	
5	Building Construction	Building Construction	12/21/2020	5/6/2022	5	360	
6	Paving	Paving	12/21/2020	1/15/2021	5	20	
7	Architectural Coating	Architectural Coating	7/4/2022	1/20/2023	5	145	

Acres of Grading (Site Preparation Phase): 10

Acres of Grading (Grading Phase): 652.5

Acres of Paving: 0

Residential Indoor: 1,032,750; Residential Outdoor: 344,250; Non-Residential Indoor: 91,778; Non-Residential Outdoor: 30,593; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	2	2.00	81	0.73
Demolition	Excavators	2	5.00	158	0.38
Demolition	Rubber Tired Dozers	2	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Site Preparation	Graders	2	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	3.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Grading	Excavators	4	2.00	158	0.38
Grading	Graders	2	1.00	187	0.41
Grading	Rubber Tired Dozers	1	2.00	247	0.40
Grading	Scrapers	4	2.00	367	0.48
Grading	Sweepers/Scrubbers	1	1.00	64	0.46
Grading	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Trenching	Excavators	2	4.00	158	0.38
Trenching	Tractors/Loaders/Backhoes	2	2.00	97	0.37
Building Construction	Cranes	2	4.00	231	0.29
Building Construction	Forklifts	4	4.00	89	0.20
Building Construction	Generator Sets	3	3.00	84	0.74
Building Construction	Pumps	2	1.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	4	4.00	97	0.37
Building Construction	Welders	4	5.00	46	0.45
Paving	Cement and Mortar Mixers	1	3.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	6.00	132	0.36
Paving	Rollers	1	4.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	3.00	97	0.37
Architectural Coating	Aerial Lifts	4	6.00	63	0.31
Architectural Coating	Air Compressors	4	4.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	8	20.00	0.00	592.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	5	13.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Grading	14	35.00	0.00	8,099.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Trenching	4	10.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Building Construction	19	417.00	97.00	280.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	8	83.00	0.00	22.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.4600e-003	0.0720	0.0693	1.1000e-004		3.8800e-003	3.8800e-003		3.6300e-003	3.6300e-003	0.0000	9.7233	9.7233	2.6200e-003	0.0000	9.7888
Total	7.4600e-003	0.0720	0.0693	1.1000e-004		3.8800e-003	3.8800e-003		3.6300e-003	3.6300e-003	0.0000	9.7233	9.7233	2.6200e-003	0.0000	9.7888

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.4000e-004	0.0305	4.9800e-003	4.0000e-005	2.6000e-004	3.0000e-005	2.9000e-004	7.0000e-005	3.0000e-005	1.0000e-004	0.0000	3.8445	3.8445	4.1000e-004	0.0000	3.8547
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	1.7000e-004	8.0000e-005	9.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1220	0.1220	1.0000e-005	0.0000	0.1221
Total	8.1000e-004	0.0306	5.9600e-003	4.0000e-005	3.7000e-004	3.0000e-005	4.0000e-004	1.0000e-004	3.0000e-005	1.3000e-004	0.0000	3.9664	3.9664	4.2000e-004	0.0000	3.9768

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.8100e-003	0.0441	0.0773	1.1000e-004		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	9.7233	9.7233	2.6200e-003	0.0000	9.7888
Total	1.8100e-003	0.0441	0.0773	1.1000e-004		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	9.7233	9.7233	2.6200e-003	0.0000	9.7888

Mitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.4700e-003	0.0000	7.4700e-003	1.5300e-003	0.0000	1.5300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6900e-003	0.0284	0.0554	1.0000e-004		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	8.6022	8.6022	2.7800e-003	0.0000	8.6717
Total	1.6900e-003	0.0284	0.0554	1.0000e-004	7.4700e-003	1.6000e-004	7.6300e-003	1.5300e-003	1.6000e-004	1.6900e-003	0.0000	8.6022	8.6022	2.7800e-003	0.0000	8.6717

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	3.0000e-005	4.3000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0529	0.0529	0.0000	0.0000	0.0529
Total	7.0000e-005	3.0000e-005	4.3000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0529	0.0529	0.0000	0.0000	0.0529

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4852	0.0000	0.4852	0.1124	0.0000	0.1124	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1683	1.8878	1.3267	2.4800e-003		0.0829	0.0829		0.0763	0.0763	0.0000	217.6854	217.6854	0.0704	0.0000	219.4455
Total	0.1683	1.8878	1.3267	2.4800e-003	0.4852	0.0829	0.5680	0.1124	0.0763	0.1887	0.0000	217.6854	217.6854	0.0704	0.0000	219.4455

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	8.8000e-003	0.4176	0.0682	5.4000e-004	3.5100e-003	3.9000e-004	3.9100e-003	9.7000e-004	3.8000e-004	1.3500e-003	0.0000	52.5949	52.5949	5.5900e-003	0.0000	52.7347
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	3.4900e-003	1.6000e-003	0.0207	3.0000e-005	2.3400e-003	3.0000e-005	2.3700e-003	6.3000e-004	3.0000e-005	6.6000e-004	0.0000	2.5616	2.5616	1.1000e-004	0.0000	2.5644
Total	0.0123	0.4192	0.0888	5.7000e-004	5.8500e-003	4.2000e-004	6.2800e-003	1.6000e-003	4.1000e-004	2.0100e-003	0.0000	55.1565	55.1565	5.7000e-003	0.0000	55.2991

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	tons/yr										MT/yr					
Fugitive Dust					0.2183	0.0000	0.2183	0.0253	0.0000	0.0253	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0406	0.7934	1.4931	2.4800e-003		4.6700e-003	4.6700e-003		4.6700e-003	4.6700e-003	0.0000	217.6851	217.6851	0.0704	0.0000	219.4452
Total	0.0406	0.7934	1.4931	2.4800e-003	0.2183	4.6700e-003	0.2230	0.0253	4.6700e-003	0.0300	0.0000	217.6851	217.6851	0.0704	0.0000	219.4452

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	8.8000e-003	0.4176	0.0682	5.4000e-004	3.5100e-003	3.9000e-004	3.9100e-003	9.7000e-004	3.8000e-004	1.3500e-003	0.0000	52.5949	52.5949	5.5900e-003	0.0000	52.7347
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	3.4900e-003	1.6000e-003	0.0207	3.0000e-005	2.3400e-003	3.0000e-005	2.3700e-003	6.3000e-004	3.0000e-005	6.6000e-004	0.0000	2.5616	2.5616	1.1000e-004	0.0000	2.5644
Total	0.0123	0.4192	0.0888	5.7000e-004	5.8500e-003	4.2000e-004	6.2800e-003	1.6000e-003	4.1000e-004	2.0100e-003	0.0000	55.1565	55.1565	5.7000e-003	0.0000	55.2991

3.5 Trenching - 2020

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.2500e-003	0.0520	0.0661	1.0000e-004		2.7500e-003	2.7500e-003		2.5300e-003	2.5300e-003	0.0000	8.8519	8.8519	2.8600e-003	0.0000	8.9235
Total	5.2500e-003	0.0520	0.0661	1.0000e-004		2.7500e-003	2.7500e-003		2.5300e-003	2.5300e-003	0.0000	8.8519	8.8519	2.8600e-003	0.0000	8.9235

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	1.7000e-004	8.0000e-005	9.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1220	0.1220	1.0000e-005	0.0000	0.1221
Total	1.7000e-004	8.0000e-005	9.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1220	0.1220	1.0000e-005	0.0000	0.1221

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.4800e-003	0.0443	0.0763	1.0000e-004		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	8.8519	8.8519	2.8600e-003	0.0000	8.9235
Total	1.4800e-003	0.0443	0.0763	1.0000e-004		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	8.8519	8.8519	2.8600e-003	0.0000	8.9235

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	1.7000e-004	8.0000e-005	9.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1220	0.1220	1.0000e-005	0.0000	0.1221
Total	1.7000e-004	8.0000e-005	9.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1220	0.1220	1.0000e-005	0.0000	0.1221

3.6 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0116	0.0941	0.0835	1.4000e-004		5.2700e-003	5.2700e-003		5.0300e-003	5.0300e-003	0.0000	11.5602	11.5602	2.4400e-003	0.0000	11.6210
Total	0.0116	0.0941	0.0835	1.4000e-004		5.2700e-003	5.2700e-003		5.0300e-003	5.0300e-003	0.0000	11.5602	11.5602	2.4400e-003	0.0000	11.6210

Unmitigated Construction Off-Site

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

Hauling	1.0000e-005	3.6000e-004	6.0000e-005	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0455	0.0455	0.0000	0.0000	0.0456
Vendor	8.2000e-004	0.0292	8.1000e-003	4.0000e-005	4.0000e-004	5.0000e-005	4.5000e-004	1.2000e-004	5.0000e-005	1.6000e-004	0.0000	3.5041	3.5041	3.4000e-004	0.0000	3.5127
Worker	2.0800e-003	9.5000e-004	0.0123	2.0000e-005	1.3900e-003	2.0000e-005	1.4100e-003	3.7000e-004	2.0000e-005	3.9000e-004	0.0000	1.5260	1.5260	7.0000e-005	0.0000	1.5276
Total	2.9100e-003	0.0305	0.0205	6.0000e-005	1.8800e-003	7.0000e-005	1.9500e-003	5.1000e-004	7.0000e-005	5.7000e-004	0.0000	5.0756	5.0756	4.1000e-004	0.0000	5.0859

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.6000e-003	0.0583	0.0873	1.4000e-004		6.9000e-004	6.9000e-004		6.9000e-004	6.9000e-004	0.0000	11.5602	11.5602	2.4400e-003	0.0000	11.6210
Total	2.6000e-003	0.0583	0.0873	1.4000e-004		6.9000e-004	6.9000e-004		6.9000e-004	6.9000e-004	0.0000	11.5602	11.5602	2.4400e-003	0.0000	11.6210

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	3.6000e-004	6.0000e-005	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0455	0.0455	0.0000	0.0000	0.0456
Vendor	8.2000e-004	0.0292	8.1000e-003	4.0000e-005	4.0000e-004	5.0000e-005	4.5000e-004	1.2000e-004	5.0000e-005	1.6000e-004	0.0000	3.5041	3.5041	3.4000e-004	0.0000	3.5127
Worker	2.0800e-003	9.5000e-004	0.0123	2.0000e-005	1.3900e-003	2.0000e-005	1.4100e-003	3.7000e-004	2.0000e-005	3.9000e-004	0.0000	1.5260	1.5260	7.0000e-005	0.0000	1.5276
Total	2.9100e-003	0.0305	0.0205	6.0000e-005	1.8800e-003	7.0000e-005	1.9500e-003	5.1000e-004	7.0000e-005	5.7000e-004	0.0000	5.0756	5.0756	4.1000e-004	0.0000	5.0859

3.6 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3001	2.4972	2.3773	3.9800e-003		0.1313	0.1313		0.1252	0.1252	0.0000	335.2699	335.2699	0.0690	0.0000	336.9951
Total	0.3001	2.4972	2.3773	3.9800e-003		0.1313	0.1313		0.1252	0.1252	0.0000	335.2699	335.2699	0.0690	0.0000	336.9951

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	2.1000e-004	0.0101	1.6500e-003	1.0000e-005	1.1000e-004	1.0000e-005	1.2000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	1.3044	1.3044	1.3000e-004	0.0000	1.3077
Vendor	0.0214	0.8048	0.2168	1.0500e-003	0.0117	6.8000e-004	0.0124	3.4100e-003	6.5000e-004	4.0600e-003	0.0000	100.6506	100.6506	9.3400e-003	0.0000	100.8841
Worker	0.0551	0.0243	0.3216	4.8000e-004	0.0405	5.4000e-004	0.0410	0.0108	5.0000e-004	0.0113	0.0000	42.7509	42.7509	1.6800e-003	0.0000	42.7929
Total	0.0767	0.8392	0.5400	1.5400e-003	0.0523	1.2300e-003	0.0535	0.0143	1.1600e-003	0.0154	0.0000	144.7059	144.7059	0.0112	0.0000	144.9847

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	0.0755	1.6907	2.5315	3.9800e-003		0.0200	0.0200		0.0200	0.0200	0.0000	335.2695	335.2695	0.0690	0.0000	336.9947
Total	0.0755	1.6907	2.5315	3.9800e-003		0.0200	0.0200		0.0200	0.0200	0.0000	335.2695	335.2695	0.0690	0.0000	336.9947

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	2.1000e-004	0.0101	1.6500e-003	1.0000e-005	1.1000e-004	1.0000e-005	1.2000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	1.3044	1.3044	1.3000e-004	0.0000	1.3077
Vendor	0.0214	0.8048	0.2168	1.0500e-003	0.0117	6.8000e-004	0.0124	3.4100e-003	6.5000e-004	4.0600e-003	0.0000	100.6506	100.6506	9.3400e-003	0.0000	100.8841
Worker	0.0551	0.0243	0.3216	4.8000e-004	0.0405	5.4000e-004	0.0410	0.0108	5.0000e-004	0.0113	0.0000	42.7509	42.7509	1.6800e-003	0.0000	42.7929
Total	0.0767	0.8392	0.5400	1.5400e-003	0.0523	1.2300e-003	0.0535	0.0143	1.1600e-003	0.0154	0.0000	144.7059	144.7059	0.0112	0.0000	144.9847

3.6 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0936	0.7803	0.8093	1.3700e-003		0.0386	0.0386		0.0368	0.0368	0.0000	115.6417	115.6417	0.0235	0.0000	116.2282

Total	0.0936	0.7803	0.8093	1.3700e-003		0.0386	0.0386		0.0368	0.0368	0.0000	115.6417	115.6417	0.0235	0.0000	116.2282
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Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.0000e-005	3.3400e-003	5.5000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	2.0000e-005	0.0000	3.0000e-005	0.0000	0.4452	0.4452	4.0000e-005	0.0000	0.4462
Vendor	6.8200e-003	0.2685	0.0697	3.6000e-004	4.0300e-003	2.0000e-004	4.2300e-003	1.1800e-003	1.9000e-004	1.3700e-003	0.0000	34.3930	34.3930	3.0200e-003	0.0000	34.4687
Worker	0.0174	7.4300e-003	0.1005	1.6000e-004	0.0140	1.8000e-004	0.0141	3.7300e-003	1.7000e-004	3.9000e-003	0.0000	14.2157	14.2157	5.1000e-004	0.0000	14.2285
Total	0.0243	0.2793	0.1707	5.2000e-004	0.0181	3.8000e-004	0.0185	4.9300e-003	3.6000e-004	5.3000e-003	0.0000	49.0538	49.0538	3.5700e-003	0.0000	49.1434

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	0.0260	0.5830	0.8730	1.3700e-003		6.9100e-003	6.9100e-003		6.9100e-003	6.9100e-003	0.0000	115.6416	115.6416	0.0235	0.0000	116.2281
Total	0.0260	0.5830	0.8730	1.3700e-003		6.9100e-003	6.9100e-003		6.9100e-003	6.9100e-003	0.0000	115.6416	115.6416	0.0235	0.0000	116.2281

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.0000e-005	3.3400e-003	5.5000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	2.0000e-005	0.0000	3.0000e-005	0.0000	0.4452	0.4452	4.0000e-005	0.0000	0.4462
Vendor	6.8200e-003	0.2685	0.0697	3.6000e-004	4.0300e-003	2.0000e-004	4.2300e-003	1.1800e-003	1.9000e-004	1.3700e-003	0.0000	34.3930	34.3930	3.0200e-003	0.0000	34.4687
Worker	0.0174	7.4300e-003	0.1005	1.6000e-004	0.0140	1.8000e-004	0.0141	3.7300e-003	1.7000e-004	3.9000e-003	0.0000	14.2157	14.2157	5.1000e-004	0.0000	14.2285
Total	0.0243	0.2793	0.1707	5.2000e-004	0.0181	3.8000e-004	0.0185	4.9300e-003	3.6000e-004	5.3000e-003	0.0000	49.0538	49.0538	3.5700e-003	0.0000	49.1434

3.7 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.5100e-003	0.0256	0.0270	4.0000e-005		1.3700e-003	1.3700e-003		1.2600e-003	1.2600e-003	0.0000	3.6582	3.6582	1.1700e-003	0.0000	3.6874
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.5100e-003	0.0256	0.0270	4.0000e-005		1.3700e-003	1.3700e-003		1.2600e-003	1.2600e-003	0.0000	3.6582	3.6582	1.1700e-003	0.0000	3.6874

Unmitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	3.0000e-005	3.8000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0476	0.0476	0.0000	0.0000	0.0476
Total	6.0000e-005	3.0000e-005	3.8000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0476	0.0476	0.0000	0.0000	0.0476

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	6.1000e-004	0.0179	0.0309	4.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	3.6582	3.6582	1.1700e-003	0.0000	3.6874
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	6.1000e-004	0.0179	0.0309	4.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	3.6582	3.6582	1.1700e-003	0.0000	3.6874

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	3.0000e-005	3.8000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0476	0.0476	0.0000	0.0000	0.0476
Total	6.0000e-005	3.0000e-005	3.8000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0476	0.0476	0.0000	0.0000	0.0476

3.7 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	2.8400e-003	0.0287	0.0329	5.0000e-005		1.5000e-003	1.5000e-003		1.3800e-003	1.3800e-003	0.0000	4.4704	4.4704	1.4300e-003	0.0000	4.5061
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.8400e-003	0.0287	0.0329	5.0000e-005		1.5000e-003	1.5000e-003		1.3800e-003	1.3800e-003	0.0000	4.4704	4.4704	1.4300e-003	0.0000	4.5061

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	3.0000e-005	4.2000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0562	0.0562	0.0000	0.0000	0.0562
Total	7.0000e-005	3.0000e-005	4.2000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0562	0.0562	0.0000	0.0000	0.0562

Mitigated Construction On-Site

Off-Road	0.0425	0.3534	0.5277	8.4000e-004		0.0162	0.0162		0.0160	0.0160	0.0000	73.0240	73.0240	0.0122	0.0000	73.3287
Total	3.5987	0.3534	0.5277	8.4000e-004		0.0162	0.0162		0.0160	0.0160	0.0000	73.0240	73.0240	0.0122	0.0000	73.3287

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	2.0000e-005	9.4000e-004	1.6000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.1254	0.1254	1.0000e-005	0.0000	0.1257
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0100e-003	2.1400e-003	0.0289	5.0000e-005	4.0100e-003	5.0000e-005	4.0600e-003	1.0700e-003	5.0000e-005	1.1200e-003	0.0000	4.0871	4.0871	1.5000e-004	0.0000	4.0907
Total	5.0300e-003	3.0800e-003	0.0290	5.0000e-005	4.0200e-003	5.0000e-005	4.0700e-003	1.0700e-003	5.0000e-005	1.1200e-003	0.0000	4.2125	4.2125	1.6000e-004	0.0000	4.2165

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	3.5562					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0175	0.3677	0.5661	8.4000e-004		8.2100e-003	8.2100e-003		8.2100e-003	8.2100e-003	0.0000	73.0239	73.0239	0.0122	0.0000	73.3286
Total	3.5737	0.3677	0.5661	8.4000e-004		8.2100e-003	8.2100e-003		8.2100e-003	8.2100e-003	0.0000	73.0239	73.0239	0.0122	0.0000	73.3286

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	2.0000e-005	9.4000e-004	1.6000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.1254	0.1254	1.0000e-005	0.0000	0.1257
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0100e-003	2.1400e-003	0.0289	5.0000e-005	4.0100e-003	5.0000e-005	4.0600e-003	1.0700e-003	5.0000e-005	1.1200e-003	0.0000	4.0871	4.0871	1.5000e-004	0.0000	4.0907
Total	5.0300e-003	3.0800e-003	0.0290	5.0000e-005	4.0200e-003	5.0000e-005	4.0700e-003	1.0700e-003	5.0000e-005	1.1200e-003	0.0000	4.2125	4.2125	1.6000e-004	0.0000	4.2165

3.8 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4103					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.6100e-003	0.0381	0.0608	1.0000e-004		1.6200e-003	1.6200e-003		1.6100e-003	1.6100e-003	0.0000	8.4259	8.4259	1.3800e-003	0.0000	8.4603
Total	0.4149	0.0381	0.0608	1.0000e-004		1.6200e-003	1.6200e-003		1.6100e-003	1.6100e-003	0.0000	8.4259	8.4259	1.3800e-003	0.0000	8.4603

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	9.0000e-005	2.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0139	0.0139	0.0000	0.0000	0.0139
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3000e-004	2.2000e-004	3.0300e-003	1.0000e-005	4.6000e-004	1.0000e-005	4.7000e-004	1.2000e-004	1.0000e-005	1.3000e-004	0.0000	0.4540	0.4540	2.0000e-005	0.0000	0.4543
Total	5.3000e-004	3.1000e-004	3.0500e-003	1.0000e-005	4.7000e-004	1.0000e-005	4.8000e-004	1.2000e-004	1.0000e-005	1.3000e-004	0.0000	0.4679	0.4679	2.0000e-005	0.0000	0.4683

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	0.4103					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0200e-003	0.0424	0.0653	1.0000e-004		9.5000e-004	9.5000e-004		9.5000e-004	9.5000e-004	0.0000	8.4258	8.4258	1.3800e-003	0.0000	8.4603
Total	0.4124	0.0424	0.0653	1.0000e-004		9.5000e-004	9.5000e-004		9.5000e-004	9.5000e-004	0.0000	8.4258	8.4258	1.3800e-003	0.0000	8.4603

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	9.0000e-005	2.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0139	0.0139	0.0000	0.0000	0.0139
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3000e-004	2.2000e-004	3.0300e-003	1.0000e-005	4.6000e-004	1.0000e-005	4.7000e-004	1.2000e-004	1.0000e-005	1.3000e-004	0.0000	0.4540	0.4540	2.0000e-005	0.0000	0.4543
Total	5.3000e-004	3.1000e-004	3.0500e-003	1.0000e-005	4.7000e-004	1.0000e-005	4.8000e-004	1.2000e-004	1.0000e-005	1.3000e-004	0.0000	0.4679	0.4679	2.0000e-005	0.0000	0.4683

DSP - Existing - Santa Clara County, Annual

**DSP - Existing
Santa Clara County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	8.00	1000sqft	0.18	8,000.00	0
Apartments Mid Rise	20.00	Dwelling Unit	0.53	20,000.00	57
Strip Mall	181.00	1000sqft	4.16	181,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Applicant provided land uses

Construction Phase - Existing Use no construction

Off-road Equipment - existing use no construction

Vehicle Trips - Vehicle Trips - After reuctions, Res = 4, 3.84, 3.52, Office = 8.75, 1.95, 0.83, Retail = 37.66, 35.72, 17.40

Woodstoves - No wood all gas

Energy Use - Using historical data

Water And Wastewater - WTP treatment 100% aerobic

Energy Mitigation - 90% SVCE

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	1.00
tblEnergyUse	LightingElect	4.72	3.88
tblEnergyUse	LightingElect	6.02	5.25
tblEnergyUse	NT24E	2,558.55	3,054.10
tblEnergyUse	NT24NG	1,735.98	3,155.00
tblEnergyUse	T24E	282.15	332.81
tblEnergyUse	T24E	8.01	6.11
tblEnergyUse	T24E	3.55	2.76
tblEnergyUse	T24NG	6,872.73	5,484.45
tblEnergyUse	T24NG	19.90	16.31
tblEnergyUse	T24NG	2.92	2.37
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	3.00	6.40
tblFireplaces	NumberWood	3.40	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblVehicleTrips	ST_TR	6.39	3.84
tblVehicleTrips	ST_TR	2.46	1.95
tblVehicleTrips	ST_TR	42.04	35.72
tblVehicleTrips	SU_TR	5.86	3.52
tblVehicleTrips	SU_TR	1.05	0.83
tblVehicleTrips	SU_TR	20.43	17.40
tblVehicleTrips	WD_TR	6.65	4.00
tblVehicleTrips	WD_TR	11.03	8.75

tblVehicleTrips	WD_TR	44.32	37.66
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.2 Overall Operational Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.9336	2.4200e-003	0.1505	1.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004	0.0000	1.0449	1.0449	2.6000e-004	1.0000e-005	1.0557
Energy	3.9500e-003	0.0354	0.0264	2.2000e-004		2.7300e-003	2.7300e-003		2.7300e-003	2.7300e-003	0.0000	667.4977	667.4977	0.0292	6.6000e-003	670.1923
Mobile	1.1326	4.1317	11.2862	0.0386	3.6889	0.0311	3.7200	0.9874	0.0289	1.0163	0.0000	3,543.1133	3,543.1133	0.1191	0.0000	3,546.0897
Waste						0.0000	0.0000		0.0000	0.0000	41.9562	0.0000	41.9562	2.4795	0.0000	103.9447
Water						0.0000	0.0000		0.0000	0.0000	5.7076	35.4844	41.1919	0.0213	0.0127	45.5209
Total	2.0701	4.1696	11.4631	0.0389	3.6889	0.0347	3.7236	0.9874	0.0325	1.0199	47.6638	4,247.1403	4,294.8040	2.6493	0.0194	4,366.8032

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	0.9336	2.4200e-003	0.1505	1.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004	0.0000	1.0449	1.0449	2.6000e-004	1.0000e-005	1.0557
Energy	3.9500e-003	0.0354	0.0264	2.2000e-004		2.7300e-003	2.7300e-003		2.7300e-003	2.7300e-003	0.0000	101.9404	101.9404	3.5900e-003	1.3000e-003	102.4190
Mobile	1.1326	4.1317	11.2862	0.0386	3.6889	0.0311	3.7200	0.9874	0.0289	1.0163	0.0000	3,543.1133	3,543.1133	0.1191	0.0000	3,546.0897
Waste						0.0000	0.0000		0.0000	0.0000	41.9562	0.0000	41.9562	2.4795	0.0000	103.9447
Water						0.0000	0.0000		0.0000	0.0000	5.7076	35.4844	41.1919	0.0213	0.0127	45.5209
Total	2.0701	4.1696	11.4631	0.0389	3.6889	0.0347	3.7236	0.9874	0.0325	1.0199	47.6638	3,681.5830	3,729.2468	2.6237	0.0141	3,799.0299

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.32	13.17	0.97	27.39	13.00

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	1.1326	4.1317	11.2862	0.0386	3.6889	0.0311	3.7200	0.9874	0.0289	1.0163	0.0000	3,543.1133	3,543.1133	0.1191	0.0000	3,546.0897
Unmitigated	1.1326	4.1317	11.2862	0.0386	3.6889	0.0311	3.7200	0.9874	0.0289	1.0163	0.0000	3,543.1133	3,543.1133	0.1191	0.0000	3,546.0897

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	80.00	76.80	70.40	180,545	180,545
General Office Building	70.00	15.60	6.64	127,080	127,080
Strip Mall	6,816.46	6,465.32	3149.40	9,613,551	9,613,551
Total	6,966.46	6,557.72	3,226.44	9,921,176	9,921,176

4.3 Trip Type Information

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

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.614951	0.035734	0.181842	0.104158	0.013506	0.005015	0.012793	0.021727	0.002177	0.001514	0.005249	0.000632	0.000704
General Office Building	0.614951	0.035734	0.181842	0.104158	0.013506	0.005015	0.012793	0.021727	0.002177	0.001514	0.005249	0.000632	0.000704
Strip Mall	0.614951	0.035734	0.181842	0.104158	0.013506	0.005015	0.012793	0.021727	0.002177	0.001514	0.005249	0.000632	0.000704

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable Energy

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

Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	62.8397	62.8397	2.8400e-003	5.9000e-004	63.0859
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	628.3970	628.3970	0.0284	5.8800e-003	630.8592
NaturalGas Mitigated	3.9500e-003	0.0354	0.0264	2.2000e-004		2.7300e-003	2.7300e-003		2.7300e-003	2.7300e-003	0.0000	39.1007	39.1007	7.5000e-004	7.2000e-004	39.3330
NaturalGas Unmitigated	3.9500e-003	0.0354	0.0264	2.2000e-004		2.7300e-003	2.7300e-003		2.7300e-003	2.7300e-003	0.0000	39.1007	39.1007	7.5000e-004	7.2000e-004	39.3330

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	172789	9.3000e-004	7.9600e-003	3.3900e-003	5.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	9.2207	9.2207	1.8000e-004	1.7000e-004	9.2755
General Office Building	130960	7.1000e-004	6.4200e-003	5.3900e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	6.9885	6.9885	1.3000e-004	1.3000e-004	7.0301
Strip Mall	428970	2.3100e-003	0.0210	0.0177	1.3000e-004		1.6000e-003	1.6000e-003		1.6000e-003	1.6000e-003	0.0000	22.8915	22.8915	4.4000e-004	4.2000e-004	23.0275
Total		3.9500e-003	0.0354	0.0264	2.2000e-004		2.7300e-003	2.7300e-003		2.7300e-003	2.7300e-003	0.0000	39.1007	39.1007	7.5000e-004	7.2000e-004	39.3330

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	172789	9.3000e-004	7.9600e-003	3.3900e-003	5.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	9.2207	9.2207	1.8000e-004	1.7000e-004	9.2755
General Office Building	130960	7.1000e-004	6.4200e-003	5.3900e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	6.9885	6.9885	1.3000e-004	1.3000e-004	7.0301
Strip Mall	428970	2.3100e-003	0.0210	0.0177	1.3000e-004		1.6000e-003	1.6000e-003		1.6000e-003	1.6000e-003	0.0000	22.8915	22.8915	4.4000e-004	4.2000e-004	23.0275

Total		3.9500e-003	0.0354	0.0264	2.2000e-004		2.7300e-003	2.7300e-003		2.7300e-003	2.7300e-003	0.0000	39.1007	39.1007	7.5000e-004	7.2000e-004	39.3330
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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	82567	24.0197	1.0900e-003	2.2000e-004	24.1138
General Office Building	142640	41.4956	1.8800e-003	3.9000e-004	41.6582
Strip Mall	1.93489e+006	562.8817	0.0255	5.2700e-003	565.0872
Total		628.3970	0.0284	5.8800e-003	630.8592

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	8256.7	2.4020	1.1000e-004	2.0000e-005	2.4114
General Office Building	14264	4.1496	1.9000e-004	4.0000e-005	4.1658
Strip Mall	193489	56.2882	2.5500e-003	5.3000e-004	56.5087
Total		62.8397	2.8500e-003	5.9000e-004	63.0859

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	0.9336	2.4200e-003	0.1505	1.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004	0.0000	1.0449	1.0449	2.6000e-004	1.0000e-005	1.0557
Unmitigated	0.9336	2.4200e-003	0.1505	1.0000e-005		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004	0.0000	1.0449	1.0449	2.6000e-004	1.0000e-005	1.0557

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1126					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8163					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	8.0000e-005	6.9000e-004	2.9000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.7990	0.7990	2.0000e-005	1.0000e-005	0.8037
Landscaping	4.6200e-003	1.7300e-003	0.1502	1.0000e-005		8.3000e-004	8.3000e-004		8.3000e-004	8.3000e-004	0.0000	0.2460	0.2460	2.4000e-004	0.0000	0.2520
Total	0.9336	2.4200e-003	0.1505	1.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004	0.0000	1.0449	1.0449	2.6000e-004	1.0000e-005	1.0557

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1126					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.8163					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	8.0000e-005	6.9000e-004	2.9000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.7990	0.7990	2.0000e-005	1.0000e-005	0.8037
Landscaping	4.6200e-003	1.7300e-003	0.1502	1.0000e-005		8.3000e-004	8.3000e-004		8.3000e-004	8.3000e-004	0.0000	0.2460	0.2460	2.4000e-004	0.0000	0.2520
Total	0.9336	2.4200e-003	0.1505	1.0000e-005		8.9000e-004	8.9000e-004		8.9000e-004	8.9000e-004	0.0000	1.0449	1.0449	2.6000e-004	1.0000e-005	1.0557

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	41.1919	0.0213	0.0127	45.5209
Unmitigated	41.1919	0.0213	0.0127	45.5209

7.2 Water by Land Use

Unmitigated

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

Apartments Mid Rise	1.30308 / 0.821507	3.3487	1.7200e-003	1.0300e-003	3.6985
General Office Building	1.42187 / 0.871469	3.6286	1.8700e-003	1.1200e-003	4.0101
Strip Mall	13.4071 / 8.21727	34.2147	0.0177	0.0106	37.8123
Total		41.1919	0.0213	0.0127	45.5209

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	1.30308 / 0.821507	3.3487	1.7200e-003	1.0300e-003	3.6985
General Office Building	1.42187 / 0.871469	3.6286	1.8700e-003	1.1200e-003	4.0101
Strip Mall	13.4071 / 8.21727	34.2147	0.0177	0.0106	37.8123
Total		41.1919	0.0213	0.0127	45.5209

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			

Mitigated	41.9562	2.4795	0.0000	103.9447
Unmitigated	41.9562	2.4795	0.0000	103.9447

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	9.2	1.8675	0.1104	0.0000	4.6267
General Office Building	7.44	1.5103	0.0893	0.0000	3.7416
Strip Mall	190.05	38.5784	2.2799	0.0000	95.5764
Total		41.9562	2.4795	0.0000	103.9447

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	9.2	1.8675	0.1104	0.0000	4.6267
General Office Building	7.44	1.5103	0.0893	0.0000	3.7416
Strip Mall	190.05	38.5784	2.2799	0.0000	95.5764
Total		41.9562	2.4795	0.0000	103.9447

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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DSP - Full Buildout with Generators, Rev 9.2019 - Santa Clara County, Annual

DSP - Full Buildout with Generators, Rev 9.2019
Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	860.62	1000sqft	19.76	860,624.00	0
Enclosed Parking with Elevator	2,792.00	Space	25.13	1,116,800.00	0
Parking Lot	28.00	Space	0.25	11,200.00	0
Apartments Mid Rise	843.00	Dwelling Unit	22.18	981,575.00	2411
Strip Mall	260.06	1000sqft	5.97	260,063.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 = 290

Land Use - Applicant provided land use, default sqft for paking

Construction Phase - Operational model output no construction needed

Off-road Equipment - no construction equipment

Vehicle Trips - After reductions, Res = 3.97, 3.81, 3.50, Office = 9.01, 2.01, 0.86, Retail = 35.26, 33.45, 16.25

Woodstoves - No Wood all gas

Consumer Products - 0.0000175 factor for SC County

Energy Use -

Water And Wastewater - WTP Treatment 100% aerobic

Area Mitigation -

Energy Mitigation - Green Building Measures - energy efficient lighting, appliances, installing solar panels, 90% represents SVCE and is a conservative estimate

Water Mitigation - Green Building Measures - water efficient fixtures and landscaping

Stationary Sources - Emergency Generators and Fire Pumps - Altair- 150kw 185hp gen, Mathilda- 100kw 152hp gen, Macys- 2 150kw 240hp gens, Redwood - 1 000kw 1 500hp gen, Murphy - 150kw 555hp gen

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	40.00	0.00
tblConstructionPhase	PhaseEndDate	2/25/2020	12/31/2019
tblConsumerProducts	ROG_EF	2.14E-05	1.75E-05
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	126.45	269.76
tblFireplaces	NumberWood	143.31	0.00
tblLandUse	LandUseSquareFeet	860,620.00	860,624.00
tblLandUse	LandUseSquareFeet	843,000.00	981,575.00
tblLandUse	LandUseSquareFeet	260,060.00	260,063.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	152.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,528.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	185.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	240.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	240.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	555.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00

tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblVehicleTrips	ST_TR	6.39	3.81
tblVehicleTrips	ST_TR	2.46	2.01
tblVehicleTrips	ST_TR	42.04	33.45
tblVehicleTrips	SU_TR	5.86	3.50
tblVehicleTrips	SU_TR	1.05	0.86
tblVehicleTrips	SU_TR	20.43	16.25
tblVehicleTrips	WD_TR	6.65	3.97
tblVehicleTrips	WD_TR	11.03	9.01
tblVehicleTrips	WD_TR	44.32	35.26
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	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	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
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

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	8.2808	0.1015	6.3053	5.2000e-004		0.0372	0.0372		0.0372	0.0372	0.0000	43.9716	43.9716	0.0106	6.2000e-004	44.4216
Energy	0.1186	1.0564	0.7483	6.4700e-003		0.0819	0.0819		0.0819	0.0819	0.0000	4,876.7243	4,876.7243	0.3928	0.0981	4,915.79
Mobile	3.3313	12.5551	36.5451	0.1317	12.8518	0.1039	12.9557	3.4399	0.0967	3.5366	0.0000	12,077.5018	12,077.5018	0.3863	0.0000	12,087.16
Stationary	0.1190	0.4377	0.3101	5.7000e-004		0.0175	0.0175		0.0175	0.0175	0.0000	55.2156	55.2156	7.7400e-003	0.0000	55.4091
Waste						0.0000	0.0000		0.0000	0.0000	296.6145	0.0000	296.6145	17.5294	0.0000	734.8498
Water						0.0000	0.0000		0.0000	0.0000	80.3658	226.2187	306.5845	0.2992	0.1795	367.5413
Total	11.8496	14.1506	43.9088	0.1393	12.8518	0.2405	13.0923	3.4399	0.2333	3.6732	376.9803	17,279.6320	17,656.6123	18.6261	0.2782	18,205.1689

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	8.2808	0.1015	6.3053	5.2000e-004		0.0372	0.0372		0.0372	0.0372	0.0000	43.9716	43.9716	0.0106	6.2000e-004	44.4216
Energy	0.1186	1.0564	0.7483	6.4700e-003		0.0819	0.0819		0.0819	0.0819	0.0000	1,495.7577	1,495.7577	0.0547	0.0282	1,505.52
Mobile	3.3313	12.5551	36.5451	0.1317	12.8518	0.1039	12.9557	3.4399	0.0967	3.5366	0.0000	12,077.5018	12,077.5018	0.3863	0.0000	12,087.16
Stationary	0.1190	0.4377	0.3101	5.7000e-004		0.0175	0.0175		0.0175	0.0175	0.0000	55.2156	55.2156	7.7400e-003	0.0000	55.4091
Waste						0.0000	0.0000		0.0000	0.0000	296.6145	0.0000	296.6145	17.5294	0.0000	734.8498
Water						0.0000	0.0000		0.0000	0.0000	80.3658	193.9487	274.3145	0.2960	0.1788	334.9917
Total	11.8496	14.1506	43.9088	0.1393	12.8518	0.2405	13.0923	3.4399	0.2333	3.6732	376.9803	13,866.3954	14,243.3757	18.2848	0.2076	14,762.3548

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.75	19.33	1.83	25.38	18.91

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2020	12/31/2019	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 25.38

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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	3.3313	12.5551	36.5451	0.1317	12.8518	0.1039	12.9557	3.4399	0.0967	3.5366	0.0000	12,077.5018	12,077.5018	0.3863	0.0000	12,087.1585
Unmitigated	3.3313	12.5551	36.5451	0.1317	12.8518	0.1039	12.9557	3.4399	0.0967	3.5366	0.0000	12,077.5018	12,077.5018	0.3863	0.0000	12,087.1585

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	3,346.71	3,211.83	2950.50	7,554,356	7,554,356
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	7,754.19	1,729.85	740.13	14,079,369	14,079,369
Parking Lot	0.00	0.00	0.00		
Strip Mall	9,169.72	8,699.01	4225.98	12,930,461	12,930,461
Total	20,270.61	13,640.68	7,916.61	34,564,185	34,564,185

4.3 Trip Type Information

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

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.614951	0.035734	0.181842	0.104158	0.013506	0.005015	0.012793	0.021727	0.002177	0.001514	0.005249	0.000632	0.000704
Enclosed Parking with Elevator	0.614951	0.035734	0.181842	0.104158	0.013506	0.005015	0.012793	0.021727	0.002177	0.001514	0.005249	0.000632	0.000704
General Office Building	0.614951	0.035734	0.181842	0.104158	0.013506	0.005015	0.012793	0.021727	0.002177	0.001514	0.005249	0.000632	0.000704
Parking Lot	0.614951	0.035734	0.181842	0.104158	0.013506	0.005015	0.012793	0.021727	0.002177	0.001514	0.005249	0.000632	0.000704
Strip Mall	0.614951	0.035734	0.181842	0.104158	0.013506	0.005015	0.012793	0.021727	0.002177	0.001514	0.005249	0.000632	0.000704

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

Percent of Electricity Use Generated with Renewable Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated							0.0000	0.0000		0.0000	0.0000	322.4038	322.4038	0.0322	6.6700e-003	325.1976
Electricity Unmitigated							0.0000	0.0000		0.0000	0.0000	3,703.3705	3,703.3705	0.3703	0.0766	3,735.4621
NaturalGas Mitigated	0.1186	1.0564	0.7483	6.4700e-003			0.0819	0.0819		0.0819	0.0819	1,173.3538	1,173.3538	0.0225	0.0215	1,180.3265
NaturalGas Unmitigated	0.1186	1.0564	0.7483	6.4700e-003			0.0819	0.0819		0.0819	0.0819	1,173.3538	1,173.3538	0.0225	0.0215	1,180.3265

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	7.28306e+006	0.0393	0.3356	0.1428	2.1400e-003		0.0271	0.0271		0.0271	0.0271	0.0000	388.6516	388.6516	7.4500e-003	7.1300e-003	390.9612
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	1.40884e+007	0.0760	0.6906	0.5801	4.1400e-003		0.0525	0.0525		0.0525	0.0525	0.0000	751.8115	751.8115	0.0144	0.0138	756.2791
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	616349	3.3200e-003	0.0302	0.0254	1.8000e-004		2.3000e-003	2.3000e-003		2.3000e-003	2.3000e-003	0.0000	32.8908	32.8908	6.3000e-004	6.0000e-004	33.0862
Total		0.1186	1.0564	0.7483	6.4600e-003		0.0819	0.0819		0.0819	0.0819	0.0000	1,173.3538	1,173.3538	0.0225	0.0215	1,180.3265

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	7.28306e+006	0.0393	0.3356	0.1428	2.1400e-003		0.0271	0.0271		0.0271	0.0271	0.0000	388.6516	388.6516	7.4500e-003	7.1300e-003	390.9612
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	1.40884e+007	0.0760	0.6906	0.5801	4.1400e-003		0.0525	0.0525		0.0525	0.0525	0.0000	751.8115	751.8115	0.0144	0.0138	756.2791
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	616349	3.3200e-003	0.0302	0.0254	1.8000e-004		2.3000e-003	2.3000e-003		2.3000e-003	2.3000e-003	0.0000	32.8908	32.8908	6.3000e-004	6.0000e-004	33.0862
Total		0.1186	1.0564	0.7483	6.4600e-003		0.0819	0.0819		0.0819	0.0819	0.0000	1,173.3538	1,173.3538	0.0225	0.0215	1,180.3265

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	3.4802e+006	457.7916	0.0458	9.4700e-003	461.7586
Enclosed Parking with Elevator	6.54445e+006	860.8684	0.0861	0.0178	868.3283
General Office Building	1.53449e+007	2,018.4990	0.2019	0.0418	2,035.9903
Parking Lot	3920	0.5156	5.0000e-005	1.0000e-005	0.5201
Strip Mall	2.78007e+006	365.6958	0.0366	7.5700e-003	368.8648
Total		3,703.3704	0.3703	0.0766	3,735.4621

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	316768	41.6683	4.1700e-003	8.6000e-004	42.0293
Enclosed Parking with Elevator	556725	73.2326	7.3200e-003	1.5200e-003	73.8672
General Office Building	1.36753e+006	179.8875	0.0180	3.7200e-003	181.4464
Parking Lot	196	0.0258	0.0000	0.0000	0.0260
Strip Mall	209741	27.5897	2.7600e-003	5.7000e-004	27.8288
Total		322.4038	0.0322	6.6700e-003	325.1976

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	8.2808	0.1015	6.3053	5.2000e-004		0.0372	0.0372		0.0372	0.0372	0.0000	43.9716	43.9716	0.0106	6.2000e-004	44.4216
Unmitigated	8.2808	0.1015	6.3053	5.2000e-004		0.0372	0.0372		0.0372	0.0372	0.0000	43.9716	43.9716	0.0106	6.2000e-004	44.4216

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	1.2989					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.7870					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.4000e-003	0.0291	0.0124	1.9000e-004		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003	0.0000	33.6767	33.6767	6.5000e-004	6.2000e-004	33.8768
Landscaping	0.1915	0.0724	6.2929	3.3000e-004		0.0348	0.0348		0.0348	0.0348	0.0000	10.2950	10.2950	9.9900e-003	0.0000	10.5448
Total	8.2807	0.1015	6.3053	5.2000e-004		0.0372	0.0372		0.0372	0.0372	0.0000	43.9716	43.9716	0.0106	6.2000e-004	44.4216

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	1.2989					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.7870					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.4000e-003	0.0291	0.0124	1.9000e-004		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003	0.0000	33.6767	33.6767	6.5000e-004	6.2000e-004	33.8768
Landscaping	0.1915	0.0724	6.2929	3.3000e-004		0.0348	0.0348		0.0348	0.0348	0.0000	10.2950	10.2950	9.9900e-003	0.0000	10.5448
Total	8.2807	0.1015	6.3053	5.2000e-004		0.0372	0.0372		0.0372	0.0372	0.0000	43.9716	43.9716	0.0106	6.2000e-004	44.4216

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	274.3145	0.2960	0.1788	334.9917
Unmitigated	306.5845	0.2992	0.1795	367.5413

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	54.9248 / 34.6265	74.4684	0.0724	0.0434	89.2107
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000

General Office Building	152.961 / 93.7504	206.1539	0.2015	0.1208	247.1993
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	19.2633 / 11.8065	25.9622	0.0254	0.0152	31.1313
Total		306.5845	0.2992	0.1795	367.5413

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	54.9248 / 17.3133	66.4975	0.0716	0.0432	81.1707
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	152.961 / 46.8752	184.5727	0.1993	0.1204	225.4311
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	19.2633 / 5.90327	23.2443	0.0251	0.0152	28.3899
Total		274.3145	0.2960	0.1788	334.9917

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	296.6145	17.5294	0.0000	734.8498
Unmitigated	296.6145	17.5294	0.0000	734.8498

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	387.78	78.7158	4.6520	0.0000	195.0152
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	800.38	162.4699	9.6017	0.0000	402.5123
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	273.06	55.4287	3.2757	0.0000	137.3223
Total		296.6145	17.5294	0.0000	734.8498

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
--	----------------	-----------	-----	-----	------

Land Use	tons	MT/yr			
Apartments Mid Rise	387.78	78.7158	4.6520	0.0000	195.0152
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	800.38	162.4699	9.6017	0.0000	402.5123
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	273.06	55.4287	3.2757	0.0000	137.3223
Total		296.6145	17.5294	0.0000	734.8498

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	50	152	0.73	Diesel
Emergency Generator	1	0	50	185	0.73	Diesel
Emergency Generator	1	0	50	240	0.73	Diesel
Emergency Generator	1	0	50	240	0.73	Diesel
Emergency Generator	1	0	50	555	0.73	Diesel
Emergency Generator	1	0	50	1528	0.73	Diesel

Boilers

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

Equipment Type	Number
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10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (100 - 175 HP)	6.2400e-003	0.0174	0.0226	3.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	2.8941	2.8941	4.1000e-004	0.0000	2.9042
Emergency Generator - Diesel (175 - 300 HP)	0.0273	0.0763	0.0696	1.3000e-004		4.0100e-003	4.0100e-003		4.0100e-003	4.0100e-003	0.0000	12.6615	12.6615	1.7800e-003	0.0000	12.7059
Emergency Generator - Diesel (300 - 600 HP)	0.0228	0.0636	0.0581	1.1000e-004		3.3500e-003	3.3500e-003		3.3500e-003	3.3500e-003	0.0000	10.5671	10.5671	1.4800e-003	0.0000	10.6042
Emergency Generator - Diesel (750 - 9999 HP)	0.0627	0.2803	0.1598	3.0000e-004		9.2200e-003	9.2200e-003		9.2200e-003	9.2200e-003	0.0000	29.0929	29.0929	4.0800e-003	0.0000	29.1949
Total	0.1190	0.4377	0.3101	5.7000e-004		0.0175	0.0175		0.0175	0.0175	0.0000	55.2156	55.2156	7.7500e-003	0.0000	55.4091

11.0 Vegetation

DSP - Full Buildout with Generators 2030, Rev 9.2019 - Santa Clara County, Annual

DSP - Full Buildout with Generators 2030, Rev 9.2019
Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	860.62	1000sqft	19.76	860,624.00	0
Enclosed Parking with Elevator	2,792.00	Space	25.13	1,116,800.00	0
Parking Lot	28.00	Space	0.25	11,200.00	0
Apartments Mid Rise	843.00	Dwelling Unit	22.18	981,575.00	2411
Strip Mall	260.06	1000sqft	5.97	260,063.00	0

1.2 Other Project Characteristics

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

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 = 290
 Land Use - Applicant provided land use, default sqft for paking
 Construction Phase - Operational model output no construction needed
 Off-road Equipment - no construction equipment
 Vehicle Trips - After reductions, Res = 3.97, 3.81, 3.50, Office = 9.01, 2.01, 0.86, Retail = 35.26, 33.45, 16.25

Woodstoves - No Wood all gas

Consumer Products - 0.0000175 factor for SC County

Energy Use -

Water And Wastewater - WTP Treatment 100% aerobic

Area Mitigation -

Energy Mitigation - Green Building Measures - energy efficient lighting, appliances, installing solar panels, 90% represents SVCE and is a conservative estimate

Water Mitigation - Green Building Measures - water efficient fixtures and landscaping

Stationary Sources - Emergency Generators and Fire Pumps - Altair- 150kw 185hp gen, Mathilda- 100kw 152hp gen, Macys- 2 150kw 240hp gens, Redwood - 1 000kw 1 500hp gen, Murphy - 150kw 555hp gen

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	40.00	0.00
tblConstructionPhase	PhaseEndDate	2/25/2020	12/31/2019
tblConsumerProducts	ROG_EF	2.14E-05	1.75E-05
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	126.45	269.76
tblFireplaces	NumberWood	143.31	0.00
tblLandUse	LandUseSquareFeet	860,620.00	860,624.00
tblLandUse	LandUseSquareFeet	843,000.00	981,575.00
tblLandUse	LandUseSquareFeet	260,060.00	260,063.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	152.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	185.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	240.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	240.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	555.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,528.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00

tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblVehicleTrips	ST_TR	6.39	3.81
tblVehicleTrips	ST_TR	2.46	2.01
tblVehicleTrips	ST_TR	42.04	33.45
tblVehicleTrips	SU_TR	5.86	3.50
tblVehicleTrips	SU_TR	1.05	0.86
tblVehicleTrips	SU_TR	20.43	16.25
tblVehicleTrips	WD_TR	6.65	3.97
tblVehicleTrips	WD_TR	11.03	9.01
tblVehicleTrips	WD_TR	44.32	35.26
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	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	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
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

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	8.2793	0.1014	6.2912	5.2000e-004		0.0372	0.0372		0.0372	0.0372	0.0000	43.9716	43.9716	0.0106	6.2000e-004	44.4198
Energy	0.1186	1.0564	0.7483	6.4700e-003		0.0819	0.0819		0.0819	0.0819	0.0000	4,876.7243	4,876.7243	0.3928	0.0981	4,915.79
Mobile	2.4862	10.6466	26.8507	0.1125	12.8498	0.0765	12.9262	3.4388	0.0711	3.5099	0.0000	10,356.1643	10,356.1643	0.3059	0.0000	10,363.81
Stationary	0.1190	0.4377	0.3101	5.7000e-004		0.0175	0.0175		0.0175	0.0175	0.0000	55.2156	55.2156	7.7400e-003	0.0000	55.4091
Waste						0.0000	0.0000		0.0000	0.0000	296.6145	0.0000	296.6145	17.5294	0.0000	734.8498
Water						0.0000	0.0000		0.0000	0.0000	80.3658	226.2187	306.5845	0.2992	0.1795	367.5413

Total	11.0031	12.2421	34.2003	0.1201	12.8498	0.2131	13.0628	3.4388	0.2077	3.6465	376.9803	15,558.29	15,935.274	18.5456	0.2782	16,481.81
												44	7			90

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	8.2793	0.1014	6.2912	5.2000e-004		0.0372	0.0372		0.0372	0.0372	0.0000	43.9716	43.9716	0.0106	6.2000e-004	44.4198
Energy	0.1186	1.0564	0.7483	6.4700e-003		0.0819	0.0819		0.0819	0.0819	0.0000	1,495.7577	1,495.7577	0.0547	0.0282	1,505.52
Mobile	2.4862	10.6466	26.8507	0.1125	12.8498	0.0765	12.9262	3.4388	0.0711	3.5099	0.0000	10,356.1643	10,356.1643	0.3059	0.0000	10,363.81
Stationary	0.1190	0.4377	0.3101	5.7000e-004		0.0175	0.0175		0.0175	0.0175	0.0000	55.2156	55.2156	7.7400e-003	0.0000	55.4091
Waste						0.0000	0.0000		0.0000	0.0000	296.6145	0.0000	296.6145	17.5294	0.0000	734.8498
Water						0.0000	0.0000		0.0000	0.0000	80.3658	193.9487	274.3145	0.2960	0.1788	334.9917
Total	11.0031	12.2421	34.2003	0.1201	12.8498	0.2131	13.0628	3.4388	0.2077	3.6465	376.9803	12,145.0578	12,522.0381	18.2043	0.2076	13,039.0050

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.94	21.42	1.84	25.38	20.89

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2020	12/31/2019	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 25.38

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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	2.4862	10.6466	26.8507	0.1125	12.8498	0.0765	12.9262	3.4388	0.0711	3.5099	0.0000	10,356.1643	10,356.1643	0.3059	0.0000	10,363.8105
Unmitigated	2.4862	10.6466	26.8507	0.1125	12.8498	0.0765	12.9262	3.4388	0.0711	3.5099	0.0000	10,356.1643	10,356.1643	0.3059	0.0000	10,363.8105

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	3,346.71	3,211.83	2950.50	7,554,356	7,554,356
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	7,754.19	1,729.85	740.13	14,079,369	14,079,369
Parking Lot	0.00	0.00	0.00		
Strip Mall	9,169.72	8,699.01	4225.98	12,930,461	12,930,461
Total	20,270.61	13,640.68	7,916.61	34,564,185	34,564,185

4.3 Trip Type Information

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

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Enclosed Parking with Elevator	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
General Office Building	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Parking Lot	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Strip Mall	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

Percent of Electricity Use Generated with Renewable Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	322.4038	322.4038	0.0322	6.6700e-003	325.1976
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	3,703.3705	3,703.3705	0.3703	0.0766	3,735.4621
NaturalGas Mitigated	0.1186	1.0564	0.7483	6.4700e-003		0.0819	0.0819		0.0819	0.0819	0.0000	1,173.3538	1,173.3538	0.0225	0.0215	1,180.3265
NaturalGas Unmitigated	0.1186	1.0564	0.7483	6.4700e-003		0.0819	0.0819		0.0819	0.0819	0.0000	1,173.3538	1,173.3538	0.0225	0.0215	1,180.3265

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	7.28306e+006	0.0393	0.3356	0.1428	2.1400e-003		0.0271	0.0271		0.0271	0.0271	0.0000	388.6516	388.6516	7.4500e-003	7.1300e-003	390.9612
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	1.40884e+007	0.0760	0.6906	0.5801	4.1400e-003		0.0525	0.0525		0.0525	0.0525	0.0000	751.8115	751.8115	0.0144	0.0138	756.2791
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	616349	3.3200e-003	0.0302	0.0254	1.8000e-004		2.3000e-003	2.3000e-003		2.3000e-003	2.3000e-003	0.0000	32.8908	32.8908	6.3000e-004	6.0000e-004	33.0862

Total		0.1186	1.0564	0.7483	6.4600e-003		0.0819	0.0819		0.0819	0.0819	0.0000	1,173.3538	1,173.3538	0.0225	0.0215	1,180.3265
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Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	7.28306e+006	0.0393	0.3356	0.1428	2.1400e-003		0.0271	0.0271		0.0271	0.0271	0.0000	388.6516	388.6516	7.4500e-003	7.1300e-003	390.9612
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	1.40884e+007	0.0760	0.6906	0.5801	4.1400e-003		0.0525	0.0525		0.0525	0.0525	0.0000	751.8115	751.8115	0.0144	0.0138	756.2791
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	616349	3.3200e-003	0.0302	0.0254	1.8000e-004		2.3000e-003	2.3000e-003		2.3000e-003	2.3000e-003	0.0000	32.8908	32.8908	6.3000e-004	6.0000e-004	33.0862
Total		0.1186	1.0564	0.7483	6.4600e-003		0.0819	0.0819		0.0819	0.0819	0.0000	1,173.3538	1,173.3538	0.0225	0.0215	1,180.3265

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	3.4802e+006	457.7916	0.0458	9.4700e-003	461.7586
Enclosed Parking with Elevator	6.54445e+006	860.8684	0.0861	0.0178	868.3283
General Office Building	1.53449e+007	2,018.4990	0.2019	0.0418	2,035.9903
Parking Lot	3920	0.5156	5.0000e-005	1.0000e-005	0.5201

Strip Mall	2.78007e+006	365.6958	0.0366	7.5700e-003	368.8648
Total		3,703.3704	0.3703	0.0766	3,735.4621

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	316768	41.6683	4.1700e-003	8.6000e-004	42.0293
Enclosed Parking with Elevator	556725	73.2326	7.3200e-003	1.5200e-003	73.8672
General Office Building	1.36753e+006	179.8875	0.0180	3.7200e-003	181.4464
Parking Lot	196	0.0258	0.0000	0.0000	0.0260
Strip Mall	209741	27.5897	2.7600e-003	5.7000e-004	27.8288
Total		322.4038	0.0322	6.6700e-003	325.1976

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Hearth	3.4000e-003	0.0291	0.0124	1.9000e-004		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003	0.0000	33.6767	33.6767	6.5000e-004	6.2000e-004	33.8768
Landscaping	0.1900	0.0723	6.2789	3.3000e-004		0.0348	0.0348		0.0348	0.0348	0.0000	10.2950	10.2950	9.9200e-003	0.0000	10.5431
Total	8.2793	0.1014	6.2912	5.2000e-004		0.0372	0.0372		0.0372	0.0372	0.0000	43.9716	43.9716	0.0106	6.2000e-004	44.4198

7.0 Water Detail

7.1 Mitigation Measures Water

- Apply Water Conservation Strategy
- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	274.3145	0.2960	0.1788	334.9917
Unmitigated	306.5845	0.2992	0.1795	367.5413

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e

Land Use	Mgal	MT/yr			
Apartments Mid Rise	54.9248 / 34.6265	74.4684	0.0724	0.0434	89.2107
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	152.961 / 93.7504	206.1539	0.2015	0.1208	247.1993
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	19.2633 / 11.8065	25.9622	0.0254	0.0152	31.1313
Total		306.5845	0.2992	0.1795	367.5413

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	54.9248 / 17.3133	66.4975	0.0716	0.0432	81.1707
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	152.961 / 46.8752	184.5727	0.1993	0.1204	225.4311
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	19.2633 / 5.90327	23.2443	0.0251	0.0152	28.3899
Total		274.3145	0.2960	0.1788	334.9917

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	296.6145	17.5294	0.0000	734.8498
Unmitigated	296.6145	17.5294	0.0000	734.8498

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	387.78	78.7158	4.6520	0.0000	195.0152
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	800.38	162.4699	9.6017	0.0000	402.5123
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	273.06	55.4287	3.2757	0.0000	137.3223
Total		296.6145	17.5294	0.0000	734.8498

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	387.78	78.7158	4.6520	0.0000	195.0152
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	800.38	162.4699	9.6017	0.0000	402.5123
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	273.06	55.4287	3.2757	0.0000	137.3223
Total		296.6145	17.5294	0.0000	734.8498

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	50	152	0.73	Diesel
Emergency Generator	1	0	50	185	0.73	Diesel
Emergency Generator	1	0	50	240	0.73	Diesel
Emergency Generator	1	0	50	240	0.73	Diesel
Emergency Generator	1	0	50	555	0.73	Diesel
Emergency Generator	1	0	50	1528	0.73	Diesel

Boilers

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

Equipment Type	Number
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10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										M1/yr					
Emergency Generator - Diesel (100-175 HP)	6.2400e-003	0.0174	0.0226	3.0000e-005		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	2.8941	2.8941	4.1000e-004	0.0000	2.9042
Emergency Generator - Diesel (175-300 HP)	0.0273	0.0763	0.0696	1.3000e-004		4.0100e-003	4.0100e-003		4.0100e-003	4.0100e-003	0.0000	12.6615	12.6615	1.7800e-003	0.0000	12.7059
Emergency Generator - Diesel (300-600 HP)	0.0228	0.0636	0.0581	1.1000e-004		3.3500e-003	3.3500e-003		3.3500e-003	3.3500e-003	0.0000	10.5671	10.5671	1.4800e-003	0.0000	10.6042
Emergency Generator - Diesel (750-9999 HP)	0.0627	0.2803	0.1598	3.0000e-004		9.2200e-003	9.2200e-003		9.2200e-003	9.2200e-003	0.0000	29.0929	29.0929	4.0800e-003	0.0000	29.1949
Total	0.1190	0.4377	0.3101	5.7000e-004		0.0175	0.0175		0.0175	0.0175	0.0000	55.2156	55.2156	7.7500e-003	0.0000	55.4091

11.0 Vegetation

Attachment 3: Construction Health Risk Calculations

Downtown Sunnyvale Update, Sunnyvale, CA

DPM Emissions and Modeling Emission Rates - Unmitigated

Emissions Model		DPM	Area	DPM Emissions			Modeled Area	DPM Emission Rate
Year	Activity	(ton/year)	Source	(lb/yr)	(lb/hr)	(g/s)	(m ²)	(g/s/m ²)
2019	Construction	0.0129	DPM_ALT	25.8	0.00785	9.90E-04	2,025	4.89E-07
2019	Construction	0.0166	DPM_MAT	33.2	0.01011	1.27E-03	7,342	1.73E-07
2019	Construction	0.0365	DPM_MACY	73.0	0.02222	2.80E-03	30,628	9.14E-08
Total		0.0660		132.0	0.0402	0.0051		

Operation Hours

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

days/yr = 365

hours/year = 3285

PM2.5 Fugitive Dust Emissions for Modeling - Unmitigated

Construction		Area	PM2.5 Emissions				Modeled Area	PM2.5 Emission Rate
Year	Activity	Source	(ton/year)	(lb/yr)	(lb/hr)	(g/s)	(m ²)	g/s/m ²
2019	Construction	FUG_ALT	0.0071	14.2	0.00433	5.46E-04	2,025	2.70E-07
2019	Construction	FUG_MAT	0.0340	68.0	0.02070	2.61E-03	7,342	3.55E-07
2019	Construction	FUG_MACY	0.0093	18.6	0.00566	7.13E-04	30,628	2.33E-08
Total			0.0504	100.8	0.0307	0.0039		

Operation Hours

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

days/yr = 365

hours/year = 3285

DPM Emissions and Modeling Emission Rates - Unmitigated

Emissions Model		DPM	Area	DPM Emissions			Modeled Area	DPM Emission Rate
Year	Activity	(ton/year)	Source	(lb/yr)	(lb/hr)	(g/s)	(m ²)	(g/s/m ²)
2020	Construction	0.0787	DPM_ALT	157.4	0.04791	6.04E-03	2,025	2.98E-06
2020	Construction	0.0873	DPM_MAT	174.6	0.05315	6.70E-03	7,342	9.12E-07
2020	Construction	0.2618	DPM_MACY	523.6	0.15939	2.01E-02	30,628	6.56E-07
2020	Construction	0.0136	DPM_MUR	27.2	0.00828	1.04E-03	2,371	4.40E-07
2020	Construction	0.1004	DPM_SUB	200.8	0.06113	7.70E-03	17,182	4.48E-07
Total		0.5418		1083.6	0.3299	0.0416		

Operation Hours

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

days/yr = 365

hours/year = 3285

PM2.5 Fugitive Dust Emissions for Modeling - Unmitigated

Construction		Area	PM2.5 Emissions				Modeled Area	PM2.5 Emission Rate
Year	Activity	Source	(ton/year)	(lb/yr)	(lb/hr)	(g/s)	(m ²)	g/s/m ²
2020	Construction	FUG_ALT	0.0038	7.7	0.00234	2.95E-04	2,025	1.45E-07
2020	Construction	FUG_MAT	0.0418	83.6	0.02545	3.21E-03	7,342	4.37E-07
2020	Construction	FUG_MACY	0.4374	874.8	0.26630	3.36E-02	30,628	1.10E-06
2020	Construction	FUG_MUR	0.0186	37.2	0.01132	1.43E-03	2,371	6.02E-07
2020	Construction	FUG_SUB	0.1214	242.8	0.07391	9.31E-03	17,182	5.42E-07
Total			0.6230	1246.1	0.3793	0.0478		

Operation Hours

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

DPM Emissions and Modeling Emission Rates - Unmitigated

Emissions Model		DPM	Area	DPM Emissions			Modeled Area	DPM Emission Rate
Year	Activity	(ton/year)	Source	(lb/yr)	(lb/hr)	(g/s)	(m ²)	(g/s/m ²)
2021	Construction	0.0760	DPM_ALT	152.0	0.04627	5.83E-03	2,025	2.88E-06
2021	Construction	0.0166	DPM_MAT	33.2	0.01011	1.27E-03	7,342	1.73E-07
2021	Construction	0.1680	DPM_MACY	336.0	0.10228	1.29E-02	30,628	4.21E-07
2021	Construction	0.0056	DPM_MUR	11.3	0.00343	4.32E-04	2,371	1.82E-07
2021	Construction	0.1340	DPM_SUB	268.0	0.08158	1.03E-02	17,182	5.98E-07
Total		0.4002		800.5	0.2437	0.0307		

Operation Hours

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

PM2.5 Fugitive Dust Emissions for Modeling - Unmitigated

Construction		Area	PM2.5 Emissions				Modeled Area	PM2.5 Emission Rate
Year	Activity	Source	(ton/year)	(lb/yr)	(lb/hr)	(g/s)	(m ²)	g/s/m ²
2021	Construction	FUG_ALT	0.0034	6.9	0.00209	2.63E-04	2,025	1.30E-07
2021	Construction	FUG_MAT	0.0004	0.7	0.00023	2.84E-05	7,342	3.87E-09
2021	Construction	FUG_MACY	0.0833	166.6	0.05072	6.39E-03	30,628	2.09E-07
2021	Construction	FUG_MUR	0.0009	1.8	0.00055	6.98E-05	2,371	2.94E-08
2021	Construction	FUG_SUB	0.0143	28.6	0.00871	1.10E-03	17,182	6.38E-08
Total			0.1023	204.6	0.0623	0.0078		

Operation Hours

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

DPM Emissions and Modeling Emission Rates - Unmitigated

Emissions Model		DPM	Area	DPM Emissions			Modeled Area	DPM Emission Rate
Year	Activity	(ton/year)	Source	(lb/yr)	(lb/hr)	(g/s)	(m ²)	(g/s/m ²)
2022	Construction	0.1121	DPM_MACY	224.2	0.06825	8.60E-03	30,628	2.81E-07
2022	Construction	0.0552	DPM_SUB	110.4	0.03361	4.23E-03	17,182	2.46E-07
Total		0.1673		334.6	0.1019	0.0128		

Operation Hours

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

PM2.5 Fugitive Dust Emissions for Modeling - Unmitigated

Construction		Area	PM2.5 Emissions				Modeled Area	PM2.5 Emission Rate
Year	Activity	Source	(ton/year)	(lb/yr)	(lb/hr)	(g/s)	(m ²)	g/s/m ²
2022	Construction	FUG_MACY	0.0187	37.4	0.01139	1.43E-03	30,628	4.68E-08
2022	Construction	FUG_SUB	0.0060	12.0	0.00366	4.61E-04	17,182	2.68E-08
Total			0.0247	49.4	0.0150	0.0019		

Operation Hours

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

DPM Emissions and Modeling Emission Rates - Unmitigated

Emissions Model		DPM	Area	DPM Emissions			Modeled Area	DPM Emission Rate
Year	Activity	(ton/year)	Source	(lb/yr)	(lb/hr)	(g/s)	(m ²)	(g/s/m ²)
2023	Construction	0.0087	DPM_MACY	17.4	0.00530	6.68E-04	30,628	2.18E-08
2023	Construction	0.0016	DPM_SUB	3.3	0.00099	1.25E-04	17,182	7.28E-09
Total		0.0103		20.7	0.0063	0.0008		

Operation Hours

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

PM2.5 Fugitive Dust Emissions for Modeling - Unmitigated

Construction		Area	PM2.5 Emissions				Modeled Area	PM2.5 Emission Rate
Year	Activity	Source	(ton/year)	(lb/yr)	(lb/hr)	(g/s)	(m ²)	g/s/m ²
2023	Construction	FUG_MACY	0.0011	2.2	0.00068	8.59E-05	30,628	2.81E-09
2023	Construction	FUG_SUB	0.0001	0.3	0.00008	9.97E-06	17,182	5.80E-10
Total			0.0013	2.5	0.0008	0.0001		

Operation Hours

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

**Downtown Sunnyvale, Sunnyvale, CA - Maximum Construction Cancer Risk
Residential Receptors (4.5 meter receptor heights)
Residential Infant/Child Exposure**

Cancer Risk Calculation Method

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

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

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

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

Values

Cancer Potency Factors (mg/kg-day)⁻¹

TAC	CPF
DPM	1.10E+00

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

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Year	Exposure Duration (years)	Age	Maximum - Exposure Information			Maximum Fugitive PM2.5
				Age Sensitivity Factor	Annual DPM Conc. (ug/m3)	DPM Cancer Risk (per million)	
1	2019	0.25	-0.25 - 0*	10	0.1529	2.08	0.10752
2	2019	1	1	10	0.9430	154.89	0.11069
3	2020	1	2	10	0.9056	148.74	0.06056
4	2021	1	3	3	0.0143	0.37	0.00232
5	2022	1	4	3	0.0009	0.02	0.00012
6	2023	1	5	3	0.0000	0.00	
7	2024	1	6	3	0.0000	0.00	
8	2025	1	7	3	0.0000	0.00	
9	2026	1	8	3	0.0000	0.00	
10	2027	1	9	3	0.0000	0.00	
11	2028	1	10	3	0.0000	0.00	
12	2029	1	11	3	0.0000	0.00	
13	2030	1	12	3	0.0000	0.00	
14	2031	1	13	3	0.0000	0.00	
15	2032	1	14	3	0.0000	0.00	
16	2033	1	15	3	0.0000	0.00	
17	2034	1	16	3	0.0000	0.00	
18	2035	1	17	1	0.0000	0.00	
19	2036	1	18	1	0.0000	0.00	
20	2037	1	19	1	0.0000	0.00	
21	2038	1	20	1	0.0000	0.00	
22	2039	1	22	1	0.0000	0.00	
23	2040	1	23	1	0.0000	0.00	
24	2041	1	24	1	0.0000	0.00	
25	2042	1	25	1	0.0000	0.00	
26	2043	1	26	1	0.0000	0.00	
27	2044	1	27	1	0.0000	0.00	
28	2045	1	28	1	0.0000	0.00	
29	2046	1	28	1	0.0000	0.00	
30	2047	1	28	1	0.0000	0.00	
31	2048	1	28	1	0.0000	0.00	
Total Increased Cancer Risk						306.10	

* Third trimester of pregnancy

Total PM2.5 Concentrations (Fugitive + Exhaust)				
2019	2020	2021	2022	2023
0.36	1.05	0.97	0.15	0.01

**Downtown Sunnyvale, Sunnyvale, CA - Maximum Construction Cancer Risk
Residential Receptors (1.5 meter receptor heights)
Residential Infant/Child Exposure**

Cancer Risk Calculation Method

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

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

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10⁶

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

Values

Cancer Potency Factors (mg/kg-day)⁻¹

TAC	CPF
DPM	1.10E+00

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

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Year	Exposure Duration (years)	Age	Maximum - Exposure Information			Maximum Fugitive PM2.5
				Age Sensitivity Factor	Annual DPM Conc. (ug/m ³)	DPM Cancer Risk (per million)	
1	2019	0.25	-0.25 - 0*	10	0.1310	1.78	0.1151
2	2020	1	1	10	0.8104	133.11	0.1200
3	2021	1	2	10	0.7766	127.55	0.0651
4	2022	1	3	3	0.0159	0.41	0.0026
5	2023	1	4	3	0.0010	0.03	0.0001
6	2024	1	5	3	0.0000	0.00	
7	2025	1	6	3	0.0000	0.00	
8	2026	1	7	3	0.0000	0.00	
9	2027	1	8	3	0.0000	0.00	
10	2028	1	9	3	0.0000	0.00	
11	2029	1	10	3	0.0000	0.00	
12	2030	1	11	3	0.0000	0.00	
13	2031	1	12	3	0.0000	0.00	
14	2032	1	13	3	0.0000	0.00	
15	2033	1	14	3	0.0000	0.00	
16	2034	1	15	3	0.0000	0.00	
17	2035	1	16	3	0.0000	0.00	
18	2036	1	17	1	0.0000	0.00	
19	2037	1	18	1	0.0000	0.00	
20	2038	1	19	1	0.0000	0.00	
21	2039	1	20	1	0.0000	0.00	
22	2040	1	22	1	0.0000	0.00	
23	2041	1	23	1	0.0000	0.00	
24	2042	1	24	1	0.0000	0.00	
25	2043	1	25	1	0.0000	0.00	
26	2044	1	26	1	0.0000	0.00	
27	2045	1	27	1	0.0000	0.00	
28	2046	1	28	1	0.0000	0.00	
29	2047	1	28	1	0.0000	0.00	
30	2048	1	28	1	0.0000	0.00	
31	2049	1	28	1	0.0000	0.00	
Total Increased Cancer Risk						262.88	

* Third trimester of pregnancy

Total PM2.5 Concentrations (Fugitive + Exhaust)

2019	2020	2021	2022	2023
0.44	0.94	0.85	0.16	0.01

**Plaza De Las Flores, Sunnyvale CA - Construction Impacts - Without Mitigation
 Maximum DPM Cancer Risk Calculations From Construction
 Senior Community Housing- 1.5 meters - Adult Exposure**

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

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

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

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

Values

Age -->	Infant/Child				Adult
	3rd Trimester	0 - 2	2 - 9	2 - 16	16 - 30
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	861	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Adult - Exposure Information			Adult Cancer Risk (per million)
		DPM Conc (ug/m3)		Age* Sensitivity Factor	
		Year	Annual		
1	1	2019	0.00585	1	0.02
2	1	2020	0.14344	1	0.41
3	1	2021	0.16088	1	0.46
4	1	2022	0.06823	1	0.20
5	1	2023	0.00269	1	0.01
Project Road & Generators					0.13
TOTAL					1.2

Maximum		
HI	Fugitive PM2.5	Total PM2.5
0.001	0.00234	0.008
0.029	0.20782	0.351
0.032	0.02826	0.189
0.014	0.00954	0.078
0.001	0.0003	0.003
		0.043
0.03	0.21	0.35

**Fun Mandarin Daycare, Sunnyvale, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk Calculations From Construction
Daycare - 1.5 meters - Infant Exposure**

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

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

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

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

Values

Age -->	Infant/Child				Adult
	3rd Trimester	0 - 2	2 - 9	2 - 16	16 - 30
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	861	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Child - Exposure Information			Child Cancer Risk (per million)
		DPM Conc (ug/m3)		Age* Sensitivity	
		Year	Annual	Factor	
1	1	2019	0.0156	10	2.6
2	1	2020	0.1194	10	19.6
3	1	2021	0.0834	10	13.7
4	1	2022	0.0449	10	7.4
5	1	2023	0.0032	10	0.5
Project Road & Generators					12.2
TOTAL					56.0

Maximum		
HI	Fugitive PM2.5	Total PM2.5
0.003	0.0076	0.023
0.024	0.17646	0.127
0.017	0.03206	0.260
0.009	0.00739	0.077
0.001	0.00042	0.011
		0.11173
0.02	0.18	0.26

* Students assumed to be from 4 months old to six years old

**Triumphant Learning Center, Sunnyvale, CA - Construction Impacts - Without Mitigation
 Maximum DPM Cancer Risk Calculations From Construction
 Preschool - 1.5 meters - Child Exposure**

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

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

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

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

Values

Age -->	Infant/Child				Adult
	3rd Trimester	0 - 2	2 - 9	2 - 16	16 - 30
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	861	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Child - Exposure Information			Child Cancer Risk (per million)
		DPM Conc (ug/m3)		Age* Sensitivity	
		Year	Annual	Factor	
1	1	2019	0.0064	3	0.2
2	1	2020	0.0755	3	2.9
3	1	2021	0.0700	3	2.7
4	1	2022	0.0327	3	1.3
5	1	2023	0.0017	3	0.1
Project Road & Generators					1.21
TOTAL					8.5

Maximum		
HI	Fugitive PM2.5	Total PM2.5
0.001	0.0026	0.006
0.015	0.10502	0.075
0.014	0.01693	0.070
0.007	0.00464	0.033
0.000	0.0002	0.002
		0.073
0.02	0.11	0.08

* Students assumed to be from 3 to 4 years of age

**KM2A Martial Arts and Learning Centers - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk Calculations From Construction
After School and Summer Camp Program - 1.5 meters - Child Exposure**

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

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

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

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

Values

Age -->	Infant/Child				Adult
	3rd Trimester	0 - 2	2 - 9	2 - 16	16 - 30
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	861	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Child - Exposure Information			Child Cancer Risk (per million)
		DPM Conc (ug/m3)		Age* Sensitivity	
		Year	Annual	Factor	
1	1	2019	0.0015	3	0.1
2	1	2020	0.1022	3	4.0
3	1	2021	0.0475	3	1.8
4	1	2022	0.0040	3	0.2
5	1	2023	0.0002	3	0.0
Project Road & Generators					2.5
TOTAL					8.6

Maximum		
HI	Fugitive PM2.5	Total PM2.5
0.000	0.00076	0.002
0.020	0.15656	0.259
0.010	0.00946	0.057
0.001	0.0006	0.005
0.000	0.00003	0.000
		0.06736
0.02	0.16	0.26

* Students assumed to be from 4 to 14 years of age

Project Health Risk Calculations

Local Roadway Emission Calculations and Modeling Information

Downtown Sunnyvale Plan, Sunnyvale

Mathilda Ave - Project Traffic Increase

DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions

Year = 2024

Road Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	Diesel ADT	Average Speed (mph)
NB-Mathilda	Northbound Mathilda Ave	N	3	1327	56	17.0	3.4	45	30
SB-Mathilda	Southbound Mathilda Ave	S	3	1327	56	17.0	3.4	45	30

2024 Hourly Diesel Traffic Volumes Per Direction and DPM Emissions - NB-Mathilda

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	2.88%	1	0.0083	9	6.67%	3	0.0073	17	6.20%	3	0.0070
2	1.93%	1	0.0097	10	6.06%	3	0.0075	18	5.40%	2	0.0074
3	2.20%	1	0.0104	11	5.64%	3	0.0074	19	3.84%	2	0.0074
4	1.98%	1	0.0075	12	6.41%	3	0.0073	20	2.30%	1	0.0068
5	1.54%	1	0.0084	13	6.13%	3	0.0072	21	3.21%	1	0.0075
6	2.22%	1	0.0070	14	6.07%	3	0.0072	22	3.74%	2	0.0072
7	4.88%	2	0.0068	15	5.81%	3	0.0070	23	2.56%	1	0.0077
8	5.82%	3	0.0069	16	5.15%	2	0.0070	24	1.33%	1	0.0074
Total										45	

2024 Hourly Diesel Traffic Volumes Per Direction and DPM Emissions - SB-Mathilda

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	2.88%	1	0.0083	9	6.67%	3	0.0073	17	6.20%	3	0.0070
2	1.93%	1	0.0097	10	6.06%	3	0.0075	18	5.40%	2	0.0074
3	2.20%	1	0.0104	11	5.64%	3	0.0074	19	3.84%	2	0.0074
4	1.98%	1	0.0075	12	6.41%	3	0.0073	20	2.30%	1	0.0068
5	1.54%	1	0.0084	13	6.13%	3	0.0072	21	3.21%	1	0.0075
6	2.22%	1	0.0070	14	6.07%	3	0.0072	22	3.74%	2	0.0072
7	4.88%	2	0.0068	15	5.81%	3	0.0070	23	2.56%	1	0.0077
8	5.82%	3	0.0069	16	5.15%	2	0.0070	24	1.33%	1	0.0074
Total										45	

**Downtown Sunnyvale Plan, Sunnyvale
Mathilda Ave - Project Traffic Increase
PM2.5 & TOG Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2024**

Group Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
NB-Mathilda	Northbound Mathilda Ave	N	3	1327	56	17.0	1.3	2,070	30
SB-Mathilda	Southbound Mathilda Ave	S	3	1327	56	17.0	1.3	2,070	30

2024 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - NB-Mathilda

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	23	0.0213	9	7.08%	146	0.0203	17	7.39%	153	0.0201
2	0.36%	8	0.0220	10	4.27%	88	0.0207	18	8.29%	172	0.0199
3	0.30%	6	0.0225	11	4.60%	95	0.0204	19	5.80%	120	0.0199
4	0.19%	4	0.0284	12	5.84%	121	0.0204	20	4.36%	90	0.0199
5	0.45%	9	0.0217	13	6.17%	128	0.0202	21	3.29%	68	0.0201
6	0.82%	17	0.0222	14	6.03%	125	0.0203	22	3.31%	68	0.0203
7	3.77%	78	0.0205	15	7.08%	147	0.0201	23	2.47%	51	0.0201
8	7.90%	164	0.0200	16	7.23%	150	0.0200	24	1.90%	39	0.0199
Total										2,070	

2024 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - SB-Mathilda

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	23	0.0213	9	7.08%	146	0.0203	17	7.39%	153	0.0201
2	0.36%	8	0.0220	10	4.27%	88	0.0207	18	8.29%	172	0.0199
3	0.30%	6	0.0225	11	4.60%	95	0.0204	19	5.80%	120	0.0199
4	0.19%	4	0.0284	12	5.84%	121	0.0204	20	4.36%	90	0.0199
5	0.45%	9	0.0217	13	6.17%	128	0.0202	21	3.29%	68	0.0201
6	0.82%	17	0.0222	14	6.03%	125	0.0203	22	3.31%	68	0.0203
7	3.77%	78	0.0205	15	7.08%	147	0.0201	23	2.47%	51	0.0201
8	7.90%	164	0.0200	16	7.23%	150	0.0200	24	1.90%	39	0.0199
Total										2,070	

**Downtown Sunnyvale Plan, Sunnyvale
Mathilda Ave - Project Traffic Increase
Entrained PM2.5 Road Dust Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2024**

Group Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
NB-Mathilda	Northbound Mathilda Ave	N	3	1327	56	17.0	1.3	2,070	30
SB-Mathilda	Southbound Mathilda Ave	S	3	1327	56	17.0	1.3	2,070	30

2024 Hourly Traffic Volumes Per Direction and Road Dust PM2.5 Emissions - NB-Mathilda

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	23	0.0153	9	7.08%	146	0.0153	17	7.39%	153	0.0153
2	0.36%	8	0.0153	10	4.27%	88	0.0153	18	8.29%	172	0.0153
3	0.30%	6	0.0153	11	4.60%	95	0.0153	19	5.80%	120	0.0153
4	0.19%	4	0.0153	12	5.84%	121	0.0153	20	4.36%	90	0.0153
5	0.45%	9	0.0153	13	6.17%	128	0.0153	21	3.29%	68	0.0153
6	0.82%	17	0.0153	14	6.03%	125	0.0153	22	3.31%	68	0.0153
7	3.77%	78	0.0153	15	7.08%	147	0.0153	23	2.47%	51	0.0153
8	7.90%	164	0.0153	16	7.23%	150	0.0153	24	1.90%	39	0.0153
Total										2,070	

2024 Hourly Traffic Volumes Per Direction and Road Dust PM2.5 Emissions - SB-Mathilda

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	23	0.0153	9	7.08%	146	0.0153	17	7.39%	153	0.0153
2	0.36%	8	0.0153	10	4.27%	88	0.0153	18	8.29%	172	0.0153
3	0.30%	6	0.0153	11	4.60%	95	0.0153	19	5.80%	120	0.0153
4	0.19%	4	0.0153	12	5.84%	121	0.0153	20	4.36%	90	0.0153
5	0.45%	9	0.0153	13	6.17%	128	0.0153	21	3.29%	68	0.0153
6	0.82%	17	0.0153	14	6.03%	125	0.0153	22	3.31%	68	0.0153
7	3.77%	78	0.0153	15	7.08%	147	0.0153	23	2.47%	51	0.0153
8	7.90%	164	0.0153	16	7.23%	150	0.0153	24	1.90%	39	0.0153
Total										2,070	

Downtown Sunnyvale Plan, Sunnyvale

Mathilda Ave - Project Traffic Increase Traffic Data, DPM, PM2.5 & TOG Emission Factors - 30 mph

Analysis Year = 2024

Vehicle Type	2024 Caltrans Number Vehicles (veh/day)	2024 Number Vehicles (veh/day)	2024 Diesel Percent	Number Diesel Vehicles (veh/day)	Vehicle Speed (mph)	Emission Factors				
						Diesel Vehicles DPM (g/VMT)	All Vehicles		Gas Vehicles	
							Total PM2.5 (g/VMT)	Exhaust PM2.5 (g/VMT)	Exhaust TOG (g/VMT)	Running TOG (g/VMT)
LDA	2,895	2,895	1.20%	35	30	0.0060	0.0196	0.0019	0.0143	0.039
LDT	1,100	1,100	0.19%	2	30	0.0105	0.0196	0.0019	0.0216	0.080
MDT	97	97	10.70%	10	30	0.0125	0.0231	0.0025	0.0378	0.173
HDT	48	48	89.40%	43	30	0.0071	0.0638	0.0064	0.0979	0.079
Total	4,140	4,140	-	91	30	-	-	-	-	-
Mix Avg Emission Factor						0.00738	0.02023	0.00195	0.01685	0.05300

Increase From 2024

1.00

Vehicles/Direction

2,070

45

Avg Vehicles/Hour/Direction

86

2

Traffic Data Year = 2024

ADT based on Project Traffic Report		Total Truck	Truck by Axle			
	Total		2	3	4	5
Mathilda Avenue	4,140	145	97	16	16	16
			66.67%	11.11%	11.11%	11.11%

Percent of Total Vehicles

3.51%

2.34%

0.39%

0.39%

0.39%

Traffic Increase per Year (%) = 1.00%

**Downtown Sunnyvale Plan, Sunnyvale
Mathilda Ave - Project Traffic Increase Traffic Data and Entrained PM2.5 Road Dust Emission Factors**

$$E_{2.5} = [k(sL)^{0.91} \times (W)^{1.02} \times (1-P/4N) \times 453.59]$$

where:

$E_{2.5}$ = PM_{2.5} emission factor (g/VMT)

k = particle size multiplier (g/VMT) [$k_{PM2.5} = k_{PM10} \times (0.0686/0.4572) = 1.0 \times 0.15 = 0.15$ g/VMT]^a

sL = roadway specific silt loading (g/m²)

W = average weight of vehicles on road (Bay Area default = 2.4 tons)^a

P = number of days with at least 0.01 inch of precipitation in the annual averaging period

N = number of days in the annual averaging period (default = 365)

Notes: ^a CARB 2018, Miscellaneous Process Methodology 7.9, Entrained Road Travel, Paved Road Dust (Revised and updated, March 2014)

Road Type	Silt Loading (g/m ²)	Average Weight (tons)	County	No. Days ppt > 0.01"	PM _{2.5} Emission Factor (g/VMT)
Major	0.032	2.4	Santa Clara	64	0.01528

SFBAAB^a

Road Type	Silt Loading (g/m ²)
Collector	0.032
Freeway	0.015
Local	0.32
Major	0.032

SFBAAB^a

County	>0.01 inch precipitation
Alameda	61
Contra Costa	60
Marin	66
Napa	68
San Francisco	67
San Mateo	60
Santa Clara	64
Solano	54
Sonoma	69

**Downtown Sunnyvale Plan, Sunnyvale
 Evelyn Ave Project Traffic Increase
 DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
 Year = 2024**

Road Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	Diesel ADT	Average Speed (mph)
Evelyn Ave	Evelyn Ave	E-W	3	1066	56	17.0	3.4	13	25

2024 Hourly Diesel Traffic Volumes and DPM Emissions - Evelyn Ave

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	2.88%	0	0.0106	9	6.67%	1	0.0089	17	6.20%	1	0.0083
2	1.93%	0	0.0134	10	6.06%	1	0.0091	18	5.40%	1	0.0092
3	2.20%	0	0.0147	11	5.64%	1	0.0091	19	3.84%	0	0.0092
4	1.98%	0	0.0089	12	6.41%	1	0.0089	20	2.30%	0	0.0082
5	1.54%	0	0.0108	13	6.13%	1	0.0086	21	3.21%	0	0.0093
6	2.22%	0	0.0080	14	6.07%	1	0.0088	22	3.74%	0	0.0087
7	4.88%	1	0.0079	15	5.81%	1	0.0083	23	2.56%	0	0.0097
8	5.82%	1	0.0081	16	5.15%	1	0.0084	24	1.33%	0	0.0093
Total										13	

**Downtown Sunnyvale Plan, Sunnyvale
 Evelyn Ave Project Traffic Increase
 PM2.5 & TOG Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
 Year = 2024**

Group Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
Evelyn Ave	Evelyn Ave	E-W	3	1066	56	17.0	1.3	585	25

2024 Hourly Traffic Volumes and PM2.5 Emissions - Evelyn Ave

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	6	0.0219	9	7.08%	41	0.0209	17	7.39%	43	0.0207
2	0.36%	2	0.0227	10	4.27%	25	0.0214	18	8.29%	49	0.0206
3	0.30%	2	0.0235	11	4.60%	27	0.0210	19	5.80%	34	0.0205
4	0.19%	1	0.0291	12	5.84%	34	0.0210	20	4.36%	26	0.0205
5	0.45%	3	0.0224	13	6.17%	36	0.0208	21	3.29%	19	0.0207
6	0.82%	5	0.0229	14	6.03%	35	0.0209	22	3.31%	19	0.0209
7	3.77%	22	0.0211	15	7.08%	41	0.0207	23	2.47%	14	0.0208
8	7.90%	46	0.0206	16	7.23%	42	0.0206	24	1.90%	11	0.0205
Total										585	

**Downtown Sunnyvale Plan, Sunnyvale
 Evelyn Ave Project Traffic Increase
 Entrained PM2.5 Road Dust Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
 Year = 2024**

Group Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
Evelyn Ave	Evelyn Ave	E-W	3	1066	56	17.0	1.3	585	25

2024 Hourly Traffic Volumes and Road Dust PM2.5 Emissions - Evelyn Ave

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	6	0.0153	9	7.08%	41	0.0153	17	7.39%	43	0.0153
2	0.36%	2	0.0153	10	4.27%	25	0.0153	18	8.29%	49	0.0153
3	0.30%	2	0.0153	11	4.60%	27	0.0153	19	5.80%	34	0.0153
4	0.19%	1	0.0153	12	5.84%	34	0.0153	20	4.36%	26	0.0153
5	0.45%	3	0.0153	13	6.17%	36	0.0153	21	3.29%	19	0.0153
6	0.82%	5	0.0153	14	6.03%	35	0.0153	22	3.31%	19	0.0153
7	3.77%	22	0.0153	15	7.08%	41	0.0153	23	2.47%	14	0.0153
8	7.90%	46	0.0153	16	7.23%	42	0.0153	24	1.90%	11	0.0153
Total										585	

Downtown Sunnyvale Plan, Sunnyvale

Evelyn Ave Project Traffic Increase Traffic Data, DPM, PM2.5 & TOG Emission Factors - 25 mph

Analysis Year = 2024

Vehicle Type	2024 Caltrans Number Vehicles (veh/day)	2024 Number Vehicles (veh/day)	2024 Percent Diesel	Number Diesel Vehicles (veh/day)	Vehicle Speed (mph)	Emission Factors				
						Diesel Vehicles DPM (g/VMT)	All Vehicles		Gas Vehicles	
							Total PM2.5 (g/VMT)	Exhaust PM2.5 (g/VMT)	Exhaust TOG (g/VMT)	Running TOG (g/VMT)
LDA	409	409	1.20%	5	25	0.0070	0.0201	0.0024	0.0182	0.039
LDT	155	155	0.19%	0	25	0.0122	0.0202	0.0024	0.0275	0.080
MDT	14	14	10.70%	1	25	0.0189	0.0272	0.0066	0.0511	0.173
HDT	7	7	89.40%	6	25	0.0081	0.0646	0.0072	0.1091	0.079
Total	585	585	-	13	25	-	-	-	-	-
Mix Avg Emission Factor						0.00903	0.02084	0.00256	0.02155	0.05300

Increase From 2024 1.00
 Vehicles/Direction 293
 Avg Vehicles/Hour/Direction 12

Traffic Data Year = 2024

ADT based on Project Traffic Report		Total Truck	Truck by Axle			
			2	3	4	5
Evelyn Avenue		585	14	2	2	2
			66.67%	11.11%	11.11%	11.11%

Percent of Total Vehicles 3.51% 2.34% 0.39% 0.39% 0.39%

Traffic Increase per Year (%) = 1.00%

**Downtown Sunnyvale Plan, Sunnyvale
Evelyn Ave Project Traffic Increase Traffic Data and Entrained PM2.5 Road Dust Emission Factors**

$$E_{2.5} = [k(sL)^{0.91} \times (W)^{1.02} \times (1-P/4N) \times 453.59]$$

where:

$E_{2.5}$ = PM_{2.5} emission factor (g/VMT)

k = particle size multiplier (g/VMT) [$k_{PM2.5} = k_{PM10} \times (0.0686/0.4572) = 1.0 \times 0.15 = 0.15$ g/VMT]^a

sL = roadway specific silt loading (g/m²)

W = average weight of vehicles on road (Bay Area default = 2.4 tons)^a

P = number of days with at least 0.01 inch of precipitation in the annual averaging period

N = number of days in the annual averaging period (default = 365)

Notes: ^a CARB 2018, Miscellaneous Process Methodology 7.9, Entrained Road Travel, Paved Road Dust (Revised and updated, March 2014)

Road Type	Silt Loading (g/m ²)	Average Weight (tons)	County	No. Days ppt > 0.01"	PM _{2.5} Emission Factor (g/VMT)
Collector	0.032	2.4	Santa Clara	64	0.01528

SFBAAB^a

Road Type	Silt Loading (g/m ²)
Collector	0.032
Freeway	0.015
Local	0.32
Major	0.032

SFBAAB^a

County	>0.01 inch precipitation
Alameda	61
Contra Costa	60
Marin	66
Napa	68
San Francisco	67
San Mateo	60
Santa Clara	64
Solano	54
Sonoma	69

**Downtown Sunnyvale Plan, Sunnyvale
Sunnyvale Ave - Project Traffic Increase
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = 2024**

Road Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	Diesel ADT	Average Speed (mph)
Sunnyvale Ave	Sunnyvale Avenue	N-S	3	1241	56	17.0	3.4	40	25

2024 Hourly Diesel Traffic Volumes and DPM Emissions - Sunnyvale Ave

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	2.88%	1	0.0106	9	6.67%	3	0.0089	17	6.20%	2	0.0083
2	1.93%	1	0.0134	10	6.06%	2	0.0091	18	5.40%	2	0.0092
3	2.20%	1	0.0147	11	5.64%	2	0.0091	19	3.84%	2	0.0092
4	1.98%	1	0.0089	12	6.41%	3	0.0089	20	2.30%	1	0.0082
5	1.54%	1	0.0108	13	6.13%	2	0.0086	21	3.21%	1	0.0093
6	2.22%	1	0.0080	14	6.07%	2	0.0088	22	3.74%	1	0.0087
7	4.88%	2	0.0079	15	5.81%	2	0.0083	23	2.56%	1	0.0097
8	5.82%	2	0.0081	16	5.15%	2	0.0084	24	1.33%	1	0.0093
Total										40	

**Downtown Sunnyvale Plan, Sunnyvale
Sunnyvale Ave - Project Traffic Increase
PM2.5 & TOG Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2024**

Group Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
Sunnyvale Ave	Sunnyvale Avenue	N-S	3	1241	56	17.0	1.3	1,815	25

2024 Hourly Traffic Volumes and PM2.5 Emissions - Sunnyvale Ave

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	20	0.0219	9	7.08%	128	0.0209	17	7.39%	134	0.0207
2	0.36%	7	0.0227	10	4.27%	77	0.0214	18	8.29%	150	0.0206
3	0.30%	6	0.0235	11	4.60%	84	0.0210	19	5.80%	105	0.0205
4	0.19%	3	0.0291	12	5.84%	106	0.0210	20	4.36%	79	0.0205
5	0.45%	8	0.0224	13	6.17%	112	0.0208	21	3.29%	60	0.0207
6	0.82%	15	0.0229	14	6.03%	109	0.0209	22	3.31%	60	0.0209
7	3.77%	68	0.0211	15	7.08%	129	0.0207	23	2.47%	45	0.0208
8	7.90%	143	0.0206	16	7.23%	131	0.0206	24	1.90%	34	0.0205
Total										1,815	

**Downtown Sunnyvale Plan, Sunnyvale
Sunnyvale Ave - Project Traffic Increase
Entrained PM2.5 Road Dust Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2024**

Group Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
Sunnyvale Ave	Sunnyvale Avenue	N-S	3	1241	56	17.0	1.3	1,815	25

2024 Hourly Traffic Volumes and Road Dust PM2.5 Emissions - Sunnyvale Ave

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	20	0.0153	9	7.08%	128	0.0153	17	7.39%	134	0.0153
2	0.36%	7	0.0153	10	4.27%	77	0.0153	18	8.29%	150	0.0153
3	0.30%	6	0.0153	11	4.60%	84	0.0153	19	5.80%	105	0.0153
4	0.19%	3	0.0153	12	5.84%	106	0.0153	20	4.36%	79	0.0153
5	0.45%	8	0.0153	13	6.17%	112	0.0153	21	3.29%	60	0.0153
6	0.82%	15	0.0153	14	6.03%	109	0.0153	22	3.31%	60	0.0153
7	3.77%	68	0.0153	15	7.08%	129	0.0153	23	2.47%	45	0.0153
8	7.90%	143	0.0153	16	7.23%	131	0.0153	24	1.90%	34	0.0153
Total										1,815	

**Downtown Sunnyvale Plan, Sunnyvale
Sunnyvale Ave - Project Traffic Increase Traffic Data and Entrained PM2.5 Road Dust Emission Factors**

$$E_{2.5} = [k(sL)^{0.91} \times (W)^{1.02} \times (1-P/4N) \times 453.59]$$

where:

- $E_{2.5}$ = PM_{2.5} emission factor (g/VMT)
- k = particle size multiplier (g/VMT) [$k_{PM2.5} = k_{PM10} \times (0.0686/0.4572) = 1.0 \times 0.15 = 0.15$ g/VMT]^a
- sL = roadway specific silt loading (g/m²)
- W = average weight of vehicles on road (Bay Area default = 2.4 tons)^a
- P = number of days with at least 0.01 inch of precipitation in the annual averaging period
- N = number of days in the annual averaging period (default = 365)

Notes: ^a CARB 2018, Miscellaneous Process Methodology 7.9, Entrained Road Travel, Paved Road Dust (Revised and updated, March 2018)

Road Type	Silt Loading (g/m ²)	Average Weight (tons)	County	No. Days ppt > 0.01"	PM _{2.5} Emission Factor (g/VMT)
Collector	0.032	2.4	Santa Clara	64	0.01528

SFBAAB^a

Road Type	Silt Loading (g/m ²)
Collector	0.032
Freeway	0.015
Local	0.32
Major	0.032

SFBAAB^a

County	>0.01 inch precipitation
Alameda	61
Contra Costa	60
Marin	66
Napa	68
San Francisco	67
San Mateo	60
Santa Clara	64
Solano	54
Sonoma	69

Downtown Sunnyvale Plan, Sunnyvale
Sunnyvale Ave - Project Traffic Increase Traffic Data, DPM, PM2.5 & TOG Emission Factors - 25 mph

Analysis Year = 2024

Vehicle Type	2024 Caltrans Number Vehicles (veh/day)	2024 Number Vehicles (veh/day)	2024 Percent Diesel	Number Diesel Vehicles (veh/day)	Vehicle Speed (mph)	Emission Factors				
						Diesel Vehicles DPM (g/VMT)	All Vehicles		Gas Vehicles	
							Total PM2.5 (g/VMT)	Exhaust PM2.5 (g/VMT)	Exhaust TOG (g/VMT)	Running TOG (g/VMT)
LDA	1,269	1,269	1.20%	15	25	0.0070	0.0201	0.0024	0.0182	0.039
LDT	482	482	0.19%	1	25	0.0122	0.0202	0.0024	0.0275	0.080
MDT	42	42	10.70%	5	25	0.0189	0.0272	0.0066	0.0511	0.173
HDT	21	21	89.40%	19	25	0.0081	0.0646	0.0072	0.1091	0.079
Total	1,815	1,815	-	40	25	-	-	-	-	-
Mix Avg Emission Factor						0.00903	0.02084	0.00256	0.02155	0.05300

Increase From 2024 1.00
 Vehicles/Direction 908
Avg Vehicles/Hour/Direction 38

Traffic Data Year = 2024

ADT based on Project Traffic Report	Total	Truck by Axle			
		2	3	4	5
Sunnyvale Ave	1,815	64	42	7	7

Percent of Total Vehicles 3.51% 2.34% 0.39% 0.39% 0.39%
 Traffic Increase per Year (%) = 1.00%

Downtown Sunnyvale Plan, Sunnyvale
Iowa Avenue - Project Traffic Increase
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
 Year = 2024

Road Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	Diesel ADT	Average Speed (mph)
Iowa Ave	Iowa Avenue	E-W	2	859	44	13.3	3.4	25	25

2024 Hourly Diesel Traffic Volumes and DPM Emissions - Iowa Ave

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	2.88%	1	0.0106	9	6.67%	2	0.0089	17	6.20%	2	0.0083
2	1.93%	0	0.0134	10	6.06%	2	0.0091	18	5.40%	1	0.0092
3	2.20%	1	0.0147	11	5.64%	1	0.0091	19	3.84%	1	0.0092
4	1.98%	0	0.0089	12	6.41%	2	0.0089	20	2.30%	1	0.0082
5	1.54%	0	0.0108	13	6.13%	2	0.0086	21	3.21%	1	0.0093
6	2.22%	1	0.0080	14	6.07%	2	0.0088	22	3.74%	1	0.0087
7	4.88%	1	0.0079	15	5.81%	1	0.0083	23	2.56%	1	0.0097
8	5.82%	1	0.0081	16	5.15%	1	0.0084	24	1.33%	0	0.0093
Total										25	

**Downtown Sunnyvale Plan, Sunnyvale
Iowa Avenue - Project Traffic Increase
PM2.5 & TOG Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2024**

Group Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
Iowa Ave	Iowa Avenue	E-W	2	859	44	13.3	1.3	1,145	25

2024 Hourly Traffic Volumes and PM2.5 Emissions - Iowa Ave

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	12	0.0219	9	7.08%	81	0.0209	17	7.39%	85	0.0207
2	0.36%	4	0.0227	10	4.27%	49	0.0214	18	8.29%	95	0.0206
3	0.30%	3	0.0235	11	4.60%	53	0.0210	19	5.80%	66	0.0205
4	0.19%	2	0.0291	12	5.84%	67	0.0210	20	4.36%	50	0.0205
5	0.45%	5	0.0224	13	6.17%	71	0.0208	21	3.29%	38	0.0207
6	0.82%	9	0.0229	14	6.03%	69	0.0209	22	3.31%	38	0.0209
7	3.77%	43	0.0211	15	7.08%	81	0.0207	23	2.47%	28	0.0208
8	7.90%	91	0.0206	16	7.23%	83	0.0206	24	1.90%	22	0.0205
Total										1,145	

**Downtown Sunnyvale Plan, Sunnyvale
Iowa Avenue - Project Traffic Increase
Entrained PM2.5 Road Dust Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2024**

Group Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
Iowa Ave	Iowa Avenue	E-W	2	859	44	13.3	1.3	1,145	25

2024 Hourly Traffic Volumes and Road Dust PM2.5 Emissions - Iowa Ave

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	12	0.1242	9	7.08%	81	0.1242	17	7.39%	85	0.1242
2	0.36%	4	0.1242	10	4.27%	49	0.1242	18	8.29%	95	0.1242
3	0.30%	3	0.1242	11	4.60%	53	0.1242	19	5.80%	66	0.1242
4	0.19%	2	0.1242	12	5.84%	67	0.1242	20	4.36%	50	0.1242
5	0.45%	5	0.1242	13	6.17%	71	0.1242	21	3.29%	38	0.1242
6	0.82%	9	0.1242	14	6.03%	69	0.1242	22	3.31%	38	0.1242
7	3.77%	43	0.1242	15	7.08%	81	0.1242	23	2.47%	28	0.1242
8	7.90%	91	0.1242	16	7.23%	83	0.1242	24	1.90%	22	0.1242
Total										1,145	

Downtown Sunnyvale Plan, Sunnyvale
Iowa Avenue - Project Traffic Increase Traffic Data and Entrained PM2.5 Road Dust Emission Factors

$$E_{2.5} = [k(sL)^{0.91} \times (W)^{1.02} \times (1-P/4N)] \times 453.59$$

where:

$E_{2.5}$ = PM_{2.5} emission factor (g/VMT)

k = particle size multiplier (g/VMT) [$k_{PM2.5} = k_{PM10} \times (0.0686/0.4572) = 1.0 \times 0.15 = 0.15$ g/VMT]^a

sL = roadway specific silt loading (g/m²)

W = average weight of vehicles on road (Bay Area default = 2.4 tons)^a

P = number of days with at least 0.01 inch of precipitation in the annual averaging period

N = number of days in the annual averaging period (default = 365)

Notes: ^a CARB 2018, Miscellaneous Process Methodology 7.9, Entrained Road Travel, Paved Road Dust (Revised and updated, March 2014)

Road Type	Silt Loading (g/m ²)	Average Weight (tons)	County	No. Days ppt > 0.01"	PM _{2.5} Emission Factor (g/VMT)
Local	0.32	2.4	Santa Clara	64	0.12420

SFBAAB^a

Road Type	Silt Loading (g/m ²)
Collector	0.032
Freeway	0.015
Local	0.32
Major	0.032

SFBAAB^a

County	>0.01 inch precipitation
Alameda	61
Contra Costa	60
Marin	66
Napa	68
San Francisco	67
San Mateo	60
Santa Clara	64
Solano	54
Sonoma	69

Downtown Sunnyvale Plan, Sunnyvale

Iowa Avenue - Project Traffic Increase Traffic Data, DPM, PM2.5 & TOG Emission Factors - 25 mph

Analysis Year = 2024

Vehicle Type	2024 Caltrans Number Vehicles (veh/day)	2024 Number Vehicles (veh/day)	2024 Percent Diesel	Number Diesel Vehicles (veh/day)	Vehicle Speed (mph)	Emission Factors				
						Diesel Vehicles DPM (g/VMT)	All Vehicles		Gas Vehicles	
							Total PM2.5 (g/VMT)	Exhaust PM2.5 (g/VMT)	Exhaust TOG (g/VMT)	Running TOG (g/VMT)
LDA	801	801	1.20%	10	25	0.0070	0.0201	0.0024	0.0182	0.039
LDT	304	304	0.19%	1	25	0.0122	0.0202	0.0024	0.0275	0.080
MDT	27	27	10.70%	3	25	0.0189	0.0272	0.0066	0.0511	0.173
HDT	13	13	89.40%	12	25	0.0081	0.0646	0.0072	0.1091	0.079
Total	1,145	1,145	-	25	25	-	-	-	-	-
Mix Avg Emission Factor						0.00903	0.02084	0.00256	0.02155	0.05300

Increase From 2024

1.00

Vehicles/Direction

573

13

Avg Vehicles/Hour/Direction

24

1

Traffic Data Year = 2024

ADT based on Project Traffic Report	Total	Total Truck	Truck by Axle			
			2	3	4	5
Iowa Avenue	1,145	40	27	4	4	4
			66.67%	11.11%	11.11%	11.11%

Percent of Total Vehicles

3.51%

2.34%

0.39%

0.39%

0.39%

Traffic Increase per Year (%) = 1.00%

**Downtown Sunnyvale Plan, Sunnyvale
Mathilda Ave - Background Traffic
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = 2020**

Road Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	Diesel ADT	Average Speed (mph)
NB-Mathilda	Northbound Mathilda Ave	N	3	1327	56	17.0	3.4	544	30
SB-Mathilda	Southbound Mathilda Ave	S	3	1327	56	17.0	3.4	544	30

2020 Hourly Diesel Traffic Volumes Per Direction and DPM Emissions - NB-Mathilda

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	2.96%	16	0.0239	9	6.67%	36	0.0207	17	6.07%	33	0.0203
2	1.99%	11	0.0219	10	6.08%	33	0.0231	18	5.22%	28	0.0166
3	2.25%	12	0.0210	11	5.70%	31	0.0223	19	3.73%	20	0.0169
4	2.17%	12	0.0277	12	6.49%	35	0.0218	20	2.22%	12	0.0150
5	1.63%	9	0.0242	13	6.06%	33	0.0214	21	3.18%	17	0.0205
6	2.32%	13	0.0268	14	6.03%	33	0.0213	22	3.81%	21	0.0223
7	5.03%	27	0.0241	15	5.75%	31	0.0201	23	2.48%	13	0.0203
8	5.82%	32	0.0194	16	5.09%	28	0.0187	24	1.27%	7	0.0175
Total										544	

2020 Hourly Diesel Traffic Volumes Per Direction and DPM Emissions - SB-Mathilda

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	2.96%	16	0.0239	9	6.67%	36	0.0207	17	6.07%	33	0.0203
2	1.99%	11	0.0219	10	6.08%	33	0.0231	18	5.22%	28	0.0166
3	2.25%	12	0.0210	11	5.70%	31	0.0223	19	3.73%	20	0.0169
4	2.17%	12	0.0277	12	6.49%	35	0.0218	20	2.22%	12	0.0150
5	1.63%	9	0.0242	13	6.06%	33	0.0214	21	3.18%	17	0.0205
6	2.32%	13	0.0268	14	6.03%	33	0.0213	22	3.81%	21	0.0223
7	5.03%	27	0.0241	15	5.75%	31	0.0201	23	2.48%	13	0.0203
8	5.82%	32	0.0194	16	5.09%	28	0.0187	24	1.27%	7	0.0175
Total										544	

**Downtown Sunnyvale Plan, Sunnyvale
Mathilda Ave - Background Traffic
PM2.5 & TOG Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2020**

Group Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
NB-Mathilda	Northbound Mathilda Ave	N	3	1327	56	17.0	1.3	26,330	30
SB-Mathilda	Southbound Mathilda Ave	S	3	1327	56	17.0	1.3	26,330	30

2020 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - NB-Mathilda

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	287	0.0221	9	7.08%	1863	0.0207	17	7.39%	1946	0.0204
2	0.37%	96	0.0232	10	4.27%	1124	0.0213	18	8.29%	2183	0.0201
3	0.30%	80	0.0239	11	4.60%	1211	0.0209	19	5.80%	1527	0.0201
4	0.19%	50	0.0332	12	5.84%	1539	0.0208	20	4.37%	1150	0.0200
5	0.45%	119	0.0228	13	6.17%	1625	0.0205	21	3.29%	865	0.0204
6	0.82%	216	0.0236	14	6.03%	1588	0.0206	22	3.31%	871	0.0207
7	3.77%	992	0.0210	15	7.08%	1864	0.0204	23	2.47%	651	0.0204
8	7.91%	2081	0.0202	16	7.23%	1902	0.0202	24	1.89%	499	0.0201
Total										26,330	

2020 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - SB-Mathilda

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	287	0.0221	9	7.08%	1863	0.0207	17	7.39%	1946	0.0204
2	0.37%	96	0.0232	10	4.27%	1124	0.0213	18	8.29%	2183	0.0201
3	0.30%	80	0.0239	11	4.60%	1211	0.0209	19	5.80%	1527	0.0201
4	0.19%	50	0.0332	12	5.84%	1539	0.0208	20	4.37%	1150	0.0200
5	0.45%	119	0.0228	13	6.17%	1625	0.0205	21	3.29%	865	0.0204
6	0.82%	216	0.0236	14	6.03%	1588	0.0206	22	3.31%	871	0.0207
7	3.77%	992	0.0210	15	7.08%	1864	0.0204	23	2.47%	651	0.0204
8	7.91%	2081	0.0202	16	7.23%	1902	0.0202	24	1.89%	499	0.0201
Total										26,330	

**Downtown Sunnyvale Plan, Sunnyvale
Mathilda Ave - Background Traffic**

Entrained PM2.5 Road Dust Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = **2020**

Group Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
NB-Mathilda	Northbound Mathilda Ave	N	3	1327	56	17.0	1.3	26,330	30
SB-Mathilda	Southbound Mathilda Ave	S	3	1327	56	17.0	1.3	26,330	30

2020 Hourly Traffic Volumes Per Direction and Road Dust PM2.5 Emissions - NB-Mathilda

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	287	0.0153	9	7.08%	1863	0.0153	17	7.39%	1946	0.0153
2	0.37%	96	0.0153	10	4.27%	1124	0.0153	18	8.29%	2183	0.0153
3	0.30%	80	0.0153	11	4.60%	1211	0.0153	19	5.80%	1527	0.0153
4	0.19%	50	0.0153	12	5.84%	1539	0.0153	20	4.37%	1150	0.0153
5	0.45%	119	0.0153	13	6.17%	1625	0.0153	21	3.29%	865	0.0153
6	0.82%	216	0.0153	14	6.03%	1588	0.0153	22	3.31%	871	0.0153
7	3.77%	992	0.0153	15	7.08%	1864	0.0153	23	2.47%	651	0.0153
8	7.91%	2081	0.0153	16	7.23%	1902	0.0153	24	1.89%	499	0.0153
Total										26,330	

2020 Hourly Traffic Volumes Per Direction and Road Dust PM2.5 Emissions - SB-Mathilda

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	287	0.0153	9	7.08%	1863	0.0153	17	7.39%	1946	0.0153
2	0.37%	96	0.0153	10	4.27%	1124	0.0153	18	8.29%	2183	0.0153
3	0.30%	80	0.0153	11	4.60%	1211	0.0153	19	5.80%	1527	0.0153
4	0.19%	50	0.0153	12	5.84%	1539	0.0153	20	4.37%	1150	0.0153
5	0.45%	119	0.0153	13	6.17%	1625	0.0153	21	3.29%	865	0.0153
6	0.82%	216	0.0153	14	6.03%	1588	0.0153	22	3.31%	871	0.0153
7	3.77%	992	0.0153	15	7.08%	1864	0.0153	23	2.47%	651	0.0153
8	7.91%	2081	0.0153	16	7.23%	1902	0.0153	24	1.89%	499	0.0153
Total										26,330	

Downtown Sunnyvale Plan, Sunnyvale

Mathilda Ave - Background Traffic Traffic Data, DPM, PM2.5 & TOG Emission Factors - 30 mph

Analysis Year = 2020

Vehicle Type	2020 Caltrans Number Vehicles (veh/day)	2020 Number Vehicles (veh/day)	2020 Percent Diesel	Number Diesel Vehicles (veh/day)	Vehicle Speed (mph)	Emission Factors				
						Diesel Vehicles DPM (g/VMT)	All Vehicles		Gas Vehicles	
							Total PM2.5 (g/VMT)	Exhaust PM2.5 (g/VMT)	Exhaust TOG (g/VMT)	Running TOG (g/VMT)
LDA	36,827	36,827	1.06%	391	30	0.0114	0.0197	0.0019	0.0204	0.044
LDT	13,985	13,985	0.17%	24	30	0.0156	0.0197	0.0020	0.0317	0.096
MDT	1,232	1,232	9.92%	122	30	0.0169	0.0236	0.0028	0.0635	0.185
HDT	616	616	89.31%	550	30	0.0290	0.0853	0.0260	0.1801	0.107
Total	52,660	52,660	-	1,088	30	-	-	-	-	-
Mix Avg Emission Factor						0.02101	0.02055	0.00225	0.02460	0.06108

Increase From 2020 1.00
 Vehicles/Direction 26,330 544
 Avg Vehicles/Hour/Direction 1,097 23

Traffic Data Year = 2020

ADT based on Project Traffic Report		Total Truck	Truck by Axle			
	Total		2	3	4	5
Mathilda Avenue	52,660	1,848	1,232	205	205	205
Percent of Total Vehicles		3.51%	2.34%	0.39%	0.39%	0.39%

Traffic Increase per Year (%) = 1.00%

**Downtown Sunnyvale Plan, Sunnyvale
Mathilda Ave - Background Traffic Traffic Data and Entrained PM2.5 Road Dust Emission Factors**

$$E_{2.5} = [k(sL)^{0.91} \times (W)^{1.02} \times (1-P/4N) \times 453.59]$$

where:

$E_{2.5}$ = PM_{2.5} emission factor (g/VMT)

k = particle size multiplier (g/VMT) [$k_{PM2.5} = k_{PM10} \times (0.0686/0.4572) = 1.0 \times 0.15 = 0.15$ g/VMT]^a

sL = roadway specific silt loading (g/m²)

W = average weight of vehicles on road (Bay Area default = 2.4 tons)^a

P = number of days with at least 0.01 inch of precipitation in the annual averaging period

N = number of days in the annual averaging period (default = 365)

Notes: ^a CARB 2018, Miscellaneous Process Methodology 7.9, Entrained Road Travel, Paved Road Dust (Revised and updated, March 2018)

Road Type	Silt Loading (g/m ²)	Average Weight (tons)	County	No. Days ppt > 0.01"	PM _{2.5} Emission Factor (g/VMT)
Major	0.032	2.4	Santa Clara	64	0.01528

SFBAAB^a

Road Type	Silt Loading (g/m ²)
Collector	0.032
Freeway	0.015
Local	0.32
Major	0.032

SFBAAB^a

County	>0.01 inch precipitation
Alameda	61
Contra Costa	60
Marin	66
Napa	68
San Francisco	67
San Mateo	60
Santa Clara	64
Solano	54
Sonoma	69

**Downtown Sunnyvale Plan, Sunnyvale
W Evelyn Ave Background Traffic
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = 2020**

Road Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	Diesel ADT	Average Speed (mph)
Evelyn Ave	Evelyn Avenue	E-W	3	1066	56	17.0	3.4	211	25

2020 Hourly Diesel Traffic Volumes and DPM Emissions - W Evelyn Ave

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	2.96%	6	0.0284	9	6.67%	14	0.0242	17	6.07%	13	0.0235
2	1.99%	4	0.0276	10	6.08%	13	0.0269	18	5.22%	11	0.0199
3	2.25%	5	0.0272	11	5.70%	12	0.0260	19	3.73%	8	0.0202
4	2.17%	5	0.0318	12	6.49%	14	0.0254	20	2.22%	5	0.0177
5	1.63%	3	0.0289	13	6.06%	13	0.0248	21	3.18%	7	0.0242
6	2.32%	5	0.0304	14	6.03%	13	0.0248	22	3.81%	8	0.0258
7	5.03%	11	0.0274	15	5.75%	12	0.0233	23	2.48%	5	0.0242
8	5.82%	12	0.0224	16	5.09%	11	0.0218	24	1.27%	3	0.0208
Total										211	

**Downtown Sunnyvale Plan, Sunnyvale
W Evelyn Ave Background Traffic
PM2.5 & TOG Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2020**

Group Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
Evelyn Ave	Evelyn Avenue	E-W	3	1066	56	17.0	1.3	10,230	25

2020 Hourly Traffic Volumes and PM2.5 Emissions - Evelyn Ave

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	111	0.0229	9	7.08%	724	0.0213	17	7.39%	756	0.0210
2	0.37%	37	0.0241	10	4.27%	437	0.0220	18	8.29%	848	0.0208
3	0.30%	31	0.0251	11	4.60%	471	0.0215	19	5.80%	593	0.0207
4	0.19%	19	0.0343	12	5.84%	598	0.0215	20	4.37%	447	0.0207
5	0.45%	46	0.0236	13	6.17%	631	0.0212	21	3.29%	336	0.0210
6	0.82%	84	0.0244	14	6.03%	617	0.0212	22	3.31%	338	0.0213
7	3.77%	385	0.0217	15	7.08%	724	0.0210	23	2.47%	253	0.0210
8	7.91%	809	0.0208	16	7.23%	739	0.0209	24	1.89%	194	0.0207
Total										10,230	

**Downtown Sunnyvale Plan, Sunnyvale
W Evelyn Ave Background Traffic
Entrained PM2.5 Road Dust Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2020**

Group Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
Evelyn Ave	Evelyn Avenue	E-W	3	1066	56	17.0	1.3	10,230	25

2020 Hourly Traffic Volumes and Road Dust PM2.5 Emissions - Evelyn Ave

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	111	0.0153	9	7.08%	724	0.0153	17	7.39%	756	0.0153
2	0.37%	37	0.0153	10	4.27%	437	0.0153	18	8.29%	848	0.0153
3	0.30%	31	0.0153	11	4.60%	471	0.0153	19	5.80%	593	0.0153
4	0.19%	19	0.0153	12	5.84%	598	0.0153	20	4.37%	447	0.0153
5	0.45%	46	0.0153	13	6.17%	631	0.0153	21	3.29%	336	0.0153
6	0.82%	84	0.0153	14	6.03%	617	0.0153	22	3.31%	338	0.0153
7	3.77%	385	0.0153	15	7.08%	724	0.0153	23	2.47%	253	0.0153
8	7.91%	809	0.0153	16	7.23%	739	0.0153	24	1.89%	194	0.0153
Total										10,230	

**Downtown Sunnyvale Plan, Sunnyvale
Evelyn Ave Background Traffic Traffic Data, DPM, PM2.5 & TOG Emission Factors - 25 mph**

Analysis Year = 2020

Vehicle Type	2020 Caltrans Number Vehicles (veh/day)	2020 Number Vehicles (veh/day)	2020 Percent Diesel	Number Diesel Vehicles (veh/day)	Vehicle Speed (mph)	Emission Factors				
						Diesel Vehicles DPM (g/VMT)	All Vehicles		Gas Vehicles	
							Total PM2.5 (g/VMT)	Exhaust PM2.5 (g/VMT)	Exhaust TOG (g/VMT)	Running TOG (g/VMT)
LDA	7,154	7,154	1.06%	76	25	0.0133	0.0202	0.0025	0.0260	0.044
LDT	2,717	2,717	0.17%	5	25	0.0184	0.0202	0.0025	0.0402	0.096
MDT	239	239	9.92%	24	25	0.0248	0.0285	0.0078	0.0846	0.185
HDT	120	120	89.31%	107	25	0.0328	0.0880	0.0286	0.2099	0.107
Total	10,230	10,230	-	211	25	-	-	-	-	-
Mix Avg Emission Factor						0.02460	0.02121	0.00291	0.03137	0.06108

Increase From 2020 1.00
Vehicles/Direction 5,115 106
Avg Vehicles/Hour/Direction 213 4

Traffic Data Year = 2020

ADT based on Project Traffic Report		Total Truck	Truck by Axle				
			2	3	4	5	
Evelyn Avenue		10,230	359	239	40	40	40
			66.67%	11.11%	11.11%	11.11%	
		Percent of Total Vehicles	3.51%	2.34%	0.39%	0.39%	0.39%

Traffic Increase per Year (%) = 1.00%

**Downtown Sunnyvale Plan, Sunnyvale
Evelyn Ave Background Traffic Traffic Data and Entrained PM2.5 Road Dust Emission Factors**

$$E_{2.5} = [k(sL)^{0.91} \times (W)^{1.02} \times (1-P/4N) \times 453.59]$$

where:

$E_{2.5}$ = PM_{2.5} emission factor (g/VMT)

k = particle size multiplier (g/VMT) [$k_{PM2.5} = k_{PM10} \times (0.0686/0.4572) = 1.0 \times 0.15 = 0.15$ g/VMT]^a

sL = roadway specific silt loading (g/m²)

W = average weight of vehicles on road (Bay Area default = 2.4 tons)^a

P = number of days with at least 0.01 inch of precipitation in the annual averaging period

N = number of days in the annual averaging period (default = 365)

Notes: ^a CARB 2018, Miscellaneous Process Methodology 7.9, Entrained Road Travel, Paved Road Dust (Revised and updated, March 2018)

Road Type	Silt Loading (g/m ²)	Average Weight (tons)	County	No. Days ppt > 0.01"	PM _{2.5} Emission Factor (g/VMT)
Collector	0.032	2.4	Santa Clara	64	0.01528

SFBAAB^a

Road Type	Silt Loading (g/m ²)
Collector	0.032
Freeway	0.015
Local	0.32
Major	0.032

SFBAAB^a

County	>0.01 inch precipitation
Alameda	61
Contra Costa	60
Marin	66
Napa	68
San Francisco	67
San Mateo	60
Santa Clara	64
Solano	54
Sonoma	69

**Downtown Sunnyvale Plan, Sunnyvale
Sunnyvale Ave - Background Traffic
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = 2020**

Road Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	Diesel ADT	Average Speed (mph)
Sunnyvle Ave	Sunnyvale Avenue	N-S	3	1241	56	17.0	3.4	213	25

2020 Hourly Diesel Traffic Volumes and DPM Emissions - Sunnyvle Ave

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	2.96%	6	0.0284	9	6.67%	14	0.0242	17	6.07%	13	0.0235
2	1.99%	4	0.0276	10	6.08%	13	0.0269	18	5.22%	11	0.0199
3	2.25%	5	0.0272	11	5.70%	12	0.0260	19	3.73%	8	0.0202
4	2.17%	5	0.0318	12	6.49%	14	0.0254	20	2.22%	5	0.0177
5	1.63%	3	0.0289	13	6.06%	13	0.0248	21	3.18%	7	0.0242
6	2.32%	5	0.0304	14	6.03%	13	0.0248	22	3.81%	8	0.0258
7	5.03%	11	0.0274	15	5.75%	12	0.0233	23	2.48%	5	0.0242
8	5.82%	12	0.0224	16	5.09%	11	0.0218	24	1.27%	3	0.0208
Total										213	

**Downtown Sunnyvale Plan, Sunnyvale
Sunnyvale Ave - Background Traffic
PM2.5 & TOG Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2020**

Group Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
Sunnyvale Ave	Sunnyvale Avenue	N-S	3	1241	56	17.0	1.3	10,315	25

2020 Hourly Traffic Volumes and PM2.5 Emissions - Sunnyvale Ave

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	112	0.0229	9	7.08%	730	0.0213	17	7.39%	762	0.0210
2	0.37%	38	0.0241	10	4.27%	440	0.0220	18	8.29%	855	0.0208
3	0.30%	31	0.0251	11	4.60%	474	0.0215	19	5.80%	598	0.0207
4	0.19%	19	0.0343	12	5.84%	603	0.0215	20	4.37%	450	0.0207
5	0.45%	47	0.0236	13	6.17%	637	0.0212	21	3.29%	339	0.0210
6	0.82%	85	0.0244	14	6.03%	622	0.0212	22	3.31%	341	0.0213
7	3.77%	389	0.0217	15	7.08%	730	0.0210	23	2.47%	255	0.0210
8	7.91%	815	0.0208	16	7.23%	745	0.0209	24	1.89%	195	0.0207
Total										10,315	

**Downtown Sunnyvale Plan, Sunnyvale
Sunnyvale Ave - Background Traffic
Entrained PM2.5 Road Dust Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2020**

Group Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
Sunnyvale Ave	Sunnyvale Avenue	N-S	3	1241	56	17.0	1.3	10,315	25

2020 Hourly Traffic Volumes and Road Dust PM2.5 Emissions - Sunnyvale Ave

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	112	0.0153	9	7.08%	730	0.0153	17	7.39%	762	0.0153
2	0.37%	38	0.0153	10	4.27%	440	0.0153	18	8.29%	855	0.0153
3	0.30%	31	0.0153	11	4.60%	474	0.0153	19	5.80%	598	0.0153
4	0.19%	19	0.0153	12	5.84%	603	0.0153	20	4.37%	450	0.0153
5	0.45%	47	0.0153	13	6.17%	637	0.0153	21	3.29%	339	0.0153
6	0.82%	85	0.0153	14	6.03%	622	0.0153	22	3.31%	341	0.0153
7	3.77%	389	0.0153	15	7.08%	730	0.0153	23	2.47%	255	0.0153
8	7.91%	815	0.0153	16	7.23%	745	0.0153	24	1.89%	195	0.0153
Total										10,315	

Downtown Sunnyvale Plan, Sunnyvale

Sunnyvale Ave - Background Traffic Traffic Data, DPM, PM2.5 & TOG Emission Factors - 25 mph

Analysis Year = 2020

Vehicle Type	2020 Caltrans Number Vehicles (veh/day)	2020 Number Vehicles (veh/day)	2020 Percent Diesel	Number Diesel Vehicles (veh/day)	Vehicle Speed (mph)	Emission Factors				
						Diesel Vehicles DPM (g/VTM)	All Vehicles		Gas Vehicles	
							Total PM2.5 (g/VTM)	Exhaust PM2.5 (g/VTM)	Exhaust TOG (g/VTM)	Running TOG (g/VTM)
LDA	7,214	7,214	1.06%	77	25	0.0133	0.0202	0.0025	0.0260	0.044
LDT	2,739	2,739	0.17%	5	25	0.0184	0.0202	0.0025	0.0402	0.096
MDT	241	241	9.92%	24	25	0.0248	0.0285	0.0078	0.0846	0.185
HDT	121	121	89.31%	108	25	0.0328	0.0880	0.0286	0.2099	0.107
Total	10,315	10,315	-	213	25	-	-	-	-	-
Mix Avg Emission Factor						0.02460	0.02121	0.00291	0.03137	0.06108

Increase From 2020

Vehicles/Direction

Avg Vehicles/Hour/Direction

1.00

5,158

215

107

4

Traffic Data Year = 2020

ADT based on Project Traffic Report		Total Truck	Truck by Axle			
	Total		2	3	4	5
Sunnyvale Ave	10,315	362	241	40	40	40
Percent of Total Vehicles		3.51%	66.67%	11.11%	11.11%	11.11%

Traffic Increase per Year (%) = 1.00%

Downtown Sunnyvale Plan, Sunnyvale

Sunnyvale Ave - Background Traffic Traffic Data and Entrained PM2.5 Road Dust Emission Factors

$$E_{2.5} = [k(sL)^{0.91} \times (W)^{1.02} \times (1-P/4N) \times 453.59]$$

where:

$E_{2.5}$ = PM_{2.5} emission factor (g/VTM)

k = particle size multiplier (g/VTM) [$k_{PM2.5} = k_{PM10} \times (0.0686/0.4572) = 1.0 \times 0.15 = 0.15$ g/VTM]^a

sL = roadway specific silt loading (g/m²)

W = average weight of vehicles on road (Bay Area default = 2.4 tons)^a

P = number of days with at least 0.01 inch of precipitation in the annual averaging period

N = number of days in the annual averaging period (default = 365)

Notes: ^a CARB 2018, Miscellaneous Process Methodology 7.9, Entrained Road Travel, Paved Road Dust (Revised and updated, April 2018)

Road Type	Silt Loading (g/m ²)	Average Weight (tons)	County	No. Days ppt > 0.01"	PM _{2.5} Emission Factor (g/VTM)
Collector	0.032	2.4	Santa Clara	64	0.01528

SFBAAB^a

Road Type	Silt Loading (g/m ²)
Collector	0.032
Freeway	0.015
Local	0.32
Major	0.032

SFBAAB^a

County	>0.01 inch precipitation
Alameda	61
Contra Costa	60
Marin	66
Napa	68
San Francisco	67
San Mateo	60
Santa Clara	64
Solano	54
Sonoma	69

Downtown Sunnyvale Plan, Sunnyvale
Iowa Avenue - Background Traffic
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = 2020

Road Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	Diesel ADT	Average Speed (mph)
Iowa Ave	Iowa Avenue	E-W	2	859	44	13.3	3.4	100	25

2020 Hourly Diesel Traffic Volumes and DPM Emissions - Iowa Ave

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	2.96%	3	0.0284	9	6.67%	7	0.0242	17	6.07%	6	0.0235
2	1.99%	2	0.0276	10	6.08%	6	0.0269	18	5.22%	5	0.0199
3	2.25%	2	0.0272	11	5.70%	6	0.0260	19	3.73%	4	0.0202
4	2.17%	2	0.0318	12	6.49%	6	0.0254	20	2.22%	2	0.0177
5	1.63%	2	0.0289	13	6.06%	6	0.0248	21	3.18%	3	0.0242
6	2.32%	2	0.0304	14	6.03%	6	0.0248	22	3.81%	4	0.0258
7	5.03%	5	0.0274	15	5.75%	6	0.0233	23	2.48%	2	0.0242
8	5.82%	6	0.0224	16	5.09%	5	0.0218	24	1.27%	1	0.0208
Total										100	

Downtown Sunnyvale Plan, Sunnyvale
Iowa Avenue - Background Traffic
PM2.5 & TOG Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2020

Group Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
Iowa Ave	Iowa Avenue	E-W	2	859	44	13.3	1.3	4,835	25

2020 Hourly Traffic Volumes and PM2.5 Emissions - Iowa Ave

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	53	0.0229	9	7.08%	342	0.0213	17	7.39%	357	0.0210
2	0.37%	18	0.0241	10	4.27%	206	0.0220	18	8.29%	401	0.0208
3	0.30%	15	0.0251	11	4.60%	222	0.0215	19	5.80%	280	0.0207
4	0.19%	9	0.0343	12	5.84%	283	0.0215	20	4.37%	211	0.0207
5	0.45%	22	0.0236	13	6.17%	298	0.0212	21	3.29%	159	0.0210
6	0.82%	40	0.0244	14	6.03%	292	0.0212	22	3.31%	160	0.0213
7	3.77%	182	0.0217	15	7.08%	342	0.0210	23	2.47%	119	0.0210
8	7.91%	382	0.0208	16	7.23%	349	0.0209	24	1.89%	92	0.0207
Total										4,835	

Downtown Sunnyvale Plan, Sunnyvale
Iowa Avenue - Background Traffic
Entrained PM2.5 Road Dust Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = **2020**

Group Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
Iowa Ave	Iowa Avenue	E-W	2	859	44	13.3	1.3	4,835	25

2020 Hourly Traffic Volumes and Road Dust PM2.5 Emissions - Iowa Ave

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	53	0.1242	9	7.08%	342	0.1242	17	7.39%	357	0.1242
2	0.37%	18	0.1242	10	4.27%	206	0.1242	18	8.29%	401	0.1242
3	0.30%	15	0.1242	11	4.60%	222	0.1242	19	5.80%	280	0.1242
4	0.19%	9	0.1242	12	5.84%	283	0.1242	20	4.37%	211	0.1242
5	0.45%	22	0.1242	13	6.17%	298	0.1242	21	3.29%	159	0.1242
6	0.82%	40	0.1242	14	6.03%	292	0.1242	22	3.31%	160	0.1242
7	3.77%	182	0.1242	15	7.08%	342	0.1242	23	2.47%	119	0.1242
8	7.91%	382	0.1242	16	7.23%	349	0.1242	24	1.89%	92	0.1242
Total										4,835	

Downtown Sunnyvale Plan, Sunnyvale
Iowa Avenue - Background Traffic Traffic Data, DPM, PM2.5 & TOG Emission Factors - 25 mph

Analysis Year = **2020**

Vehicle Type	2020 Caltrans Number Vehicles (veh/day)	2020 Number Vehicles (veh/day)	2020 Percent Diesel	Number Diesel Vehicles (veh/day)	Vehicle Speed (mph)	Emission Factors				
						Diesel Vehicles DPM (g/VMT)	All Vehicles		Gas Vehicles	
							Total PM2.5 (g/VMT)	Exhaust PM2.5 (g/VMT)	Exhaust TOG (g/VMT)	Running TOG (g/VMT)
LDA	3,381	3,381	1.06%	36	25	0.0133	0.0202	0.0025	0.0260	0.044
LDT	1,284	1,284	0.17%	2	25	0.0184	0.0202	0.0025	0.0402	0.096
MDT	113	113	9.92%	11	25	0.0248	0.0285	0.0078	0.0846	0.185
HDT	57	57	89.31%	51	25	0.0328	0.0880	0.0286	0.2099	0.107
Total	4,835	4,835	-	100	25	-	-	-	-	-
Mix Avg Emission Factor						0.02460	0.02121	0.00291	0.03137	0.06108

Increase From 2020

1.00

Vehicles/Direction

2,418

50

Avg Vehicles/Hour/Direction

101

2

Traffic Data Year = **2020**

ADT based on Project Traffic Report		Total Truck	Truck by Axle			
			2	3	4	5
Iowa Avenue	4,835	170	113	19	19	19
			66.67%	11.11%	11.11%	11.11%

Percent of Total Vehicles

3.51%

2.34%

0.39%

0.39%

0.39%

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

**Downtown Sunnyvale Plan, Sunnyvale
Iowa Avenue - Background Traffic Traffic Data and Entrained PM2.5 Road Dust Emission Factors**

$$E_{2.5} = [k(sL)^{0.91} \times (W)^{1.02} \times (1-P/4N) \times 453.59]$$

where:

$E_{2.5}$ = PM_{2.5} emission factor (g/VMT)

k = particle size multiplier (g/VMT) [$k_{PM2.5} = k_{PM10} \times (0.0686/0.4572) = 1.0 \times 0.15 = 0.15$ g/VMT]^a

sL = roadway specific silt loading (g/m²)

W = average weight of vehicles on road (Bay Area default = 2.4 tons)^a

P = number of days with at least 0.01 inch of precipitation in the annual averaging period

N = number of days in the annual averaging period (default = 365)

Notes: ^a CARB 2018, Miscellaneous Process Methodology 7.9, Entrained Road Travel, Paved Road Dust (Revised and updated, March 2018)

Road Type	Silt Loading (g/m ²)	Average Weight (tons)	County	No. Days ppt > 0.01"	PM _{2.5} Emission Factor (g/VMT)
Local	0.32	2.4	Santa Clara	64	0.12420

SFBAAB^a

Road Type	Silt Loading (g/m ²)
Collector	0.032
Freeway	0.015
Local	0.32
Major	0.032

SFBAAB^a

County	>0.01 inch precipitation
Alameda	61
Contra Costa	60
Marin	66
Napa	68
San Francisco	67
San Mateo	60
Santa Clara	64
Solano	54
Sonoma	69

**Downtown Sunnyvale Plan, Sunnyvale - Operation & OnSite Receptors
 Mathilda Ave - Background & Project Traffic
 DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
 Year = 2024**

Road Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	Diesel ADT	Average Speed (mph)
NB-Mathilda	Northbound Mathilda Ave	N	3	1327	56	17.0	3.4	699	30
SB-Mathilda	Southbound Mathilda Ave	S	3	1327	56	17.0	3.4	699	30

2024 Hourly Diesel Traffic Volumes Per Direction and DPM Emissions - NB-Mathilda

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	2.88%	20	0.0083	9	6.67%	47	0.0073	17	6.20%	43	0.0070
2	1.93%	13	0.0097	10	6.06%	42	0.0075	18	5.40%	38	0.0074
3	2.20%	15	0.0104	11	5.64%	39	0.0074	19	3.84%	27	0.0074
4	1.98%	14	0.0075	12	6.41%	45	0.0073	20	2.30%	16	0.0068
5	1.54%	11	0.0084	13	6.13%	43	0.0072	21	3.21%	22	0.0075
6	2.22%	16	0.0070	14	6.07%	42	0.0072	22	3.74%	26	0.0072
7	4.88%	34	0.0068	15	5.81%	41	0.0070	23	2.56%	18	0.0077
8	5.82%	41	0.0069	16	5.15%	36	0.0070	24	1.33%	9	0.0074
Total										699	

2024 Hourly Diesel Traffic Volumes Per Direction and DPM Emissions - SB-Mathilda

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	2.88%	20	0.0083	9	6.67%	47	0.0073	17	6.20%	43	0.0070
2	1.93%	13	0.0097	10	6.06%	42	0.0075	18	5.40%	38	0.0074
3	2.20%	15	0.0104	11	5.64%	39	0.0074	19	3.84%	27	0.0074
4	1.98%	14	0.0075	12	6.41%	45	0.0073	20	2.30%	16	0.0068
5	1.54%	11	0.0084	13	6.13%	43	0.0072	21	3.21%	22	0.0075
6	2.22%	16	0.0070	14	6.07%	42	0.0072	22	3.74%	26	0.0072
7	4.88%	34	0.0068	15	5.81%	41	0.0070	23	2.56%	18	0.0077
8	5.82%	41	0.0069	16	5.15%	36	0.0070	24	1.33%	9	0.0074
Total										699	

**Downtown Sunnyvale Plan, Sunnyvale - Operation & OnSite Receptors
 Mathilda Ave - Background & Project Traffic
 PM2.5 & TOG Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
 Year = 2024**

Group Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
NB-Mathilda	Northbound Mathilda Ave	N	3	1327	56	17.0	1.3	31,933	30
SB-Mathilda	Southbound Mathilda Ave	S	3	1327	56	17.0	1.3	31,933	30

2024 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - NB-Mathilda

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	348	0.0213	9	7.08%	2260	0.0203	17	7.39%	2361	0.0201
2	0.36%	116	0.0220	10	4.27%	1363	0.0207	18	8.29%	2648	0.0199
3	0.30%	97	0.0225	11	4.60%	1469	0.0204	19	5.80%	1851	0.0199
4	0.19%	60	0.0284	12	5.84%	1866	0.0204	20	4.36%	1394	0.0199
5	0.45%	144	0.0217	13	6.17%	1971	0.0202	21	3.29%	1049	0.0201
6	0.82%	263	0.0222	14	6.03%	1927	0.0203	22	3.31%	1056	0.0203
7	3.77%	1202	0.0205	15	7.08%	2261	0.0201	23	2.47%	790	0.0201
8	7.90%	2524	0.0200	16	7.23%	2307	0.0200	24	1.90%	605	0.0199
Total										31,933	

2024 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - SB-Mathilda

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	348	0.0213	9	7.08%	2260	0.0203	17	7.39%	2361	0.0201
2	0.36%	116	0.0220	10	4.27%	1363	0.0207	18	8.29%	2648	0.0199
3	0.30%	97	0.0225	11	4.60%	1469	0.0204	19	5.80%	1851	0.0199
4	0.19%	60	0.0284	12	5.84%	1866	0.0204	20	4.36%	1394	0.0199
5	0.45%	144	0.0217	13	6.17%	1971	0.0202	21	3.29%	1049	0.0201
6	0.82%	263	0.0222	14	6.03%	1927	0.0203	22	3.31%	1056	0.0203
7	3.77%	1202	0.0205	15	7.08%	2261	0.0201	23	2.47%	790	0.0201
8	7.90%	2524	0.0200	16	7.23%	2307	0.0200	24	1.90%	605	0.0199
Total										31,933	

Downtown Sunnyvale Plan, Sunnyvale - Operation & OnSite Receptors

Mathilda Ave - Background & Project Traffic

Entrained PM2.5 Road Dust Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions

Year = 2024

Group Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
NB-Mathilda	Northbound Mathilda Ave	N	3	1327	56	17.0	1.3	31,933	30
SB-Mathilda	Southbound Mathilda Ave	S	3	1327	56	17.0	1.3	31,933	30

2024 Hourly Traffic Volumes Per Direction and Road Dust PM2.5 Emissions - NB-Mathilda

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	348	0.0153	9	7.08%	2260	0.0153	17	7.39%	2361	0.0153
2	0.36%	116	0.0153	10	4.27%	1363	0.0153	18	8.29%	2648	0.0153
3	0.30%	97	0.0153	11	4.60%	1469	0.0153	19	5.80%	1851	0.0153
4	0.19%	60	0.0153	12	5.84%	1866	0.0153	20	4.36%	1394	0.0153
5	0.45%	144	0.0153	13	6.17%	1971	0.0153	21	3.29%	1049	0.0153
6	0.82%	263	0.0153	14	6.03%	1927	0.0153	22	3.31%	1056	0.0153
7	3.77%	1202	0.0153	15	7.08%	2261	0.0153	23	2.47%	790	0.0153
8	7.90%	2524	0.0153	16	7.23%	2307	0.0153	24	1.90%	605	0.0153
Total										31,933	

2024 Hourly Traffic Volumes Per Direction and Road Dust PM2.5 Emissions - SB-Mathilda

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	348	0.0153	9	7.08%	2260	0.0153	17	7.39%	2361	0.0153
2	0.36%	116	0.0153	10	4.27%	1363	0.0153	18	8.29%	2648	0.0153
3	0.30%	97	0.0153	11	4.60%	1469	0.0153	19	5.80%	1851	0.0153
4	0.19%	60	0.0153	12	5.84%	1866	0.0153	20	4.36%	1394	0.0153
5	0.45%	144	0.0153	13	6.17%	1971	0.0153	21	3.29%	1049	0.0153
6	0.82%	263	0.0153	14	6.03%	1927	0.0153	22	3.31%	1056	0.0153
7	3.77%	1202	0.0153	15	7.08%	2261	0.0153	23	2.47%	790	0.0153
8	7.90%	2524	0.0153	16	7.23%	2307	0.0153	24	1.90%	605	0.0153
Total										31,933	

**Downtown Sunnyvale Plan, Sunnyvale - Operation & OnSite Receptors
Mathilda Ave - Background & Project Traffic Data, DPM, PM2.5 & TOG Emission Factors - 30 mph**

Analysis Year = 2024

Vehicle Type	2024 Caltrans Number Vehicles (veh/day)	2024 Number Vehicles (veh/day)	2024 Percent Diesel	Number Diesel Vehicles (veh/day)	Vehicle Speed (mph)	Emission Factors				
						Diesel Vehicles DPM (g/VMT)	All Vehicles		Gas Vehicles	
							Total PM2.5 (g/VMT)	Exhaust PM2.5 (g/VMT)	Exhaust TOG (g/VMT)	Running TOG (g/VMT)
LDA	44,654	44,654	1.20%	537	30	0.0060	0.0196	0.0019	0.0143	0.039
LDT	16,969	16,969	0.19%	32	30	0.0105	0.0196	0.0019	0.0216	0.080
MDT	1,494	1,494	10.70%	160	30	0.0125	0.0231	0.0025	0.0378	0.173
HDT	747	747	89.40%	668	30	0.0071	0.0638	0.0064	0.0979	0.079
Total	63,865	63,865	-	1,397	30	-	-	-	-	-
Mix Avg Emission Factor						0.00738	0.02023	0.00195	0.01685	0.05300

Increase From 2024 1.00
Vehicles/Direction 31,933 699
Avg Vehicles/Hour/Direction 1,331 29

Traffic Data Year = 2024

ADT based on Project Traffic Report		Total Truck	Truck by Axle			
	Total		2	3	4	5
Mathilda Avenue	63,865	2,242	1,494	249	249	249
Percent of Total Vehicles		3.51%	2.34%	0.39%	0.39%	0.39%

Traffic Increase per Year (%) = 1.00%

**Downtown Sunnyvale Plan, Sunnyvale - Operation & OnSite Receptors
 Evelyn Ave Background & Project Traffic
 DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
 Year = 2024**

Road Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	Diesel ADT	Average Speed (mph)
Evelyn Ave	Evelyn Avenue	E-W	3	1066	56	17.0	3.4	279	25

2024 Hourly Diesel Traffic Volumes and DPM Emissions - Evelyn Ave

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	2.88%	8	0.0106	9	6.67%	19	0.0089	17	6.20%	17	0.0083
2	1.93%	5	0.0134	10	6.06%	17	0.0091	18	5.40%	15	0.0092
3	2.20%	6	0.0147	11	5.64%	16	0.0091	19	3.84%	11	0.0092
4	1.98%	6	0.0089	12	6.41%	18	0.0089	20	2.30%	6	0.0082
5	1.54%	4	0.0108	13	6.13%	17	0.0086	21	3.21%	9	0.0093
6	2.22%	6	0.0080	14	6.07%	17	0.0088	22	3.74%	10	0.0087
7	4.88%	14	0.0079	15	5.81%	16	0.0083	23	2.56%	7	0.0097
8	5.82%	16	0.0081	16	5.15%	14	0.0084	24	1.33%	4	0.0093
Total										279	

**Downtown Sunnyvale Plan, Sunnyvale - Operation & OnSite Receptors
 Evelyn Ave Background & Project Traffic
 PM2.5 & TOG Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
 Year = 2024**

Group Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
Evelyn Ave	Evelyn Avenue	E-W	3	1066	56	17.0	1.3	12,735	25

2024 Hourly Traffic Volumes and PM2.5 Emissions - Evelyn Ave

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	139	0.0219	9	7.08%	901	0.0209	17	7.39%	941	0.0207
2	0.36%	46	0.0227	10	4.27%	543	0.0214	18	8.29%	1056	0.0206
3	0.30%	39	0.0235	11	4.60%	586	0.0210	19	5.80%	738	0.0205
4	0.19%	24	0.0291	12	5.84%	744	0.0210	20	4.36%	556	0.0205
5	0.45%	58	0.0224	13	6.17%	786	0.0208	21	3.29%	418	0.0207
6	0.82%	105	0.0229	14	6.03%	768	0.0209	22	3.31%	421	0.0209
7	3.77%	480	0.0211	15	7.08%	902	0.0207	23	2.47%	315	0.0208
8	7.90%	1007	0.0206	16	7.23%	920	0.0206	24	1.90%	241	0.0205
Total										12,735	

**Downtown Sunnyvale Plan, Sunnyvale - Operation & OnSite Receptors
 Evelyn Ave Background & Project Traffic
 Entrained PM2.5 Road Dust Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
 Year = 2024**

Group Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
Evelyn Ave	Evelyn Avenue	E-W	3	1066	56	17.0	1.3	12,735	25

2024 Hourly Traffic Volumes and Road Dust PM2.5 Emissions - Evelyn Ave

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	139	0.0153	9	7.08%	901	0.0153	17	7.39%	941	0.0153
2	0.36%	46	0.0153	10	4.27%	543	0.0153	18	8.29%	1056	0.0153
3	0.30%	39	0.0153	11	4.60%	586	0.0153	19	5.80%	738	0.0153
4	0.19%	24	0.0153	12	5.84%	744	0.0153	20	4.36%	556	0.0153
5	0.45%	58	0.0153	13	6.17%	786	0.0153	21	3.29%	418	0.0153
6	0.82%	105	0.0153	14	6.03%	768	0.0153	22	3.31%	421	0.0153
7	3.77%	480	0.0153	15	7.08%	902	0.0153	23	2.47%	315	0.0153
8	7.90%	1007	0.0153	16	7.23%	920	0.0153	24	1.90%	241	0.0153
Total										12,735	

**Downtown Sunnyvale Plan, Sunnyvale - Operation & OnSite Receptors
 Evelyn Ave Background & Project Traffic Traffic Data, DPM, PM2.5 & TOG Emission Factors - 25 mph**

Analysis Year = 2024

Vehicle Type	2024 Caltrans Number Vehicles (veh/day)	2024 Number Vehicles (veh/day)	2024 Percent Diesel	Number Diesel Vehicles (veh/day)	Vehicle Speed (mph)	Emission Factors				
						Diesel Vehicles DPM (g/VMT)	All Vehicles		Gas Vehicles	
							Total PM2.5 (g/VMT)	Exhaust PM2.5 (g/VMT)	Exhaust TOG (g/VMT)	Running TOG (g/VMT)
LDA	8,904	8,904	1.20%	107	25	0.0070	0.0201	0.0024	0.0182	0.039
LDT	3,384	3,384	0.19%	6	25	0.0122	0.0202	0.0024	0.0275	0.080
MDT	298	298	10.70%	32	25	0.0189	0.0272	0.0066	0.0511	0.173
HDT	149	149	89.40%	133	25	0.0081	0.0646	0.0072	0.1091	0.079
Total	12,735	12,735	-	279	25	-	-	-	-	-
Mix Avg Emission Factor						0.00903	0.02084	0.00256	0.02155	0.05300

Increase From 2024 1.00
 Vehicles/Direction 6,368 139
 Avg Vehicles/Hour/Direction 265 6

Traffic Data Year = 2024

ADT based on Project Traffic Report	Total	Total Truck	Truck by Axle			
			2	3	4	5
Evelyn Avenue	12,735	447	298	50	50	50
			66.67%	11.11%	11.11%	11.11%

Percent of Total Vehicles 3.51% 2.34% 0.39% 0.39% 0.39%
 Traffic Increase per Year (%) = 1.00%

Downtown Sunnyvale Plan, Sunnyvale - Operation & OnSite Receptors
Sunnyvale Ave - Background & Project Traffic
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = 2024

Road Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	Diesel ADT	Average Speed (mph)
Sunnyvle Ave	Sunnyvale Avenue	N-S	3	1241	56	17.0	3.4	291	25

2024 Hourly Diesel Traffic Volumes and DPM Emissions - Sunnyvle Ave

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	2.88%	8	0.0106	9	6.67%	19	0.0089	17	6.20%	18	0.0083
2	1.93%	6	0.0134	10	6.06%	18	0.0091	18	5.40%	16	0.0092
3	2.20%	6	0.0147	11	5.64%	16	0.0091	19	3.84%	11	0.0092
4	1.98%	6	0.0089	12	6.41%	19	0.0089	20	2.30%	7	0.0082
5	1.54%	4	0.0108	13	6.13%	18	0.0086	21	3.21%	9	0.0093
6	2.22%	6	0.0080	14	6.07%	18	0.0088	22	3.74%	11	0.0087
7	4.88%	14	0.0079	15	5.81%	17	0.0083	23	2.56%	7	0.0097
8	5.82%	17	0.0081	16	5.15%	15	0.0084	24	1.33%	4	0.0093
Total										291	

Downtown Sunnyvale Plan, Sunnyvale - Operation & OnSite Receptors
Sunnyvale Ave - Background & Project Traffic
PM2.5 & TOG Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2024

Group Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
Sunnyvle Ave	Sunnyvale Avenue	N-S	3	1241	56	17.0	1.3	13,295	25

2024 Hourly Traffic Volumes and PM2.5 Emissions - Sunnyvle Ave

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	145	0.0219	9	7.08%	941	0.0209	17	7.39%	983	0.0207
2	0.36%	48	0.0227	10	4.27%	567	0.0214	18	8.29%	1102	0.0206
3	0.30%	40	0.0235	11	4.60%	612	0.0210	19	5.80%	771	0.0205
4	0.19%	25	0.0291	12	5.84%	777	0.0210	20	4.36%	580	0.0205
5	0.45%	60	0.0224	13	6.17%	821	0.0208	21	3.29%	437	0.0207
6	0.82%	109	0.0229	14	6.03%	802	0.0209	22	3.31%	440	0.0209
7	3.77%	501	0.0211	15	7.08%	941	0.0207	23	2.47%	329	0.0208
8	7.90%	1051	0.0206	16	7.23%	961	0.0206	24	1.90%	252	0.0205
Total										13,295	

Downtown Sunnyvale Plan, Sunnyvale - Operation & OnSite Receptors
Sunnyvale Ave - Background & Project Traffic
Entrained PM2.5 Road Dust Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2024

Group Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
Sunnyvale Ave	Sunnyvale Avenue	N-S	3	1241	56	17.0	1.3	13,295	25

2024 Hourly Traffic Volumes and Road Dust PM2.5 Emissions - Sunnyvale Ave

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	145	0.0153	9	7.08%	941	0.0153	17	7.39%	983	0.0153
2	0.36%	48	0.0153	10	4.27%	567	0.0153	18	8.29%	1102	0.0153
3	0.30%	40	0.0153	11	4.60%	612	0.0153	19	5.80%	771	0.0153
4	0.19%	25	0.0153	12	5.84%	777	0.0153	20	4.36%	580	0.0153
5	0.45%	60	0.0153	13	6.17%	821	0.0153	21	3.29%	437	0.0153
6	0.82%	109	0.0153	14	6.03%	802	0.0153	22	3.31%	440	0.0153
7	3.77%	501	0.0153	15	7.08%	941	0.0153	23	2.47%	329	0.0153
8	7.90%	1051	0.0153	16	7.23%	961	0.0153	24	1.90%	252	0.0153
Total										13,295	

Downtown Sunnyvale Plan, Sunnyvale - Operation & OnSite Receptors
Sunnyvale Ave - Background & Project Traffic Traffic Data, DPM, PM2.5 & TOG Emission Factors - 25 mph

Analysis Year = 2024

Vehicle Type	2024 Caltrans Number Vehicles (veh/day)	2024 Number Vehicles (veh/day)	2024 Percent Diesel	Number Diesel Vehicles (veh/day)	Vehicle Speed (mph)	Emission Factors				
						Diesel Vehicles DPM (g/VMT)	All Vehicles		Gas Vehicles	
							Total PM2.5 (g/VMT)	Exhaust PM2.5 (g/VMT)	Exhaust TOG (g/VMT)	Running TOG (g/VMT)
LDA	9,296	9,296	1.20%	112	25	0.0070	0.0201	0.0024	0.0182	0.039
LDT	3,533	3,533	0.19%	7	25	0.0122	0.0202	0.0024	0.0275	0.080
MDT	311	311	10.70%	33	25	0.0189	0.0272	0.0066	0.0511	0.173
HDT	156	156	89.40%	139	25	0.0081	0.0646	0.0072	0.1091	0.079
Total	13,295	13,295	-	291	25	-	-	-	-	-
Mix Avg Emission Factor						0.00903	0.02084	0.00256	0.02155	0.05300

Increase From 2024 1.00
Vehicles/Direction 6,648 145
Avg Vehicles/Hour/Direction 277 6

Traffic Data Year = 2024

ADT based on Project Traffic Report	Total	Total Truck	Truck by Axle			
			2	3	4	5
Sunnyvale Ave	13,295	467	311	52	52	52
			66.67%	11.11%	11.11%	11.11%

Percent of Total Vehicles 3.51% 2.34% 0.39% 0.39% 0.39%
Traffic Increase per Year (%) = 1.00%

**Downtown Sunnyvale Plan, Sunnyvale - Operation & OnSite Receptors
Iowa Avenue - Background & Project Traffic
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = 2024**

Road Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	Diesel ADT	Average Speed (mph)
Iowa Ave	Iowa Avenue	E-W	2	859	44	13.3	3.4	136	25

2024 Hourly Diesel Traffic Volumes and DPM Emissions - Iowa Ave

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	2.88%	4	0.0106	9	6.67%	9	0.0089	17	6.20%	8	0.0083
2	1.93%	3	0.0134	10	6.06%	8	0.0091	18	5.40%	7	0.0092
3	2.20%	3	0.0147	11	5.64%	8	0.0091	19	3.84%	5	0.0092
4	1.98%	3	0.0089	12	6.41%	9	0.0089	20	2.30%	3	0.0082
5	1.54%	2	0.0108	13	6.13%	8	0.0086	21	3.21%	4	0.0093
6	2.22%	3	0.0080	14	6.07%	8	0.0088	22	3.74%	5	0.0087
7	4.88%	7	0.0079	15	5.81%	8	0.0083	23	2.56%	3	0.0097
8	5.82%	8	0.0081	16	5.15%	7	0.0084	24	1.33%	2	0.0093
Total										136	

**Downtown Sunnyvale Plan, Sunnyvale - Operation & OnSite Receptors
Iowa Avenue - Background & Project Traffic
PM2.5 & TOG Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2024**

Group Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
Iowa Ave	Iowa Avenue	E-W	2	859	44	13.3	1.3	6,235	25

2024 Hourly Traffic Volumes and PM2.5 Emissions - Iowa Ave

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	68	0.0219	9	7.08%	441	0.0209	17	7.39%	461	0.0207
2	0.36%	23	0.0227	10	4.27%	266	0.0214	18	8.29%	517	0.0206
3	0.30%	19	0.0235	11	4.60%	287	0.0210	19	5.80%	362	0.0205
4	0.19%	12	0.0291	12	5.84%	364	0.0210	20	4.36%	272	0.0205
5	0.45%	28	0.0224	13	6.17%	385	0.0208	21	3.29%	205	0.0207
6	0.82%	51	0.0229	14	6.03%	376	0.0209	22	3.31%	206	0.0209
7	3.77%	235	0.0211	15	7.08%	441	0.0207	23	2.47%	154	0.0208
8	7.90%	493	0.0206	16	7.23%	450	0.0206	24	1.90%	118	0.0205
Total										6,235	

Downtown Sunnyvale Plan, Sunnyvale - Operation & OnSite Receptors
Iowa Avenue - Background & Project Traffic
Entrained PM2.5 Road Dust Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2024

Group Link	Description	Direction	No. Lanes	Link Length (m)	Road Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
Iowa Ave	Iowa Avenue	E-W	2	859	44	13.3	1.3	6,235	25

2024 Hourly Traffic Volumes and Road Dust PM2.5 Emissions - Iowa Ave

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.09%	68	0.1242	9	7.08%	441	0.1242	17	7.39%	461	0.1242
2	0.36%	23	0.1242	10	4.27%	266	0.1242	18	8.29%	517	0.1242
3	0.30%	19	0.1242	11	4.60%	287	0.1242	19	5.80%	362	0.1242
4	0.19%	12	0.1242	12	5.84%	364	0.1242	20	4.36%	272	0.1242
5	0.45%	28	0.1242	13	6.17%	385	0.1242	21	3.29%	205	0.1242
6	0.82%	51	0.1242	14	6.03%	376	0.1242	22	3.31%	206	0.1242
7	3.77%	235	0.1242	15	7.08%	441	0.1242	23	2.47%	154	0.1242
8	7.90%	493	0.1242	16	7.23%	450	0.1242	24	1.90%	118	0.1242
Total										6,235	

Downtown Sunnyvale Plan, Sunnyvale - Operation & OnSite Receptors
Iowa Avenue - Background & Project Traffic Traffic Data, DPM, PM2.5 & TOG Emission Factors - 25 mph

Analysis Year = 2024

Vehicle Type	2024 Caltrans Number Vehicles (veh/day)	2024 Number Vehicles (veh/day)	2024 Percent Diesel	Number Diesel Vehicles (veh/day)	Vehicle Speed (mph)	Emission Factors				
						Diesel Vehicles DPM (g/VMT)	All Vehicles		Gas Vehicles	
							Total PM2.5 (g/VMT)	Exhaust PM2.5 (g/VMT)	Exhaust TOG (g/VMT)	Running TOG (g/VMT)
LDA	4,359	4,359	1.20%	52	25	0.0070	0.0201	0.0024	0.0182	0.039
LDT	1,657	1,657	0.19%	3	25	0.0122	0.0202	0.0024	0.0275	0.080
MDT	146	146	10.70%	16	25	0.0189	0.0272	0.0066	0.0511	0.173
HDT	73	73	89.40%	65	25	0.0081	0.0646	0.0072	0.1091	0.079
Total	6,235	6,235	-	136	25	-	-	-	-	-
Mix Avg Emission Factor						0.00903	0.02084	0.00256	0.02155	0.05300

Increase From 2024 1.00
Vehicles/Direction 3,118 68
Avg Vehicles/Hour/Direction 130 3

Traffic Data Year = 2024

ADT based on Project Traffic Report	Total	Total Truck	Truck by Axle			
			2	3	4	5
Iowa Avenue	6,235	219	146	24	24	24
			66.67%	11.11%	11.11%	11.11%

Percent of Total Vehicles 3.51% 2.34% 0.39% 0.39% 0.39%
Traffic Increase per Year (%) = 1.00%

Project Generators Emission Calculations and Modeling Information

**Downtown Sunnyvale Plan - Generator Emissions and AERMOD Modeling Parameters
Project Generators**

DPM Emission Rates					
Location/Generator Output (kW)	Generator Horsepower	DPM Emissions*			
		Ave Hourly (lb/hr)	Ave Daily (lb/day)	Annual	
				(lb/yr)	(ton/yr)
100 Altair Way - 150 kW	185	2.55E-04	0.0061	2.231	1.12E-03
300 Mathilda Avenue - 100 kW	152	2.10E-04	0.0050	1.840	9.20E-04
Macy's Project Site - 150 kW	240	3.30E-04	0.0079	2.894	1.45E-03
Macy's Project Site - 150 kW	240	3.30E-04	0.0079	2.894	1.45E-03
Redwood Square - 1,000 kW	1,528	2.11E-03	0.0505	18.440	9.22E-03
Murphy Square - 450 kW	555	7.64E-04	0.0183	6.690	3.35E-03

* emissions calculate with CalEEMod 50 hours/year operation and load factor of 0.73

Modeling Information	
Model:	AERMOD
Source	Diesel Engine
Source Types	Point
Receptor Spacing	receptors at off-site residences
Meteorological Data	2009-2013 CARB Moffett Field data
Point Source Stack Parameters***	
Generator engine size (hp)	variable
Stack Height (ft)	12
Stack Diameter (ft)	0.6
Exhaust Gass Flowrate (ACFM)	8,923
Stack Exit Velocity (ft/sec)	149
Exhaust Temperature (F)	872

** Generator modeling parameters from *The San Francisco Community Risk Reduction Plan: Technical Support Document*
BAAQMD, San Francisco Dept. of Public Health, and San Francisco Planning Dept., December 2012

Project Modeling Information and Health Risk Calculations (construction, project vehicle travel on local roads and project generators) at Off-Site Sensitive Receptors

**Downtown Sunnyvale Specific Plan - Construction & Operation Sources - TACs & PM2.5 Emissions From Construction, Project Vehicle Travel, and Project Generators
AERMOD Risk Modeling Parameters and Maximum Concentrations
Off-Site Residential Receptors (4.5 meter receptor heights)**

Emissions Year 2019-2049
Receptor Information
 Number of Receptors 1292
 Receptor Height = 1st Floor - 1.5 meters above ground level
 Receptor distances = at sensitive residential receptor locations

Meteorological Conditions
 CARB Moffett Field Airport Data 2009-2013
 Land Use Classification urban
 Wind speed = variable
 Wind direction = variable

MEI Maximum Concentrations

Emission Years	Concentration (µg/m ³)		
	DPM	Exhaust TOG	Evaporative TOG
2019	0.15294	0.0000	0.0000
2020	0.94304	0.0000	0.0000
2021	0.90559	0.0000	0.0000
2022	0.01431	0.0000	0.0000
2023	0.00092	0.0000	0.0000
2024 - 2049	0.00124	0.0099	0.0296

Emission Years	Maximum Total PM2.5 Concentration (µg/m3)
2024 - 2049	1.054

**Downtown Sunnyvale Specific Plan -Maximum Project Cancer Risks
Emissions From Construction, Project Vehicle Travel, and Project Generators
Off-Site Residential Receptors (4.5 meter receptor heights)
30-Year Residential Exposure**

Cancer Risk Calculation Method

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

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

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

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

Values

Cancer Potency Factors (mg/kg-day)⁻¹

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

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

* 95th percentile breathing rates

Road Traffic Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Year	Exposure Duration (years)	Age	Maximum - Exposure Information				Cancer Risk (per million)			
				Age Sensitivity Factor	Annual TAC Conc (ug/m3)			DPM	Exhaust TOG	Evaporative TOG	Total
					DPM	TOG	TOG				
0	2019	0.25	-0.25 - 0*	10	0.1529	0.0000	0.0000	2.080	0.000	0.000	2.08
1	2020	1	1	10	0.9430	0.0000	0.0000	154.89	0.000	0.000	154.89
2	2021	1	2	10	0.9056	0.0000	0.0000	148.74	0.000	0.000	148.74
3	2022	1	3	3	0.0143	0.0000	0.0000	0.37	0.000	0.000	0.370
4	2023	1	4	3	0.0009	0.0000	0.0000	0.02	0.000	0.000	0.024
5	2024	1	5	3	0.0012	0.0099	0.0296	0.03	0.001	0.000	0.034
6	2025	1	6	3	0.0012	0.0099	0.0296	0.03	0.001	0.000	0.034
7	2026	1	7	3	0.0012	0.0099	0.0296	0.03	0.001	0.000	0.034
8	2027	1	8	3	0.0012	0.0099	0.0296	0.03	0.001	0.000	0.034
9	2028	1	9	3	0.0012	0.0099	0.0296	0.03	0.001	0.000	0.034
10	2029	1	10	3	0.0012	0.0099	0.0296	0.03	0.001	0.000	0.034
11	2030	1	11	3	0.0012	0.0099	0.0296	0.03	0.001	0.000	0.034
12	2031	1	12	3	0.0012	0.0099	0.0296	0.03	0.001	0.000	0.034
13	2032	1	13	3	0.0012	0.0099	0.0296	0.03	0.001	0.000	0.034
14	2033	1	14	3	0.0012	0.0099	0.0296	0.03	0.001	0.000	0.034
15	2034	1	15	3	0.0012	0.0099	0.0296	0.03	0.001	0.000	0.034
16	2035	1	16	3	0.0012	0.0099	0.0296	0.03	0.001	0.000	0.034
17	2036	1	17	1	0.0012	0.0099	0.0296	0.00	0.00	0.000	0.004
18	2037	1	18	1	0.0012	0.0099	0.0296	0.00	0.00	0.000	0.004
19	2038	1	19	1	0.0012	0.0099	0.0296	0.00	0.00	0.000	0.004
20	2039	1	20	1	0.0012	0.0099	0.0296	0.00	0.00	0.000	0.004
21	2040	1	21	1	0.0012	0.0099	0.0296	0.00	0.00	0.000	0.004
22	2041	1	22	1	0.0012	0.0099	0.0296	0.00	0.00	0.000	0.004
23	2042	1	23	1	0.0012	0.0099	0.0296	0.00	0.00	0.000	0.004
24	2043	1	24	1	0.0012	0.0099	0.0296	0.00	0.00	0.000	0.004
25	2044	1	25	1	0.0012	0.0099	0.0296	0.00	0.00	0.000	0.004
26	2045	1	26	1	0.0012	0.0099	0.0296	0.00	0.00	0.000	0.004
27	2046	1	27	1	0.0012	0.0099	0.0296	0.00	0.00	0.000	0.004
28	2047	1	28	1	0.0012	0.0099	0.0296	0.00	0.00	0.000	0.004
29	2048	1	29	1	0.0012	0.0099	0.0296	0.00	0.00	0.000	0.004
29	2049	1	29	1	0.0012	0.0099	0.0296	0.00	0.00	0.000	0.004
Total Increased Cancer Risk				Total				306.54	0.01989	0.00349	306.56

* Third trimester of pregnancy

Rail Line Emission Calculations and Modeling Information

Downtown Sunnyvale Plan - Sunnyvale, CA
DPM Modeling - Rail Line Information and DPM and PM2.5 Emission Rates
Caltrain Electrification and Diesel-Powered Freight Trains

Year	Description	Model No. Lines	Link Width (ft)	Link Width (m)	Link Length (ft)	Link Length (miles)	Link Length (m)	Release Height (m)	Average No. Trains per Day	Train Travel Speed (mph)	DPM Emission Rates			
											Average Daily Emission Rate (g/mi/day)	Average Daily Emission Rate (g/day)	Link Emission Rate (g/s)	Link Emission Rate (lb/hr)
2020	Caltrain - At/Near at Station	1	30	9.1	1,534	0.29	468	5.0	53	10	249.2	72.4	8.38E-04	6.65E-03
	Caltrain - West of Station	1	12	3.7	770	0.15	235	5.0	53	40	155.8	22.7	2.63E-04	2.09E-03
	Caltrain - East of Station	1	12	3.7	1,063	0.20	324	5.0	53	40	155.8	31.4	3.63E-04	2.88E-03
	Caltrain - Bypass Station	1	12	3.7	3,367	0.64	1,026	5.0	20	40	58.6	37.4	4.33E-04	3.43E-03
	Freight Trains	1	12	3.7	3,367	0.64	1,026	5.0	4	40	21.4	13.6	1.58E-04	1.25E-03
	Total	-	-	-	-	-	-	-	-	77	-	640.8	177.5	2.05E-03
2021-2025	Caltrain - Stop at Station	1	12	3.7	1,534	0.29	468	5.0	5	10	21.5	6.2	7.23E-05	5.74E-04
	Caltrain - West of Station	1	12	3.7	770	0.15	235	5.0	5	40	5.4	0.8	9.07E-06	7.20E-05
	Caltrain - East of Station	1	12	3.7	1,063	0.20	324	5.0	5	40	5.4	1.1	1.25E-05	9.94E-05
	Caltrain - Bypass Station	1	12	3.7	3,367	0.64	1,026	5.0	13	40	31.8	20.3	2.35E-04	1.86E-03
	Freight Trains	1	12	3.7	3,367	0.64	1,026	5.0	4	40	17.5	11.1	1.29E-04	1.02E-03
	Total	-	-	-	-	-	-	-	-	22	-	81.5	39.5	4.58E-04
2026-2049	Caltrain - Stop at Station	1	12	3.7	1,534	0.29	468	5.0	0	10	0.0	0.0	0.00E+00	0.00E+00
	Caltrain - West of Station	1	12	3.7	770	0.15	235	5.0	0	40	0.0	0.0	0.00E+00	0.00E+00
	Caltrain - East of Station	1	12	3.7	1,063	0.20	324	5.0	0	40	0.0	0.0	0.00E+00	0.00E+00
	Caltrain - Bypass Station	1	12	3.7	3,367	0.64	1,026	5.0	3	40	2.2	1.4	1.63E-05	1.29E-04
	Freight Trains	1	12	3.7	3,367	0.64	1,026	5.0	4	40	6.3	4.0	4.66E-05	3.70E-04
	Total	-	-	-	-	-	-	-	-	7	-	8.5	5.4	6.29E-05

Notes: Emission based on Emission Factors for Locomotives, USEPA 2009 (EPA-420-F-09-025)
 Average emissions calculated for 2020 and periods 2021-2025, 2026-2049.
 Fuel correction factors from Offroad Modeling Change Technical memo, Changes to the Locomotive Inventory, CARB July 2006.
 PM2.5 calculated as 92% of PM emissions (CARB CEIDERS PM2.5 fractions)
 Passenger trains assumed to operate for 24 hours per day
 Freight trains assumed to operate for 24 hours per day

Caltrain Diesel Trains- with electrification	2020			2021 - 2025			2026 - 2049		
	Stop at Station	Skip Station	Total	Stop at Station	Skip Station	Total	Stop at Station	Skip Station	Total
Arrive/Depart Station									
Passenger trains - weekday =	64	28	92	6	18	24	0	4	4
Passenger trains - weekend =	24	0	24	4	0	4	0	0	0
Passenger trains - Sat only =	4	0	4	0	0	0	0	0	0
Total Trains =	92	28	120	10	18	28	0	4	4
Annual average daily trains =	53	20	73	5	13	18	0	3	3
Locomotive horsepower =	(before 2021) 3285		(before 2021) 3285	(before 2021) 3285		(before 2021) 3285	(before 2021) 3285		(before 2021) 3285
	(2021 and later) 3467		(2021 and later) 3467	(2021 and later) 3467		(2021 and later) 3467	(2021 and later) 3467		(2021 and later) 3467
Locomotive engine load =	0.2	0.5		0.2	0.5		0.2	0.5	
Freight									
Freight trains per day =	4			4			4		
Locomotive horsepower =	2300			2300			2300		
Locomotives per train =	2			2			2		
Total horsepower =	4600			4600			4600		
Locomotive engine load =	0.5			0.5			0.5		

Locomotive DPM Emission Factors (g/hp-hr)	2020	2021-2025	2026-2049
	Passenger	0.101	0.0808
Freight	0.111	0.0904	0.033

* average emissions for period.

PM2.5 to PM ratio = 0.92
 DPM to PM ratio = 1
 CARB Fuel Adj Factor
 2010 2011+
 Passenger 0.717 0.709
 Freight 0.851 0.840

Cumulative Health Risk Modeling Information and Health Risk Calculations at Off-Site Receptors

Modeled TAC Concentrations ($\mu\text{g}/\text{m}^3$) at Project MEI for Cumulative Health Risk Calculations

TAC	Sources				
	Construction	Roads	Generators	Rail	Total
DPM					
2019	0.15294	0.00283	-	0.02722	0.18299
2020	0.94304	0.00283	-	0.02722	0.97309
2021	0.90559	0.00283	-	0.00594	0.91436
2022	0.01431	0.00283	-	0.00594	0.02308
2023	0.00092	0.00283	-	0.00594	0.00969
2024-2025	-	0.00292	0.00115	0.00594	0.01001
2026-2049	-	0.00292	0.00115	0.00076	0.00483
TOG - TACs	Roads				
	TOG Exhaust	TOG Evap			
2019	0.18435	0.43118			
2020	0.18435	0.43118			
2021	0.18435	0.43118			
2022	0.18435	0.43118			
2023	0.18435	0.43118			
2024-2025	0.19429	0.46077			
2026-2049	0.19429	0.46077			

**Downtown Sunnyvale Specific Plan - Construction & Operation Sources - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations
Off-Site Residential Receptors (4.5 meter receptor heights)**

Emission Years 2019 - 2049
Receptor Information
 Number of Receptors 1292
 Receptor Height = 2nd Floor - 4.5 meters above ground level
 Receptor distances = at sensitive residential receptor locations

Meteorological Conditions
 CARB Moffett Field Met Data 2009-2013
 Land Use Classification urban
 Wind speed = variable
 Wind direction = variable

MEI Maximum Concentrations

Emission Years	Concentration ($\mu\text{g}/\text{m}^3$)		
	DPM	Exhaust TOG	Evaporative TOG
2019	0.18299	0.1844	0.4312
2020	0.97309	0.1844	0.4312
2021	0.91436	0.1844	0.4312
2022	0.02308	0.1844	0.4312
2023	0.00969	0.1844	0.4312
2024-2025	0.01001	0.1943	0.4608
2026 - 2049	0.00483	0.1943	0.4608

Emission Year	Maximum Total PM2.5 Concentration ($\mu\text{g}/\text{m}^3$)
2026 - 2049	1.340

**Downtown Sunnyvale Specific Plan -Maximum Project Cancer Risks
Off-Site Residential Receptors (4.5 meter receptor heights)
30-Year Residential Exposure**

Cancer Risk Calculation Method

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

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

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

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

Values

Cancer Potency Factors (mg/kg-day)⁻¹

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

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

* 95th percentile breathing rates

Road Traffic Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Year	Exposure Duration (years)	Age	Maximum - Exposure Information					Cancer Risk (per million)					
				Age Sensitivity Factor	Annual TAC Conc (ug/m3)			DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	Total
					DPM	TOG	TOG							
0	2019	0.25	-0.25 - 0*	10	0.1830	0.1844	0.4312	2.489	0.0143	0.0020	2.50			
1	2020	1	1	10	0.9731	0.1844	0.4312	159.83	0.1729	0.0238	160.02			
2	2021	1	2	10	0.9144	0.1844	0.4312	150.18	0.1729	0.0238	150.38			
3	2022	1	3	3	0.0231	0.1844	0.4312	0.60	0.0272	0.0038	0.628			
4	2023	1	4	3	0.0097	0.1844	0.4312	0.25	0.0272	0.0038	0.282			
5	2024	1	5	3	0.0100	0.1943	0.4608	0.26	0.0287	0.0040	0.292			
6	2025	1	6	3	0.0100	0.1943	0.4608	0.26	0.0287	0.0040	0.292			
7	2026	1	7	3	0.0048	0.1943	0.4608	0.12	0.0287	0.0040	0.158			
8	2027	1	8	3	0.0048	0.1943	0.4608	0.12	0.0287	0.0040	0.158			
9	2028	1	9	3	0.0048	0.1943	0.4608	0.12	0.0287	0.0040	0.158			
10	2029	1	10	3	0.0048	0.1943	0.4608	0.12	0.0287	0.0040	0.158			
11	2030	1	11	3	0.0048	0.1943	0.4608	0.12	0.0287	0.0040	0.158			
12	2031	1	12	3	0.0048	0.1943	0.4608	0.12	0.0287	0.0040	0.158			
13	2032	1	13	3	0.0048	0.1943	0.4608	0.12	0.0287	0.0040	0.158			
14	2033	1	14	3	0.0048	0.1943	0.4608	0.12	0.0287	0.0040	0.158			
15	2034	1	15	3	0.0048	0.1943	0.4608	0.12	0.0287	0.0040	0.158			
16	2035	1	16	3	0.0048	0.1943	0.4608	0.12	0.0287	0.0040	0.158			
17	2036	1	17	1	0.0048	0.1943	0.4608	0.014	0.0032	0.0004	0.017			
18	2037	1	18	1	0.0048	0.1943	0.4608	0.014	0.0032	0.0004	0.017			
19	2038	1	19	1	0.0048	0.1943	0.4608	0.014	0.0032	0.0004	0.017			
20	2039	1	20	1	0.0048	0.1943	0.4608	0.014	0.0032	0.0004	0.017			
21	2040	1	21	1	0.0048	0.1943	0.4608	0.014	0.0032	0.0004	0.017			
22	2041	1	22	1	0.0048	0.1943	0.4608	0.014	0.0032	0.0004	0.017			
23	2042	1	23	1	0.0048	0.1943	0.4608	0.014	0.0032	0.0004	0.017			
24	2043	1	24	1	0.0048	0.1943	0.4608	0.014	0.0032	0.0004	0.017			
25	2044	1	25	1	0.0048	0.1943	0.4608	0.014	0.0032	0.0004	0.017			
26	2045	1	26	1	0.0048	0.1943	0.4608	0.014	0.0032	0.0004	0.017			
27	2046	1	27	1	0.0048	0.1943	0.4608	0.014	0.0032	0.0004	0.017			
28	2047	1	28	1	0.0048	0.1943	0.4608	0.014	0.0032	0.0004	0.017			
29	2048	1	29	1	0.0048	0.1943	0.4608	0.014	0.0032	0.0004	0.017			
30	2049	1	29	1	0.0048	0.1943	0.4608	0.014	0.0032	0.0004	0.017			
Total Increased Cancer Risk			Total					315.30	0.803	0.112	316.22			

* Third trimester of pregnancy

Local Roadway and Rail Modeling Information and Health Risk Calculations

Downtown Sunnyvale Plan - 1st Floor On-Site - Rail Line DPM & PM2.5 Concentrations AERMOD Risk Modeling Parameters and Maximum Concentrations Caltrain Electrification and Diesel-Powered Freight Trains

Receptor Information 1st Floor Receptors
 Number of Receptors 236
 Receptor Height = 1.5 meters (4.9 feet)
 Receptor distances = receptors placed in proposed residential areas

Meteorological Conditions
 CARB Moffett Field Met Data 2009-2013
 Land Use Classification urban
 Wind speed = variable
 Wind direction = variable

MEI Maximum Concentrations - Receptor Height = 1.5 m

Emission Years	Period Average DPM Concentration ($\mu\text{g}/\text{m}^3$)
	2021-2025
2024 - 2053	0.0040

Emission Years	PM2.5 Concentration ($\mu\text{g}/\text{m}^3$)
	2021-2025
2024 - 2053	0.0037

**Downtown Sunnyvale Specific Plan - Local Area Road Modeling - TACs & PM2.5
 Local Area Road Traffic - Cumulative Emissions
 AERMOD Risk Modeling Parameters and Maximum Concentrations
 On-Site Residential Receptors (1.5 meter receptor heights)**

Emissions Year 2024 - 2053
Receptor Information
 Number of Receptors 236
 Receptor Height = 1st Floor - 1.5 meters above ground level
 Receptor distances = at sensitive residential receptor locations

Meteorological Conditions
 CARB Moffett Field Met Data 2009-2013
 Land Use Classification urban
 Wind speed = variable
 Wind direction = variable

MEI Maximum Concentrations

Emission Years	Concentration ($\mu\text{g}/\text{m}^3$)		
	DPM	Exhaust TOG	Evaporative TOG
2024 - 2053	0.00138	0.1779	0.4587

Emission Years	PM2.5 Concentrations ($\mu\text{g}/\text{m}^3$)		
	Total PM2.5	Fugitive Dust PM2.5	Vehicle PM2.5
2024 - 2053	0.3195	0.1400	0.1795

**Downtown Sunnyvale Plan - 1st Floor On-Site Receptors (1.5 meter receptor height)
AERMOD Railroad DPM Risk Modeling - Maximum Cancer Risk at Project Site
Caltrain Electrification and Diesel-Powered Freight Trains**

Cancer Risk Calculation Method

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

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

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

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

Values

Cancer Potency Factors (mg/kg-day)⁻¹

TAC	CPF
DPM	1.10E+00

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

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

Rail Locomotive Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Year	Exposure Duration (years)	Age	Age Sensitivity Factor	DPM Annual Conc (ug/m3)	DPM Cancer Risk (per million)
0	2024	0.25	-0.25 - 0*	10	0.0040	0.055
1	2024	1	1	10	0.0040	0.659
2	2025	1	2	10	0.0040	0.659
3	2026	1	3	3	0.0040	0.104
4	2027	1	4	3	0.0040	0.104
5	2028	1	5	3	0.0040	0.104
6	2029	1	6	3	0.0040	0.104
7	2030	1	7	3	0.0040	0.104
8	2031	1	8	3	0.0040	0.104
9	2032	1	9	3	0.0040	0.104
10	2033	1	10	3	0.0040	0.104
11	2034	1	11	3	0.0040	0.104
12	2035	1	12	3	0.0040	0.104
13	2036	1	13	3	0.0040	0.104
14	2037	1	14	3	0.0040	0.104
15	2038	1	15	3	0.0040	0.104
16	2039	1	16	3	0.0040	0.104
17	2040	1	17	1	0.0040	0.012
18	2041	1	18	1	0.0040	0.012
19	2042	1	19	1	0.0040	0.012
20	2043	1	20	1	0.0040	0.012
21	2044	1	21	1	0.0040	0.012
22	2045	1	22	1	0.0040	0.012
23	2046	1	23	1	0.0040	0.012
24	2047	1	24	1	0.0040	0.012
25	2048	1	25	1	0.0040	0.012
26	2049	1	26	1	0.0040	0.012
27	2050	1	27	1	0.0040	0.012
28	2051	1	28	1	0.0040	0.012
29	2052	1	29	1	0.0040	0.012
30	2053	1	30	1	0.0040	0.012
Total Increased Cancer Risk						3.0

* Third trimester of pregnancy

**Downtown Sunnyvale Specific Plan -Maximum Project Cancer Risks
Local Area Road Traffic - Cumulative Emissions
On-Site Residential Receptors (1.5 meter receptor heights)
30-Year Residential Exposure**

Cancer Risk Calculation Method

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

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

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

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

Values

Cancer Potency Factors (mg/kg-day)⁻¹

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

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

* 95th percentile breathing rates

Road Traffic Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Year	Exposure Duration (years)	Age	Maximum - Exposure Information					Cancer Risk (per million)			
				Age Sensitivity Factor	Annual TAC Conc (ug/m3)			DPM	Exhaust TOG	Evaporative TOG	Total	
					DPM	TOG	TOG					
0	2024	0.25	-0.25 - 0*	10	0.0014	0.1779	0.4587	0.019	0.014	0.002	0.03	
1	2024	1	1	10	0.0014	0.1779	0.4587	0.23	0.167	0.025	0.42	
2	2025	1	2	10	0.0014	0.1779	0.4587	0.23	0.167	0.025	0.42	
3	2026	1	3	3	0.0014	0.1779	0.4587	0.04	0.026	0.004	0.07	
4	2027	1	4	3	0.0014	0.1779	0.4587	0.04	0.026	0.004	0.07	
5	2028	1	5	3	0.0014	0.1779	0.4587	0.04	0.026	0.004	0.07	
6	2029	1	6	3	0.0014	0.1779	0.4587	0.04	0.026	0.004	0.07	
7	2030	1	7	3	0.0014	0.1779	0.4587	0.04	0.026	0.004	0.07	
8	2031	1	8	3	0.0014	0.1779	0.4587	0.04	0.026	0.004	0.07	
9	2032	1	9	3	0.0014	0.1779	0.4587	0.04	0.026	0.004	0.07	
10	2033	1	10	3	0.0014	0.1779	0.4587	0.04	0.026	0.004	0.07	
11	2034	1	11	3	0.0014	0.1779	0.4587	0.04	0.026	0.004	0.07	
12	2035	1	12	3	0.0014	0.1779	0.4587	0.04	0.026	0.004	0.07	
13	2036	1	13	3	0.0014	0.1779	0.4587	0.04	0.026	0.004	0.07	
14	2037	1	14	3	0.0014	0.1779	0.4587	0.04	0.026	0.004	0.07	
15	2038	1	15	3	0.0014	0.1779	0.4587	0.04	0.026	0.004	0.07	
16	2039	1	16	3	0.0014	0.1779	0.4587	0.04	0.026	0.004	0.07	
17	2040	1	17	1	0.0014	0.1779	0.4587	0.00	0.0029	0.000	0.007	
18	2041	1	18	1	0.0014	0.1779	0.4587	0.00	0.003	0.000	0.007	
19	2042	1	19	1	0.0014	0.1779	0.4587	0.00	0.003	0.000	0.007	
20	2043	1	20	1	0.0014	0.1779	0.4587	0.00	0.003	0.000	0.007	
21	2044	1	21	1	0.0014	0.1779	0.4587	0.00	0.003	0.000	0.007	
22	2045	1	22	1	0.0014	0.1779	0.4587	0.00	0.003	0.000	0.007	
23	2046	1	23	1	0.0014	0.1779	0.4587	0.00	0.003	0.000	0.007	
24	2047	1	24	1	0.0014	0.1779	0.4587	0.00	0.003	0.000	0.007	
25	2048	1	25	1	0.0014	0.1779	0.4587	0.00	0.003	0.000	0.007	
26	2049	1	26	1	0.0014	0.1779	0.4587	0.00	0.003	0.000	0.007	
27	2050	1	27	1	0.0014	0.1779	0.4587	0.00	0.003	0.000	0.007	
28	2051	1	28	1	0.0014	0.1779	0.4587	0.00	0.003	0.000	0.007	
29	2052	1	29	1	0.0014	0.1779	0.4587	0.00	0.003	0.000	0.007	
30	2053	1	30	1	0.0014	0.1779	0.4587	0.00	0.003	0.000	0.007	
Total Increased Cancer Risk				Total				1.03	0.756	0.115	1.90	

* Third trimester of pregnancy

Attachment 4: Screening Community Risk Calculations



BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Risk & Hazard Stationary Source Inquiry Form

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

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

[Click here for guidance on conducting risk & hazard screening, including roadways & freeways, refer to the District's Risk & Hazard Analysis flow chart.](#)

[Click here for District's Recommended Methods for Screening and Modeling Local Risks and Hazards document.](#)

Table A: Requester Contact Information

Date of Request	1/11/2019
Contact Name	Mimi McNamara
Affiliation	Illingworth & Rodkin, Inc.
Phone	707-794-040 X111
Email	mimcnamara@illingworthrodkin.com
Project Name	Downtown Sunnyvale
Address	Downtown Sunnyvale
City	Sunnyvale
County	Santa Clara
Type (residential, commercial, mixed use, industrial, etc.)	Residential, commercial, mixed-use
Project Size (# of units or building square feet)	2,200 residential units, 1,367,000 square feet of commercial uses, 1,080,000 square feet of office uses, and 200 hotel rooms
Comments: Yellow = emissions data for #13550. Green = confirm/update information and emissions data for #10861	

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

1. Complete all the contact and project information requested in **Table A**. Incomplete forms will not be processed. Please include a project site map.
2. Download and install the free program Google Earth, <http://www.google.com/earth/download/ge/>, and then download the county specific Google Earth stationary source application files from the District's website, <http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx>. The small points on the map represent stationary sources permitted by the District (Map A on right). These permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc. Click on a point to view the source's Information Table, including the name, location, and preliminary estimated cancer risk, hazard index, and PM2.5 concentration.
3. Find the project site in Google Earth by inputting the site's address in the Google Earth search box.
4. Identify stationary sources within at least a 1000ft radius of project site. Verify that the location of the source on the map matches with the source's address in the Information Table, by using the Google Earth address search box to confirm the source's address location. Please report any mapping errors to the District.
5. List the stationary source information in **Table B** section only.
6. Note that a small percentage of the stationary sources have Health Risk Screening Assessment (HRSA) data INSTEAD of screening level data. These sources will be noted by an asterisk next to the Plant Name (Map B on right). If HRSA values are presented, these values have already been modeled and cannot be adjusted further.
7. Email this completed form to District staff. District staff will provide the most recent risk, hazard, and PM2.5 data that are available for the source(s). If this information or data are not available, source emissions data will be provided. Staff will respond to inquiries within three weeks.

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

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

Table B: Google Earth data

Distance from Receptor (feet) or MEI ¹	Facility Name	Address	Plant No.	Cancer Risk ²	Hazard Risk ²	PM _{2.5} ²	Source No. ³	Type of Source ⁴	Fuel Code ⁵	Status/Comments
1000	Wyant & Smith Crematory	174 N Sunnyvale Ave	19204	1.603684	0.1429	0.020696	S1	Crematory		
280	Broadcom Corp	190 Matilda Place	17386	3.793	0.0048	0.00485	S1	Generator	98	
800	Redus Svct, LLC (C/O Wells Fargo)	250 So Mathilda Ave	21238	0.474	0.0013	0.0006	S1	Generator	98	New ownership plant no. 23867. Sunnyvale Acquisition LLC c/o RiverRock Estate GRP
1000	Target Corporation Store #2584	298 W McKinley Avenue	19669	0.014	0.0001	0.0009	S1	Generator	189	
TBD	SBC	234 Carroll Street	13550	66.700	0.0742	0.0832	S2	Generator	98	
TBD	Northrop Grumman Systems Cor	401 E Hendy Ave 6Z/1	10861	9.600	0.0910	0.0070				

Footnotes:

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

Date last updated:

Project Off-Site MEI				Project Sensitive Receptors				
Distance Adjustment Multiplier	Adjusted Cancer Risk Estimate	Adjusted Hazard Risk	Adjusted PM _{2.5}	Distance from Receptor (feet) or MEI ¹	Distance Adjustment Multiplier	Adjusted Cancer Risk Estimate	Adjusted Hazard Risk	Adjusted PM _{2.5}
No Distance Adjustment	1.60	0.14	0.02	No Distance Adjustment				
0.25	0.9	0.00	0.00	730	0.07	0.27	0.00	0.00
0.58	0.3	0.00	0.00	480	0.12	0.06	0.00	0.00
0.04	0.0	0.00	0.00	60	1.000	0.01	0.00	0.00
BAAQMD Health Risk Calculator (2.0)				BAAQMD Health Risk Calculator (2.0)				
BAAQMD Health Risk Calculator (2.0)				BAAQMD Health Risk Calculator (2.0)				

**BAAQMD Risk and Hazards Emissions Screening
Calculator Instructions (Beta Version)**

Intention	This calculator is designed to estimate screen-level cancer risk, a non-cancer health hazard index, and PM2.5 concentrations using emissions data from BAAQMD's permitting database. This tool should only be used for permitted facilities where screening-level risks have not already been calculated by BAAQMD or if BAAQMD Health Risk Screening Assessments have not been completed.
Data	BAAQMD staff will provide emissions information for each requested permitted facility. If a facility contains more than one permitted source, BAAQMD staff will provide the plant's total emissions.
Process	The spreadsheet titled "Health Risk Calculator" is the user worksheet for this tool. The tool is based on a five-step process: Step 1: enter facility descriptors, Step 2: enter the emissions data, Step 3: enter distance estimates to adjust the health estimates, Step 4: categorize the facility, and Step 5: read the estimates.

EXAMPLE:

BAY AREA AIR QUALITY MANAGEMENT DISTRICT Printed: DEC 22, 2011
 DETAIL POLLUTANTS - ABATED
 MOST RECENT PIO APPROVED (2011)
 Plant Name: Example 1
 S# SOURCE NAME
 MATERIAL SOURCE CODE
 THROUGHPUT DATE POLLUTANT CODE LBS/DAY

This plant contains 4 permitted sources that are combined and presented in the plant total:

PLANT TOTAL:
lbs/day Pollutant

Benzene	41	1.26E-03
Formaldehyde	124	1.04E-04
Organics (part not speciel)	990	6.06E-02
Arsenic (all)	1030	1.09E-06
Beryllium (all) pollutant	1040	6.41E-07
Cadmium	1070	2.73E-06
Chromium (hexavalent)	1095	5.65E-08
Lead (all) pollutant	1140	2.32E-06
Manganese	1160	3.64E-06
Nickel pollutant	1180	4.42E-05
Mercury (all) pollutant	1190	7.73E-07
Diesel Engine Exhaust Part	1360	6.31E-02
PAHs (non-speciated)	1840	5.77E-06
Nitrous Oxide (NO2)	2030	3.36E-04
Nitrogen Oxides (part not speciel)	2990	3.84E-01
Sulfur Dioxide (SO2)	3990	1.10E-04
Carbon Monoxide (CO) pollutant	4990	1.92E-01
Carbon Dioxide, non-biogenic	6960	4.20E+01
Methane (CH4)	6970	1.68E-03

Daily emissions

Pollutant Name	Emission/lbs per day	Cancer Risk
ARSENIC	1.09E-06	5.50E-08
BENZENE	1.26E-03	1.22E-07
BERYLLIUM	6.41E-07	4.98E-09
CADMIUM	2.73E-06	3.79E-08
CHROMIUM	5.65E-08	2.67E-08
DIESEL PM	6.31E-02	6.70E-05
FORMALDEHYDE	1.04E-04	2.11E-09
LEAD	2.32E-06	2.65E-10
NICKEL	4.42E-05	3.73E-08
PAH'S	5.77E-06	5.77E-06
TOTAL:		7.31E-05

Using this screening approach, the cancer risk estimate for this facility is 7.31E-05, alternatively expressed as 73 in a million. If the facility contains only diesel back-up engines, the distance multiplier can be used to adjust the estimated cancer risk.

Note: Not all of the chemicals being emitted by the plant in this example are associated with cancer risk, therefore those chemicals are not included in the cancer risk estimation. Similarly, not all of the chemicals emitted by the plant in this example are associated with acute or chronic hazards.

Plug in the emissions in column B in the remaining tabs in the same fashion to estimate chronic and acute hazards, and PM2.5 concentrations.

Notes: Created 3/22/2019. Version 2.0 Beta. This calculator will create screening level values. More detailed modeling methods will result in more accurate values. For questions and comments contact Areana Flores at alflores@baaqmd.gov.

Drop-down Menu
yes
no

Gas Station

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

Drop-down Menu
yes
no

Diesel Backup Generator

Distance (meters)	Distance (feet)	Distance adjustment multiplier	Enter Risk or Hazard	Adjusted Risk or Hazard	Enter PM2.5 Concentration	Adjusted PM2.5 Concentration
0	0.0	1.000		0		0
5	16.4	1.000		0		0
10	32.8	1.000		0		0
15	49.2	1.000		0		0
20	65.6	1.000		0		0
25	82.0	0.85		0		0
30	98.4	0.73		0		0
35	114.8	0.64		0		0
40	131.2	0.58		0		0
50	164.0	0.5		0		0
60	196.9	0.41		0		0
70	229.7	0.31		0		0
80	262.5	0.28		0		0
90	295.3	0.25		0		0
100	328.1	0.22		0		0
110	360.9	0.18		0		0
120	393.7	0.16		0		0
130	426.5	0.15		0		0
140	459.3	0.14		0		0
150	492.1	0.12		0		0
160	524.9	0.1		0		0
180	590.6	0.09		0		0
200	656.2	0.08		0		0
220	721.8	0.07		0		0
240	787.4	0.06		0		0
260	853.0	0.05		0		0
280	918.6	0.04		0		0

Generic Case

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

Year	2018	2019	2020	2021	2022
Revenue	100	105	110	115	120
Expenses	80	85	90	95	100
Profit	20	20	20	20	20

Nearby Construction Projects

4.2 AIR QUALITY AND GREENHOUSE GAS EMISSIONS

Table 4.2-15 Maximum Cumulative Health Risk Impacts on Sensitive Receptors Within 1,000 Feet of the Project Site

Source	Cancer Risk (cases per million people)	Hazard Index	Max. Annual PM _{2.5} Concentration (µg/m ³)
Permitted Stationary Sources ^a			
Emergency Generators ^b	1.67	0.0013	0.0029
Fuel Dock ^c	3.017	0.005	-
Major Roadways			
El Camino Real ^d	3.565	0.004	0.041
Mathilda Avenue ^e	26.42	-	0.624
Unmitigated Project Construction			
2020	3.04	0.08	0.39
Total Unmitigated	37.712	0.0903	1.0579
BAAQMD Individual Project Significance Threshold	100	10	0.8
Threshold Exceeded?	No	No	Yes
Mitigated Project Construction			
2020	0.36	0.01	0.05
Total Mitigated	35.032	0.0203	0.7179
BAAQMD Individual Project Significance Threshold	100	10	0.8
Threshold Exceeded?	No	No	No

Note:

Bold: Exceeds the BAAQMD significance threshold.

^a The BAAQMD stationary source cancer risks, hazard indexes, and PM_{2.5} concentrations represent maximum TAC impacts at locations close to the sources. At the locations of the near-site residential sensitive receptors modeled, risks, hazards and concentrations due to each stationary source and the roadway would be substantially reduced from the tabulated values (BAAQMD, 2012).

^b Permitted source numbers 15486 and 15529 (BAAQMD, 2012; Kirk, 2018).

^c Permitted source number G6769 (BAAQMD, 2012; Kirk, 2018).

^d As estimated at the maximum exposed residential receptor just across Mathilda Avenue about 400 feet north of the nearest El Camino Real travel lane.

^e As estimated at the maximum exposed residential receptor just across Mathilda Avenue about 25 feet east of the nearest Mathilda Avenue travel lane.

311 S Mathilda, Sunnyvale, California
Maximum DPM Cancer Risk Calculations From Construction
Impacts at Off-Site Receptors-1.5 meter

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

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

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

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

Values

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

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Age	Infant/Child - Exposure Information			Cancer Risk (per million)	Adult - Exposure Information			Adult Cancer Risk (per million)	Fugitive PM2.5	Total PM2.5
			DPM Conc (ug/m3)		Age Sensitivity		Modeled		Age Sensitivity			
			Year	Annual	Factor		Year	Annual	Factor			
0	0.25	-0.25 - 0*	-	-	10	-	-	-	-	-	-	-
1	1	0 - 1	2017	0.0000	10	0.00	2018	0.0010	1	0.00	0.0040	0.005
2	1	1 - 2	2018	0.0000	10	0.00	2019	0.000010	1	0.00	0.0000	0.000
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00		
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00		
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00		
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00		
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00		
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00		
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00		
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00		
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00		
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00		
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00		
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00		
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00		
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00		
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00		
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00		
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00		
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00		
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00		
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00		
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00		
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00		
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00		
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00		
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00		
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00		
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00		
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00		
Total Increased Cancer Risk						0.00				0.00		

* Third trimester of pregnancy

220 Carroll Street - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at DSP Off-Site MEI Location - 4.5 meter receptor height

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

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

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

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

Values

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

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Age	Infant/Child - Exposure Information			Infant/Child Cancer Risk (per million)	Adult - Exposure Information			Adult Cancer Risk (per million)
			DPM Conc (ug/m3)		Age Sensitivity Factor		Modeled		Age Sensitivity Factor	
			Year	Annual			Year	Annual		
0	0.25	-0.25 - 0*	2020	0.0011	10	0.014	2020	0.0011	-	-
1	1	0 - 1	2020	0.0011	10	0.17	2020	0.0011	1	0.00
2	1	1 - 2			10	0.00			1	0.00
3	1	2 - 3			3	0.00			1	0.00
4	1	3 - 4			3	0.00			1	0.00
5	1	4 - 5			3	0.00			1	0.00
6	1	5 - 6			3	0.00			1	0.00
7	1	6 - 7			3	0.00			1	0.00
8	1	7 - 8			3	0.00			1	0.00
9	1	8 - 9			3	0.00			1	0.00
10	1	9 - 10			3	0.00			1	0.00
11	1	10 - 11			3	0.00			1	0.00
12	1	11 - 12			3	0.00			1	0.00
13	1	12 - 13			3	0.00			1	0.00
14	1	13 - 14			3	0.00			1	0.00
15	1	14 - 15			3	0.00			1	0.00
16	1	15 - 16			3	0.00			1	0.00
17	1	16-17			1	0.00			1	0.00
18	1	17-18			1	0.00			1	0.00
19	1	18-19			1	0.00			1	0.00
20	1	19-20			1	0.00			1	0.00
21	1	20-21			1	0.00			1	0.00
22	1	21-22			1	0.00			1	0.00
23	1	22-23			1	0.00			1	0.00
24	1	23-24			1	0.00			1	0.00
25	1	24-25			1	0.00			1	0.00
26	1	25-26			1	0.00			1	0.00
27	1	26-27			1	0.00			1	0.00
28	1	27-28			1	0.00			1	0.00
29	1	28-29			1	0.00			1	0.00
30	1	29-30			1	0.00			1	0.00
Total Increased Cancer Risk						0.2				0.00

* Third trimester of pregnancy

Hazard Index	Maximum	
	Fugitive PM2.5	Total PM2.5
0.0002	0.0001	0.001

220 Carroll Street Construction Emissions - Santa Clara County, Annual

220 Carroll Street Construction Emissions
Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Condo/Townhouse	15.00	Dwelling Unit	0.94	15,000.00	43

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/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 rate

Land Use - Default assumption for townhomes at 220 Carroll Street

Construction Phase - Default Construction

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	CO2IntensityFactor	641.35	290

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	0.1594	0.5293	0.4591	7.6000e-004	6.9300e-003	0.0304	0.0374	2.0300e-003	0.0281	0.0302	0.0000	66.8097	66.8097	0.0185	0.0000	67.2713
Maximum	0.1594	0.5293	0.4591	7.6000e-004	6.9300e-003	0.0304	0.0374	2.0300e-003	0.0281	0.0302	0.0000	66.8097	66.8097	0.0185	0.0000	67.2713

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	0.1594	0.5293	0.4591	7.6000e-004	6.9300e-003	0.0304	0.0374	2.0300e-003	0.0281	0.0302	0.0000	66.8096	66.8096	0.0185	0.0000	67.2712
Maximum	0.1594	0.5293	0.4591	7.6000e-004	6.9300e-003	0.0304	0.0374	2.0300e-003	0.0281	0.0302	0.0000	66.8096	66.8096	0.0185	0.0000	67.2712

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2020	3-31-2020	0.3184	0.3184
2	4-1-2020	6-30-2020	0.3666	0.3666
		Highest	0.3666	0.3666

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2020	1/14/2020	5	10	
2	Site Preparation	Site Preparation	1/15/2020	1/15/2020	5	1	
3	Grading	Grading	1/16/2020	1/17/2020	5	2	
4	Building Construction	Building Construction	1/18/2020	6/5/2020	5	100	
5	Paving	Paving	6/6/2020	6/12/2020	5	5	
6	Architectural Coating	Architectural Coating	6/13/2020	6/19/2020	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 30,375; Residential Outdoor: 10,125; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	1.00	247	0.40

Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	11.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	2.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.3400e-003	0.0394	0.0381	6.0000e-005		2.3400e-003	2.3400e-003		2.2300e-003	2.2300e-003	0.0000	5.2038	5.2038	9.8000e-004	0.0000	5.2284
Total	4.3400e-003	0.0394	0.0381	6.0000e-005		2.3400e-003	2.3400e-003		2.2300e-003	2.2300e-003	0.0000	5.2038	5.2038	9.8000e-004	0.0000	5.2284

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	1.7000e-004	1.2000e-004	1.2500e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3401	0.3401	1.0000e-005	0.0000	0.3403
Total	1.7000e-004	1.2000e-004	1.2500e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3401	0.3401	1.0000e-005	0.0000	0.3403

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	4.3400e-003	0.0394	0.0381	6.0000e-005		2.3400e-003	2.3400e-003		2.2300e-003	2.2300e-003	0.0000	5.2038	5.2038	9.8000e-004	0.0000	5.2284
Total	4.3400e-003	0.0394	0.0381	6.0000e-005		2.3400e-003	2.3400e-003		2.2300e-003	2.2300e-003	0.0000	5.2038	5.2038	9.8000e-004	0.0000	5.2284

Mitigated Construction Off-Site

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0170	0.0170	0.0000	0.0000	0.0170
Total	1.0000e-005	1.0000e-005	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0170	0.0170	0.0000	0.0000	0.0170

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					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4000e-004	4.2200e-003	2.0500e-003	0.0000		1.7000e-004	1.7000e-004		1.5000e-004	1.5000e-004	0.0000	0.4280	0.4280	1.4000e-004	0.0000	0.4314
Total	3.4000e-004	4.2200e-003	2.0500e-003	0.0000	2.7000e-004	1.7000e-004	4.4000e-004	3.0000e-005	1.5000e-004	1.8000e-004	0.0000	0.4280	0.4280	1.4000e-004	0.0000	0.4314

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0170	0.0170	0.0000	0.0000	0.0170
Total	1.0000e-005	1.0000e-005	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0170	0.0170	0.0000	0.0000	0.0170

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.7000e-004	7.8700e-003	7.6200e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.5000e-004	4.5000e-004	0.0000	1.0408	1.0408	2.0000e-004	0.0000	1.0457
Total	8.7000e-004	7.8700e-003	7.6200e-003	1.0000e-005	7.5000e-004	4.7000e-004	1.2200e-003	4.1000e-004	4.5000e-004	8.6000e-004	0.0000	1.0408	1.0408	2.0000e-004	0.0000	1.0457

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.5000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0680	0.0680	0.0000	0.0000	0.0681
Total	3.0000e-005	2.0000e-005	2.5000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0680	0.0680	0.0000	0.0000	0.0681

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.7000e-004	7.8700e-003	7.6200e-003	1.0000e-005		4.7000e-004	4.7000e-004		4.5000e-004	4.5000e-004	0.0000	1.0408	1.0408	2.0000e-004	0.0000	1.0457
Total	8.7000e-004	7.8700e-003	7.6200e-003	1.0000e-005	7.5000e-004	4.7000e-004	1.2200e-003	4.1000e-004	4.5000e-004	8.6000e-004	0.0000	1.0408	1.0408	2.0000e-004	0.0000	1.0457

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.5000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0680	0.0680	0.0000	0.0000	0.0681
Total	3.0000e-005	2.0000e-005	2.5000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0680	0.0680	0.0000	0.0000	0.0681

3.5 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	0.0431	0.4426	0.3694	5.7000e-004		0.0261	0.0261		0.0240	0.0240	0.0000	50.0302	50.0302	0.0162	0.0000	50.4348

Total	0.0431	0.4426	0.3694	5.7000e-004		0.0261	0.0261		0.0240	0.0240	0.0000	50.0302	50.0302	0.0162	0.0000	50.4348
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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-004	0.0114	3.0300e-003	3.0000e-005	6.6000e-004	6.0000e-005	7.1000e-004	1.9000e-004	5.0000e-005	2.4000e-004	0.0000	2.6144	2.6144	1.2000e-004	0.0000	2.6174
Worker	1.8300e-003	1.3100e-003	0.0138	4.0000e-005	4.3600e-003	3.0000e-005	4.3900e-003	1.1600e-003	3.0000e-005	1.1900e-003	0.0000	3.7408	3.7408	9.0000e-005	0.0000	3.7431
Total	2.2300e-003	0.0127	0.0168	7.0000e-005	5.0200e-003	9.0000e-005	5.1000e-003	1.3500e-003	8.0000e-005	1.4300e-003	0.0000	6.3553	6.3553	2.1000e-004	0.0000	6.3606

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	0.0431	0.4426	0.3694	5.7000e-004		0.0261	0.0261		0.0240	0.0240	0.0000	50.0302	50.0302	0.0162	0.0000	50.4347
Total	0.0431	0.4426	0.3694	5.7000e-004		0.0261	0.0261		0.0240	0.0240	0.0000	50.0302	50.0302	0.0162	0.0000	50.4347

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-004	0.0114	3.0300e-003	3.0000e-005	6.6000e-004	6.0000e-005	7.1000e-004	1.9000e-004	5.0000e-005	2.4000e-004	0.0000	2.6144	2.6144	1.2000e-004	0.0000	2.6174
Worker	1.8300e-003	1.3100e-003	0.0138	4.0000e-005	4.3600e-003	3.0000e-005	4.3900e-003	1.1600e-003	3.0000e-005	1.1900e-003	0.0000	3.7408	3.7408	9.0000e-005	0.0000	3.7431
Total	2.2300e-003	0.0127	0.0168	7.0000e-005	5.0200e-003	9.0000e-005	5.1000e-003	1.3500e-003	8.0000e-005	1.4300e-003	0.0000	6.3553	6.3553	2.1000e-004	0.0000	6.3606

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9300e-003	0.0181	0.0178	3.0000e-005		9.9000e-004	9.9000e-004		9.2000e-004	9.2000e-004	0.0000	2.3482	2.3482	6.8000e-004	0.0000	2.3653
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.9300e-003	0.0181	0.0178	3.0000e-005		9.9000e-004	9.9000e-004		9.2000e-004	9.2000e-004	0.0000	2.3482	2.3482	6.8000e-004	0.0000	2.3653

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
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Category	tons/yr										MT/yr					
	Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-004	1.1000e-004	1.1300e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3061	0.3061	1.0000e-005	0.0000	0.3063
Total	1.5000e-004	1.1000e-004	1.1300e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3061	0.3061	1.0000e-005	0.0000	0.3063

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9300e-003	0.0181	0.0178	3.0000e-005		9.9000e-004	9.9000e-004		9.2000e-004	9.2000e-004	0.0000	2.3482	2.3482	6.8000e-004	0.0000	2.3653
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.9300e-003	0.0181	0.0178	3.0000e-005		9.9000e-004	9.9000e-004		9.2000e-004	9.2000e-004	0.0000	2.3482	2.3482	6.8000e-004	0.0000	2.3653

Mitigated Construction Off-Site

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

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

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1056					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1000e-004	4.2100e-003	4.5800e-003	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6396
Total	0.1062	4.2100e-003	4.5800e-003	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6396

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	2.0000e-005	1.0000e-005	1.3000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0340	0.0340	0.0000	0.0000	0.0340
Total	2.0000e-005	1.0000e-005	1.3000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0340	0.0340	0.0000	0.0000	0.0340

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	0.1056					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.1000e-004	4.2100e-003	4.5800e-003	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6396
Total	0.1062	4.2100e-003	4.5800e-003	1.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	0.6383	0.6383	5.0000e-005	0.0000	0.6396

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	2.0000e-005	1.0000e-005	1.3000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0340	0.0340	0.0000	0.0000	0.0340
Total	2.0000e-005	1.0000e-005	1.3000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0340	0.0340	0.0000	0.0000	0.0340