APPENDIX B

Air Quality and Greenhouse Gas Assessment

EL CAMINO REAL SPECIFIC PLAN - AIR QUALITY AND GREENHOUSE GAS ASSESSMENT

Santa Clara, California

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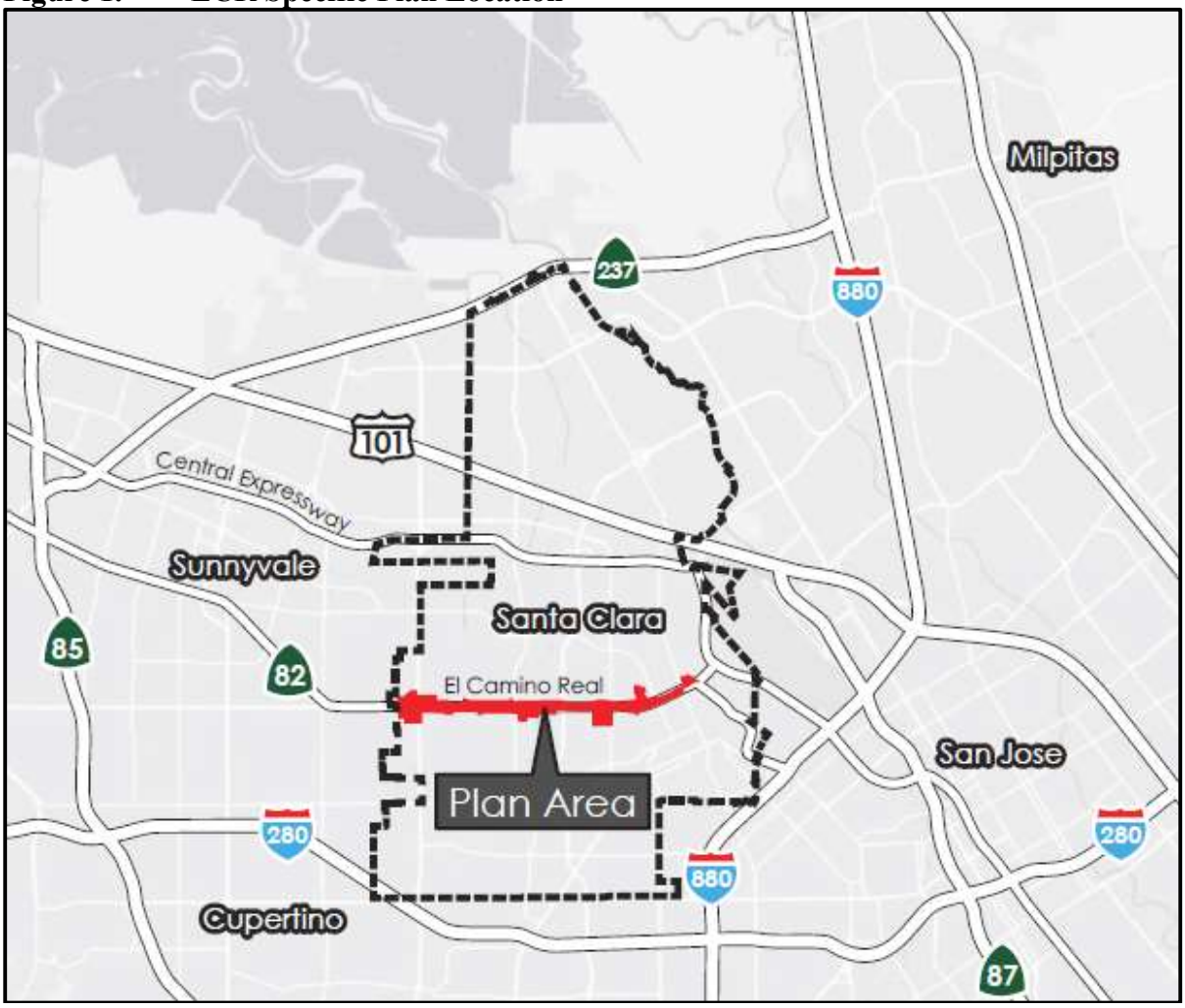
INTRODUCTION

This report examines air quality and greenhouse gas (GHG) emissions for the El Camino Real (ECR) Specific Plan, includes a summary of applicable air quality and GHG regulations, and analyzes potential air quality and GHG impacts associated with the ECR Specific Plan. The ECR Specific Plan would allow for increased development of new residential units. The site is currently developed with light industrial and office uses, with surface parking lots adjacent to each property. This report includes a summary of applicable air quality and GHG regulations and analyzes potential air quality impacts and GHG emissions associated with the proposed ECR Specific Plan.

PROJECT DESCRIPTION

The specific plan area comprises 316 acres of properties that are located immediately adjacent to El Camino Real located immediately adjacent to the segment of the El Camino Real between Lafayette Street on the east and the City limits on the west. The Plan Area is surrounded in most directions by single-family neighborhoods. Figure 1 shows the ECR Specific Plan location.

Figure 1. ECR Specific Plan Location



The City of Santa Clara adopted its 2010-2035 General Plan in 2010, which designated nine Future Focus Areas throughout the City to support and foster the City's diverse economic and cultural base. For Phase I of the General Plan (2010-2015), the Focus Areas include the El Camino Real Focus Area. The General Plan vision for the El Camino Real Focus Area is to transform it from a series of automobile-oriented strip-malls to a tree-lined, pedestrian- and transit-oriented corridor with a mix of residential and retail uses. General Plan Policy 5.4.1-P23 requires the City to prepare a precise plan for the segment of El Camino Real in the Focus Area to ensure that development is coordinated, and its design is consistent with that envisioned in the Focus Area.

The proposed ECR Specific Plan provides a vision and planning framework for future growth and development in the El Camino Real Corridor ("Plan Area"). The Plan provides a comprehensive vision for the Plan Area along with goals, policies, strategies and development standards to guide the Plan Area's future growth in an equitable manner than benefits the community. The Preferred Land Use Alternative selected by the City that is evaluated in this report would include up to 6,200 residential units beyond the 2,073 that were allocated under the General Plan and of which some of those residential units have already been constructed in the project area. Additionally, the ECR Specific Plan would reduce the existing commercial space by 395,000 square feet (sf).

SETTING

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 ($PM_{2.5}$) 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, 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 California Air Resources Board (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 California Clean Air Act (CCAA) divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

Table 1 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 1. NAAQS, CAAQS, and 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

Notes: Lead (Pb) is not listed in the above table because it has been in attainment since the 1980s. ppm = parts per million, mg/m^3 = milligrams per cubic meter, µg/m^3 = micrograms per cubic meter

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

Existing Air Pollutant Levels

The Bay Area Air Quality Management District (BAAQMD) monitors air pollution at various sites within the Bay Area. The closest air monitoring station (158 Jackson Street) that monitored O_3, CO, NO, NO_2, PM_{10}, and $PM_{2.5}$ over the past 5 years (2014 through 2018) is in the City of San José approximately 5 miles southwest of the project site. The data shows that during the past few years, the project area has exceeded the state and/or federal O_3, PM_{10}, and $PM_{2.5}$ ambient air quality standards. Table 2 lists air quality trends in data collected at the San José Station for the past 5 years and published by the BAAQMD, which is the most recent time-period available. Ozone standards are exceeded on 0 to 4 days annually in San José and 3 to 15 days throughout the Bay Area. Measured 24-hour PM_{10} and $PM_{2.5}$ concentrations are exceeded on 0 to 6 monitoring days in San José and up to 18 days at any place in the Bay Area (note these levels were influences by smoke from wildfires).

Table 2. Ambient Air Quality Concentrations from 2014 through 2018

Pollutant		Standard	2014	2015	2016	2017	2018
Ozone							
Max 1-hr concentration			89 ppb	94 ppb	87 ppb	121 ppb	78 ppb
No. days exceeded:	CAAQS	90 ppb	0	0	0	3	0
Max 8-hr concentration			66 ppb	81 ppb	66 ppb	98 ppb	61 ppb
No. days exceeded:	CAAQS	70 ppb	0	2	0	4	0
	NAAQS	70 ppb	0	2	0	4	0
Carbon Monoxide							
Max 1-hr concentration			2.4 ppm	2.4 ppm	2.0 ppm	2.1 ppm	2.5 ppm
No. days exceeded:	CAAQS	20 ppm	0	0	0	0	0
	NAAQS	35 ppm	0	0	0	0	0
Max 8-hr concentration			1.9 ppm	1.8 ppm	1.4 ppm	1.8 ppm	2.1 ppm
No. days exceeded:	CAAQS	9.0 ppm	0	0	0	0	0
	NAAQS	9 ppm	0	0	0	0	0
PM_{10}							
Max 24-hr concentration			55 µg/m^3	58 µg/m^3	41 µg/m^3	70 µg/m^3	122 µg/m^3
No. days exceeded:	CAAQS	50 µg/m^3	1	1	0	6	4
	NAAQS	150 µg/m^3	0	0	0	0	0
Max annual concentration			19.9 µg/m^3	22.0 µg/m^3	18.5 µg/m^3	21.6 µg/m^3	23.1 µg/m^3
No. days exceeded: State		-	-	-	-	-	-
$PM_{2.5}$							
Max 24-hr concentration			60.4 µg/m^3	49.4 µg/m^3	22.6µg/m^3	49.7 g/m^3	133.9µg/m^3
No. days exceeded:	NAAQS	35 µg/m^3	2	2	0	6	4
Annual Concentration			8.4 µg/m^3	10.0 g/m^3	8.4 µg/m^3	9.5 µg/m^3	12.8µg/m^3
No. days exceeded:	CAAQS	12 µg/m^3	-	-	-	-	-
	NAAQS	12 µg/m^3	-	-	-	-	-
Nitrogen Dioxide							
Max 1-hr concentration			58 ppb	49 ppb	51 ppb	68 ppb	86 ppb
No. days exceeded:	CAAQS	180 ppb	0	0	0	0	0
	NAAQS	100 ppb	0	0	0	0	0
Annual Concentration			13 ppb	13 ppb	11 ppb	12 ppb	13 ppb
No. days exceeded:	CAAQS	30 ppb	-	-	-	-	-
	NAAQS	53 ppb	-	-	-	-	-

Source: Bay Area Air Quality Management District, 2019

Regulatory Framework

Pursuant to the Federal Clean Air Act (FCAA) of 1970, the Environmental Protect Agency (EPA) established the 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 CARB have established ambient air quality standards for common pollutants: CO, O_3, NO_2, SO_2, Pb, and 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 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.[1] 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 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 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

[1] See: U.S. Environmental Protection Agency, Web: https://www.epa.gov/criteria-air-pollutants/naaqs-table, Accessed 13 August 2020

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 CCAA, adopted in 1988. The CCAA requires that all air districts in the state achieve and maintain the 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 CO, O_3, SO_2, and NO_2 by the earliest practical date. The CCAA provides districts with authority to regulate indirect sources and mandates that air quality districts focus 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.[2] CARB subsequently developed an Air Quality and Land Use Handbook[3] (Handbook) in 2005 that is intended to serve as a general reference guide for 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

[2] California Air Resources Board, 2000. Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. October.
[3] California Air Resources Board, 2005. Air Quality and Land Use Handbook: A Community Health Perspective. April.

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

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 José, 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 Air Quality Guidelines

The BAAQMD California Environmental Quality Act (CEQA) Air Quality Guidelines[4] 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 Rules and Regulations

Projects with combustion equipment or other processes that directly emit air pollutants, precursor air pollutants or toxic air contaminants are subject to BAAQMD permitting rules and regulations that typically require obtaining permits to operate. Common sources requiring permits that may be constructed in the plan area include diesel engines used to power emergency generators and gasoline fueling dispensaries.

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

Odors

Odor impacts are subjective in nature and are generally regarded as an annoyance rather than a health hazard. The ability to detect and react to odors varies considerably among people. A strong or unfamiliar odor is more easily detected and are more likely to cause complaints. BAAQMD responds to odor complaints from the public and considers a source to have a substantial number of odor complaints if the complaint history includes five or more confirmed complaints per year averaged over a 3-year period. Facilities that are regulated by CalRecycle (e.g. landfill, composting, etc.) are required to have Odor Impact Minimization Plans in place.

Local Plans and Policies

Santa Clara General Plan

The 2010-2035 General Plan includes goals to improve air quality in the region and reduce GHG emissions. To achieve these goals, the General Plan contains the following policies:

5.10.2-P1 Support alternative transportation modes and efficient parking mechanisms to improve air quality.

5.10.2-P2 Encourage development patterns that reduce vehicle miles traveled and air pollution.

5.10.2-P3 Encourage implementation of technological advances that minimize public health hazards and reduce the generation of air pollutants.

5.10.2-P4 Encourage measures to reduce greenhouse gas emissions to reach 30 percent below1990 levels by 2020.

5.10.2-P5 Promote regional air pollution prevention plans for local industry and businesses.

5.10.2-P6 Require "Best Management Practices" for construction dust abatement.

In addition, the Safety Goals of the General Plan are supported by the following policies related to air quality:

5.10.5-P34 Implement minimum setbacks of 500 feet from roadways with average daily trips of 100,000 or more and 100 feet from railroad tracks for new residential or other uses with sensitive receptors, unless a project-specific study identifies measures, such as site design, tiered landscaping, air filtration systems, and window design, to reduce exposure, demonstrating that the potential risks can be reduced to acceptable levels.

5.10.5-P35 Establish minimum buffers between odor sources and new residential or other uses with sensitive receptors, consistent with BAAQMD guidelines, unless a project-specific study demonstrates that these risks can be reduced to acceptable levels.

The General Plan includes *Prerequisite Goals and Policies* that relate to air quality. Some of these policies addressed significant impacts identified in the Draft Environmental Impact Report for the General Plan. The following policy related to air quality was included in the General Plan:

5.1.1-P24 Prior to the implementation of Phase III, the City will include a community Risk Reduction Plan ("CRRP") for acceptable Toxic Air Contaminant ("TAC") concentrations, consistent with the Bay Area Air Quality Management District ("BAAQMD") CEQA Guidelines, including risk and exposure reduction targets, measures to reduce emissions, monitoring procedures, and a public participations process.

Note that the City has not yet developed a CRRP, so health risk assessments are performed for projects that contain sensitive receptors near sources of air pollution or TACs. These include modeling of health risks for individual projects located within the minimum setbacks for roadways and railroads. Mitigation measures such as (but not limited to); site redesign, tiered plantings of trees, air filtration systems, and location of air intakes and design windows to reduce exposure, shall be required to reduce these risks to acceptable levels.

Greenhouse Gas Regulatory Framework

This section summarizes key federal, State, and City statutes, regulations, and policies that would apply to the ECR Specific Plan. Global climate change resulting from GHG emissions is an emerging environmental concern being raised and discussed at the international, national, statewide and local levels. At each level, agencies are considering strategies to control emissions of gases that contribute to global climate change.

Global temperatures are affected by naturally occurring and anthropogenic-generated (generated by humankind) atmospheric gases, such as water vapor, carbon dioxide, methane, and nitrous oxide. Gases that trap heat in the atmosphere are called greenhouse gases. Solar radiation enters the earth's atmosphere from space, and a portion of the radiation is absorbed at the surface. The earth emits this radiation back toward space as infrared radiation. Greenhouse gases, which are mostly transparent to incoming solar radiation, are effective in absorbing infrared radiation and redirecting some of this back to the earth's surface. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This is known as the greenhouse effect.

The greenhouse effect helps maintain a habitable climate. Emissions of GHGs from human activities, such as electricity production, motor vehicle use, and agriculture, are elevating the concentration of GHGs in the atmosphere, and are reported to have led to a trend of unnatural warming of the earth's natural climate, known as global warming or global climate change. The term "global climate change" is often used interchangeably with the term "global warming," but "global climate change" is preferred because it implies that there are other consequences to the

global climate in addition to rising temperatures. Other than water vapor, the primary GHGs contributing to global climate change include the following gases:

- Carbon dioxide (CO_2), primarily a byproduct of fuel combustion;
- Nitrous oxide (N_2O), a byproduct of fuel combustion; also associated with agricultural operations such as the fertilization of crops;
- Methane (CH_4), commonly created by off-gassing from agricultural practices (e.g. livestock), wastewater treatment and landfill operations;
- Chlorofluorocarbons (CFCs) were used as refrigerants, propellants and cleaning solvents, but their production has been mostly prohibited by international treaty;
- Hydrofluorocarbons (HFCs) are now widely used as a substitute for chlorofluorocarbons in refrigeration and cooling; and
- Perfluorocarbons (PFCs) and sulfur hexafluoride (SF_6) emissions are commonly created by industries such as aluminum production and semiconductor manufacturing.

These gases vary considerably in terms of Global Warming Potential (GWP), a term developed to compare the propensity of each GHG to trap heat in the atmosphere relative to another GHG. GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and the length of time of gas remains in the atmosphere. The GWP of each GHG is measured relative to CO_2. Accordingly, GHG emissions are typically measured and reported in terms of equivalent CO_2 (CO_2e). For instance, SF_6 is 22,800 times more intense in terms of global climate change contribution than CO_2.

An expanding body of scientific research supports the theory that global warming 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 could be adversely affected by the global warming trend. Increased precipitation and sea level rise could 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.

Federal and Statewide GHG Emissions

The U.S. EPA reported that in 2018, total gross nationwide GHG emissions were 6,676.6 million metric tons (MMT) carbon dioxide equivalent (CO_2e).[5] These emissions were lower than peak levels of 7,416 MMT that were emitted in 2007. CARB updates the statewide GHG emission inventory on an annual basis where the latest inventory includes 2000 through 2017 emissions.[6] In 2017, GHG emissions from statewide emitting activities were 424 MMT. The 2017 emissions have decreased by 14 percent since peak levels in 2004 and are 7 MMT below the 1990 emissions level

[5] United States Environmental Protection Agency, 2020. *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2018*. April. Web: https://www.epa.gov/sites/production/files/2020-04/documents/us-ghg-inventory-2020-main-text.pdf
[6] CARB. 2019. *2019 Edition, California Greenhouse Gas Emission Inventory: 2000 – 2017*. Web: https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2017/ghg_inventory_trends_00-17.pdf

and the State's 2020 GHG limit. Per capita GHG emissions in California have dropped from a 2001 peak of 14.1 MT per person to 10.7 MT per person in 2017. The most recent Bay Area emission inventory was computed for the year 2011.[7] The Bay Area GHG emission were 87 MMT. As a point of comparison, statewide emissions were about 444 MMT in 2011.

Federal Regulations

The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC). While the United States signed the Kyoto Protocol, which would have required reductions in GHGs, Congress never ratified the protocol. The federal government chose voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science. Currently, there are no federal regulations or policies pertaining to GHG emissions from proposed projects or plans.

State Regulations

The State of California is concerned about GHG emissions and their effect on global climate change. The State recognizes that "there appears to be a close relationship between the concentration of GHGs in the atmosphere and global temperatures" and that "the evidence for climate change is overwhelming." The effects of climate change on California, in terms of how it would affect the ecosystem and economy, remain uncertain. The State has many areas of concern regarding climate change with respect to global warming. According to the 2006 Climate Action Team Report, the following climate change effects and conditions can be expected in California over the course of the next century:

- A diminishing Sierra snowpack declining by 70 percent to 90 percent, effecting the state's water supply;
- Increasing temperatures from 8 to 10.4 degrees Fahrenheit (°F) under the higher emission scenarios, leading to a 25 to 35 percent increase in the number of days ozone pollution standards are exceeded in most urban areas;
- Coastal erosion along the length of California and seawater intrusion into the Sacramento River Delta from a 4- to 33-inch rise in sea level. This would exacerbate flooding in already vulnerable regions;
- Increased vulnerability of forests due to pest infestation and increased temperatures;
- Increased challenges for the state's important agricultural industry from water shortages, increasing temperatures, and saltwater intrusion into the Delta; and
- Increased electricity demand, particularly in the hot summer months.

Executive Order S-3-05 – California GHG Reduction Targets

Executive Order (EO) S-3-05 was signed by Governor Arnold Schwarzenegger in 2005 to set GHG emission reduction targets for California. The three targets established by this EO are as follows:

[7] BAAQMD. 2015. *Bay Area Emissions Inventory Summary Report: Greenhouse Gases Base Year 2011*. January. Web: http://www.baaqmd.gov/~/media/files/planning-and-research/emission-inventory/by2011_ghgsummary.pdf accessed Nov. 26, 2019.

(1) reduce California's GHG emissions to 2000 levels by 2010, (2) reduce California's GHG emissions to 1990 levels by 2020, and (3) reduce California's GHG emissions by 80 percent below 1990 levels by 2050.

Assembly Bill 32 – California Global Warming Solutions Act (2006)

Assembly Bill (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, which has a target of reducing GHG emissions 80 percent below 1990 levels.

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 CO_2e 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, considering the economic downturn, to 545 MMT of CO_2e. 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 CO_2e. Thus, an estimated reduction of 80 MMT of CO_2e is necessary to reduce statewide emissions to meet the AB 32 target by 2020.

Executive Order B-30-15 & Senate Bill 32 GHG Reduction Targets – 2030 GHG Reduction Target

In April 2015, Governor Brown signed EO B-30-15, 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 Senate Bill (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*.[8] 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

[8] California Air Resource Board, 2017. *California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Targets.* November. Web: https://ww2.arb.ca.gov/sites/default/files/classic//cc/scopingplan/scoping_plan_2017.pdf

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.

Executive Order B-55-18 – Carbon Neutrality

In 2018, a new statewide goal was established to achieve carbon neutrality as soon as possible, but no later than 2045, and to maintain net negative emissions thereafter. CARB and other relevant state agencies are tasked with establishing sequestration targets and create policies/programs that would meet this goal.

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.

Senate Bill 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.

Senate Bill 100 – Current Renewable Portfolio Standards

In September 2018, SB 100 was signed by Governor Brown to revise California's RPS program goals, furthering California's focus on using renewable energy and carbon-free power sources for its energy needs. The bill would require all California utilities to supply a specific percentage of their retail sales from renewable resources by certain target years. By December 31, 2024, 44 percent of the retails sales would need to be from renewable energy sources, by December 31, 2026 the target would be 40 percent, by December 31, 2017 the target would be 52 percent, and by December 31, 2030 the target would be 60 percent. By December 31, 2045, all California utilities would be required to supply retail electricity that is 100 percent carbon-free and sourced from eligible renewable energy resource to all California end-use customers.

California Building Standards Code – Title 24 Part 11 & Part 6

The California Green Building Standards Code (CALGreen Code) is part of the California Building Standards Code under Title 24, Part 11.[9] The CALGreen Code encourages sustainable construction standards that involve planning/design, energy efficiency, water efficiency resource efficiency, and environmental quality. These green building standard codes are mandatory statewide and are applicable to residential and non-residential developments. The most recent CALGreen Code (2019 California Building Standard Code) was effective as of January 1, 2020.

The California Building Energy Efficiency Standards (California Energy Code) is under Title 24, Part 6 and is overseen by the California Energy Commission (CEC). This code includes design requirements to conserve energy in new residential and non-residential developments, while being cost effective for homeowners. This Energy Code is enforced and verified by cities during the planning and building permit process. The current energy efficiency standards (2019 Energy Code) replaced the 2016 Energy Code as of January 1,2020. Under the 2019 standards, single-family

[9] See: https://www.dgs.ca.gov/BSC/Resources/Page-Content/Building-Standards-Commission-Resources-List-Folder/CALGreen#:~:text=CALGreen%20is%20the%20first%2Din,to%201990%20levels%20by%202020.

homes are predicted to be 53 percent more efficient than homes built under the 2016 standard due more stringent energy-efficiency standards and mandatory installation of solar photovoltaic systems. For nonresidential developments, it is predicted that these buildings will use 30 percent less energy due to lightening upgrades.[10]

Bay Area Air Quality Management District

BAAQMD is the regional government agency that regulates sources of air pollution within the nine San Francisco Bay Area counties. The BAAQMD regulates GHG emissions through the following plans, programs, and guidelines.

Regional Clean Air Plans

BAAQMD and other air districts prepare clean air plans in accordance with the State and Federal Clean Air Acts. The Bay Area 2017 Clean Air Plan (CAP) is a comprehensive plan to improve Bay Area air quality and protect public health through implementation of a control strategy designed to reduce emissions and ambient concentrations of harmful pollutants. The most recent CAP also includes measures designed to reduce GHG emissions.

BAAQMD Climate Protection Program

The BAAQMD established a climate protection program to reduce pollutants that contribute to global climate change and affect air quality in the San Francisco Bay Area Air Basin. The climate protection program includes measures that promote energy efficiency, reduce vehicle miles traveled, and develop alternative sources of energy, all of which assist in reducing emissions of GHG and in reducing air pollutants that affect the health of residents. BAAQMD also seeks to support current climate protection programs in the region and to stimulate additional efforts through public education and outreach, technical assistance to local governments and other interested parties, and promotion of collaborative efforts among stakeholders.

BAAQMD CEQA Air Quality Guidelines

The BAAQMD adopted revised CEQA Air Quality Guidelines on June 2, 2010 and then adopted a modified version of the Guidelines in May 2011. The BAAQMD CEQA Air Quality Guidelines include thresholds of significance for greenhouse gas emissions. Under the latest CEQA Air Quality Guidelines, a local government may prepare a qualified greenhouse gas Reduction Strategy that is consistent with AB 32 goals. If a project is consistent with an adopted qualified greenhouse gas Reduction Strategy, it can be presumed that the project will not have significant GHG emissions under CEQA.[11] The BAAQMD also developed a quantitative threshold for project- and plan-level analyses based on estimated GHG emissions, as well as per capita metrics.

[10] See: https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf
[11] Bay Area Air Quality Management District, 2017. *CEQA Air Quality Guidelines*. May.

Santa Clara Climate Action Plan

The Santa Clara Climate Action Plan (CAP), was adopted December 3, 2013. The 2013 CAP met the criteria for a Qualified GHG Reduction Strategy, established by the CEQA Guidelines, which are supported by BAAQMD. The CAP includes measures to reduce emissions by 23.4% below 2008 levels by 2020 and a series of measures to reduce emissions beyond. The following reduction strategies would apply to this project:

- Achieve City-adopted electricity efficiency targets to reduce community-wide electricity use by 5% through incentives, pilot projects, and rebate programs.
- Incentivize and facilitate the installation of 6 MW of customer-owned residential and nonresidential solar PV projects.
- Meet the water conservation goals presented in the 2010 Urban Water Management Plan to reduce per capita water use by 2020.
- Work with regional partners to increase solid waste diversion to 80% through increased recycling efforts, curbside food waste pickup, and construction and demolition waste programs.
- Support and facilitate a community-wide transition to electric outdoor lawn and garden equipment through outreach, coordination with BAAQMD, and outdoor electrical outlet requirements for new development.
- Require construction projects to comply with BAAQMD best management practices, including alternative-fueled vehicles and equipment.
- Require new development located in the city's transportation districts to implement a TDM program to reduce drive-alone trips.
- Revise parking standards for new multi-family residential and nonresidential development to allow that a minimum of one parking space, and a recommended level of 5% of all new parking spaces, be designated for electric vehicle charging.
- Create a tree-planting standard for new development and conduct a citywide tree inventory every five years to track progress of the requirements.
- Require new parking lots to be surfaced with low-albedo materials to reduce heat gain, provided it is consistent with the Building Code.

The City conducts regular and ongoing monitoring of CAP implementation to ensure that the CAP continues to be a Qualified GHG Reduction Strategy. The 2018 CAP Annual Report is the most recent update, which includes an update to the GHG emissions inventory for the community and local government operations. The City developed a year 2008 GHG inventory to establish a baseline for the CAP. This inventory was updated to include year 2016 emissions. In 2016, community wide GHG emissions were 1,769,178 metric tons CO2e, compared with 1,854,300 metric tons CO2e in 2008 (a 4.5 percent decrease). The total MTCO2e reductions anticipated with the completion of seven of the nineteen CAP measures is estimated to be approximately 430,000 metric tons CO2e. These GHG reductions, including the City's divestment from coal-fired power generation, will be quantified and shown in the next Greenhouse Gas Inventory that addresses the calendar year 2018.

PROJECT IMPACTS AND MITIGATION MEASURES

Significance Criteria

Per Appendix G of the CEQA Guidelines and BAAQMD recommendations, air quality and GHG impacts are considered significant if implementation of the ECR Specific Plan would:

1) Conflict with or obstruct implementation of an applicable air quality plan.
2) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.
3) Expose sensitive receptors to substantial pollutant concentrations.
4) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.
5) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
6) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The City uses the significance thresholds recommended by BAAQMD in its latest update to the CEQA Air Quality Guidelines. In response to the legal issues, BAAQMD revised its CEQA Guidelines in May 2017. The thresholds identified in Table 3and Table 4 represent the most recent guidance provided by BAAQMD that are used by the City of Santa Clara. Though not necessarily a CEQA issue, the effect of existing TAC sources on future ECR Specific Plan receptors (residences) is analyzed to comply with BAAQMD's Clean Air Plan key goal of reducing population TAC exposure and protecting public health in the Bay Area.

Table 3. BAAQMD Recommended Plan-Level Air Quality Significance Thresholds

Pollutant/Contaminant	Construction Related	Operational
Criteria Air Pollutants and Precursors	None	1. Consistency with Current Air Quality Plan control measures 2. Projected VMT or vehicle trip increase is less than or equal to projected population increase
GHGs	None	Compliance with Qualified GHG Reduction Strategy OR 6.6 MT CO2e/SP/year (residents + employees) For this analysis, the City's GGRP 2030 threshold is applied: *2.8 metric tons per capita in 2030*
Risks and Hazards	None	1. Overlay zones around existing and planned sources of TACs (including adopted Risk Reduction Plan areas) 2. Overlay zones of at least 500 feet from all freeways and high-volume roadways For this analysis – overlay zones are based on potential for sources to result in the following impacts: 1. Excess cancer risk >10.0 chances per million 2. Annual PM2.5 Concentration > 0.3 $\mu g/m^3$ 3. Hazard Index >1.0
Odors	None	Identify the location, and include policies to reduce the impacts, of existing or planned sources of odors

Table 4. BAAQMD Recommended Project-Level 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 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	
Odors	**Complaints**	**Complaints**	
	No threshold	5 confirmed complaints per year averaged over three years	
Greenhouse Gas Emissions			
Land Use Projects – direct and indirect emissions	Compliance with a Qualified GHG Reduction Strategy OR 4.6 metric tons per capita in 2020		

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

Note that BAAQMD's recommended GHG threshold of 1,100 metric tons or 4.6 metric tons per capita was developed based on meeting the 2020 GHG targets set in the scoping plan that addressed AB 32. Development within the ECR Specific Plan area would occur beyond 2020, so a threshold that addresses a future target is appropriate. The basis of the BAAQMD thresholds were used to develop plan level thresholds for 2040. Although BAAQMD has not yet published a quantified threshold for 2030, this assessment uses a "Substantial Progress" efficiency metric of 2.8 MT CO2e/year/service population (S.P.). This is calculated for 2030 based on the GHG reduction goals of EO B-30-15, taking into account the 1990 inventory and the projected 2030 statewide population and employment levels.[12] An efficiency metric of 1.8 MT CO2e/year/S.P. for 2040 was also calculated using the same method.

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

AIR QUALTIY IMPACTS AND MITIGATION MEASURES

Impact AIR-1: Conflict with or obstruct implementation of an applicable air quality plan?

BAAQMD is the regional agency responsible for overseeing compliance with State and Federal laws, regulations, and programs within the SFBAAB. BAAQMD, with assistance from ABAG and MTC, has prepared and implements specific plans to meet the applicable laws, regulations, and programs. The most recent and comprehensive of which is the *Bay Area 2017 Clean Air Plan*.[13] The BAAQMD has also developed CEQA guidelines to assist lead agencies in evaluating the significance of air quality impacts. In formulating compliance strategies, BAAQMD relies on planned land uses established by local general plans. Land use planning affects vehicle travel, which in turn affects region-wide emissions of air pollutants and GHGs.

Consistency of the ECR Specific Plan with Clean Air Plan control measures is demonstrated by assessing whether the proposed Plan implements the applicable Clean Air Plan control measures. The 2017 Clean Air Plan includes control measures that are intended to reduce air pollutant emissions in the Bay Area either directly or indirectly. The control measures are divided into five categories that include:

- 40 measures to reduce stationary and area sources;
- 8 mobile source measures;
- 23 transportation control measures (including land use strategies);
- 4 building sector measures;
- 2 energy sector measures;
- 4 agriculture sector measures;
- 3 natural and working lands measures;
- 4 waste sector measures;
- 2 water sector measures; and
- 3 super-GHG pollutants measures.

In developing the control strategy, BAAQMD identified the full range of tools and resources available, both regulatory and non-regulatory, to develop each measure. Implementation of each control measure will rely on some combination of the following:

- Adoption and enforcement of rules to reduce emissions from stationary sources, area sources, and indirect sources.
- Revisions to the BAAQMD's permitting requirements for stationary sources.
- Enforcement of CARB rules to reduce emissions from heavy-duty diesel engines.
- Allocation of grants and other funding by the Air District and/or partner agencies.
- Promotion of best policies and practices that can be implemented by local agencies through guidance documents, model ordinances, and other measures.

[13] Bay Area Air Quality Management District (BAAQMD), 2017. *Final 2017 Clean Air Plan.*

- Partnerships with local governments, other public agencies, the business community, non-profits, and other groups.
- Public outreach and education.
- Enhanced air quality monitoring.
- Development of land use guidance and CEQA guidelines, and Air District review and comment on Bay Area projects pursuant to CEQA.
- Leadership and advocacy.

This approach relies upon lead agencies to assist in implementing some of the control measures. A key tool for local agency implementation is the development of land use policies and implementing measures that address new development or redevelopment in local communities. To address this impact, the ECR Specific Plan's effect on implementing the Clean Air Plan is evaluated based on consistency with Clean Air Planning projections (i.e., rate of increase in population versus vehicle travel) and

Consistency with Clean Air Plan Projections

The BAAQMD, with assistance from ABAG and MTC, has prepared and implemented the Clean Air Plan to meet the applicable laws, regulations, and programs. The primary goals of the Clean Air Plan are to attain air quality standards, reduce population exposure and protect public health, and reduce GHG emissions and protect the climate. The BAAQMD has also developed CEQA guidelines to assist lead agencies in evaluating the significance of air quality impacts. In formulating compliance strategies, BAAQMD relies on planned land uses established by local general plans. Land use planning affects vehicle travel, which in turn affects region-wide emissions of air pollutants and GHG.

Table 5 provides Build-out under the ECR Specific Plan would increase the service population by result in estimated additional 14,162 additional residents and workers through build out of 6,500 new residential units while decreasing commercial space by 395,000-sf. In other words, the increase in service population is anticipated to be residents. Daily vehicle miles traveled (VMT) for build out of the ECR Specific Plan area were provided by the project traffic consultant. Using the no project as a baseline condition (estimated at 132,596 miles), VMT attributable to the ECR Specific Plan is anticipated to decrease 10 percent at build-out (119,939 miles). The VMT per capita is anticipated to decrease from 35.6 miles to 6.7 miles with the ECR Specific Plan. A decrease in VMT per capita under cumulative conditions is also anticipated with the ECR Specific Plan. The ECR Specific Plan would not increase VMT at a greater rate than the increase in population.

Table 5. ECR Specific Plan Traffic and Population Projections

Scenario	Population	Daily Trips	Daily VMT	VMT/Capita	Dwelling Units	1,000-SF of Retail
Existing No Project	3,729	8,595	132,596	35.6	2,500	2,265
Existing with Project	17,891	21,575	119,939	6.7	8,700	1,870
Net Change	*+14,162*	*+12,980*	*-12,657*	--	*+6,200*	*-395*
Cumulative No Project	4,496	10466	125,045	27.8	--	--
Cumulative with Project	18,657	20,875	202,414	10.8	--	--
Net Change	*+14,161*	*+10,409*	*+77,369*	--	--	--
Note: VMT and population are obtained from the City of Santa Clara's Travel Demand Forecasting model.						

Source: Fehr & Peers, July 2020

Consistency with Clean Air Plan Control Measures

The Guidelines set forth criteria for determining consistency with the Clean Air Plan control measures. In general, a plan is considered consistent if a) the plan supports the primary goals of the Clean Air Plan; b) includes control measures; and c) does not interfere with implementation of the Clean Air Plan measures. ECR Specific Plan is a considered a sustainable development since it is an infill development that would be transit-oriented and located near a mix of uses that include employment and services. As a result, these types of communities reduce the rate of per capita VMT. As a sustainable development, the ECR Specific Plan would generally be consistent with Clean Air Plan measures intended to reduce automobile and energy use, which are discussed below. Table 6 lists those Clean Air Plan policies relevant to the ECR Specific Plan and indicates consistency with the policies.

Table 6. BAAQMD Control Strategy Measures from the Clean Air Plan

Applicable BAAQMD Control Strategy Measures	Consistency
Transportation Control Measures	
TR1: Clean Air Teleworking Initiative	Consistent The ECR Specific Plan would encourage the implementation of TDM programs for new development, which would include measures such as increased support for telecommuting
TR2: Trip Reduction Programs	Consistent The ECR Specific Plan would encourage the implementation of TDM programs for new development, which would include measures such as transit subsidies, carpool incentives, bicycling incentives, carshare memberships, and/or vanpools.

Applicable BAAQMD Control Strategy Measures	Consistency
TR 5: Transit Efficiency and Use	Consistent While this is mostly a regionally implemented control measure, the ECR Specific Plan would provide connections to regional and local transit with its convenient location near the Santa Clara and Lawrence transit stations.
TR7: Safe Routes to Schools and Safe Routes to Transit	Consistent The ECR Specific Plan would ensure clear and safe pedestrian circulation. Convenience, safety and integrated access would be prioritized for all modes of transportation.
TR8: Ridesharing, Last-Mile Connection	Consistent The ECR Specific Plan would encourage the implementation of TDM programs, which may include measures such as carpool incentives, carshare memberships, additional Last Mile services, and/or vanpools.
TR9: Bicycle and Pedestrian Access and Facilities	Consistent The ECR Specific Plan would result in a dense, walkable environment, simplify wayfinding, and ensure clear and safe pedestrian circulation.
TR10: Land Use Strategies	Consistent The ECR Specific Plan would support the implementation of Plan Bay Area 2040 by focusing new development on infill areas in close proximity to transit, creating opportunities for more sustainable transportation modes that are less reliant on automobiles.
TR13: Parking Policies	Consistent The ECR Specific Plan would reduce demand for parking through site design, transit accessibility and TDM programs.
Building Control Measures	
BL1: Green Buildings	Consistent New construction allowed under the ECR Specific Plan would meet new Title 24 standards as well as City requirements.
BL2: Decarbonize Buildings	Consistent The ECR Specific Plan would encourage energy generation through on-site photovoltaic on buildings and would discourage the use of natural gas. In addition, the ECR Specific Plan supports the goal of net zero energy on-site over time as the electricity provider, Silicon Valley Power, strives to provide carbon free generated electricity to their Santa Clara customers as well as the purchase of renewable energy credits.

Applicable BAAQMD Control Strategy Measures	Consistency
BL4: Urban Heat Island Mitigation	Consistent The ECR Specific Plan would reduce cooling load by maximizing shade through increased tree and landscape planting throughout the Specific Plan area.
Natural and Working Lands Control Measures	
NW2: Urban Tree Planting	Consistent The ECR Specific Plan would provide a comfortable, well-shaded environment defined by a consistent, linear planting plan along the streets and a variety of trees in parks and greenways.
Waste Management Control Measures	
WA4: Recycling and Waste Reduction	Consistent The ECR Specific Plan would include on-site recycling facilities, implement a construction waste management plan, and meet the waste diversion goals outlined in the California Integrated Waste Management Act and AB 935.
Water Control Measures	
WR2: Support Water Conservation	Consistent ECR Specific Plan would support the City's General Plan policies encouraging new development to utilize recycled water for landscape irrigation, and promoting water conservation (Policies 5.3.1-P11, 5.10.4-P3, and 5.10.4-P8).

As indicated in Table 6, the ECR Specific Plan would include implementing policies and measures that are generally consistent with the applicable Clean Air Plan control measures.

Impact AIR-2: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

The Bay Area is considered a non-attainment area for ground-level ozone and $PM_{2.5}$ under both the Federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for PM_{10} under the California Clean Air Act, but not the federal act. The area has attained both state and federal ambient air quality standards for carbon monoxide. As part of an effort to attain and maintain ambient air quality standards for ozone and particulate matter (i.e., $PM_{2.5}$ and PM_{10}), the BAAQMD has established thresholds of significance for these air pollutants and their precursors. These thresholds are for ozone precursor pollutants (ROG and NOx), PM_{10}, and $PM_{2.5}$ and apply to both construction period and operational period impacts for projects. They do not apply to plans, such as ECR Specific Plan.

Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to by itself, result in nonattainment of ambient air quality standards. Instead a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

ECR Specific Plan Construction Period Emission

Implementation of the Plan would result in temporary emissions from construction activities associated with subsequent development, including demolition, site grading, asphalt paving, building construction, and architectural coating. Emissions commonly associated with construction activities include fugitive dust from soil disturbance, fuel combustion from mobile heavy-duty diesel- and gasoline-powered equipment, portable auxiliary equipment, and worker commute trips. During construction, fugitive dust, the dominant source of PM_{10} and $PM_{2.5}$ emissions, is generated when wheels or blades disturb surface materials. Uncontrolled dust from construction can become a nuisance and potential health hazard to those living and working nearby. The potential health risk impact from construction is addressed under Impact 4.

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

Construction exhaust emissions include those from equipment (i.e., off-road) and traffic (on-road vehicles and trucks). Off-road construction equipment is often diesel-powered and can be a substantial source of NO_X emissions, in addition to PM_{10} and $PM_{2.5}$ emissions. Architectural

coatings and application of asphalt pavement are dominant sources of ROG emissions. The BAAQMD CEQA Air Quality Guidelines do not identify quantified plan level thresholds for construction emissions. There are project-level thresholds of 54 pounds per average day for NOx, ROG and $PM_{2.5}$ exhaust and 82 pounds per average day for PM_{10} exhaust. Unless controlled, the combination of temporary dust from activities and diesel exhaust from construction equipment and related traffic may pose a nuisance impact to nearby receptors or exceed acceptable levels for projects. In addition, NOx emissions during grading and soil import/export for large projects may exceed the BAAQMD NOx emission thresholds for projects.

Without application of appropriate control measures to reduce construction dust and exhaust, construction period impacts at the program level would be considered a *potentially significant impact*. *Implementation of Mitigation Measures AQ-1 and AQ-2 would reduce this impact to a level of less-than-significant.*

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

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

Mitigation Measure AQ-2 Require Project-Level Construction Assessment for Projects in the ECR Specific Plan.

Construction criteria pollutant and TAC quantification shall be required on individual projects developed under the ECR Specific Plan once those details are available through modeling to identify impacts and, if necessary, include measures to reduce emissions below the applicable BAAQMD construction thresholds. Reductions in emissions can be accomplished through, though is not limited to, the following measures:

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

Note screening tables included in the BAAQMD CEQA Air Quality Guidelines can be used to demonstrate less-than-significant criteria air pollutant emissions for small projects.

Effectiveness of Mitigation Measures AQ-1 and AQ-2

Site-specific construction schedules and equipment are not known at this time for the future development area and have not been quantified at the project level. Implementation of Mitigation Measure AQ-1 would ensure that all construction projects employ the proper *BAAQMD-Recommended Measures to Control Particulate Matter Emissions* and Mitigation Measure AQ-2 would ensure that construction of future development areas under the ECR Specific Plan would be analyzed through project-level review to quantify construction criteria pollutant emissions and identify the specific measures needed to reduce potential impacts, as necessary. *Therefore, with implementation of Mitigation Measure AQ-1 and AQ-2, the potential impact from construction of individual construction projects within the future development in the ECR Specific Plan area would be reduced to a level of less-than-significant*.

ECR Specific Plan Operational Period Emissions

Implementation of the ECR Specific Plan would result in long-term area and mobile source emissions from operation and use of subsequent development. As described above, implementation of the ECR Specific Plan would contribute to a decrease in VMT associated with the ECR Specific Plan area (see discussion under Impact 1). There are no significance thresholds applicable to emissions associated with plan-level development; however, there are project-level thresholds. For annual emissions, these are emissions of 10 tons for ROG, NOx or $PM_{2.5}$ and 15 tons for PM_{10}. For average daily emissions, these are 54 pounds for ROG, NOx or $PM_{2.5}$ and 82 pounds for PM_{10}.

CalEEMod Modeling Assumptions

Operational air emissions from the project would be generated primarily from autos driven by future residents and employees. Evaporative emissions from architectural coatings and maintenance products (classified as consumer products) are typical emissions from these types of uses. CalEEMod was used to predict net emissions from operation of the proposed project assuming full buildout in 2030 or later.

Land Uses

The ECR Specific Plan land uses were input to CalEEMod, which included 9,000 total dwelling units entered as "Apartments Mid Rise" and 1,870,000-sf entered as "Strip Mall." Currently, the plan area is developed, and a model run was developed to account for the existing uses. Inputs included 2,500 dwelling units entered as "Apartments Mid Rise" and 2,265,000-sf entered as "Strip Mall."

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 baseline year for existing conditions was entered as 2020 and the operational year was assumed 2030 or later.

Traffic Inputs

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 traffic report[14]. The trip distances were adjusted to reflect the VMT also predicted in the traffic report. Daily VMT was divided by the daily number of trips to compute VMT/trip. The percentage of pass-by and diverted trips in CalEEMod were set to 0 since the average modeled trip length was used. Land use type and size, trip generation and daily vehicle miles traveled were reported in Table 5 These are assumed to reflect weekday conditions.

[14] Fehr & Peers. 2019. *El Camino Real Specific Plan Draft Transportation Impact Analysis*. November.

EMFAC2017 Adjustment

The vehicle emission factors and fleet mix used in CalEEMod are based on EMission FACtors from 2014 (EMFAC2014), which is an older CARB emission inventory for on road and off road mobile sources. Since the release of CalEEMod Version 2016.3.2, new emission factors have been produced by CARB. EMFAC2017 became available for use in March 2018 and approved by the EPA in August 2019. It includes the latest data on California's car and truck fleets and travel activity. Additionally, CARB has recently released EMFAC off-model adjustment factors to account for the Safer Affordable Efficient (SAFE) Vehicle Rule Part one.[15,16] The SAFE vehicle Rule Part One revoked California's authority to set its own GHG emission standards and set zero emission vehicle mandates in California. As a result of this ruling, mobile criteria pollutant and GHG emissions would increase. Therefore, the CalEEMod vehicle emission factors and fleet mix were updated with the emission rates and fleet mix from EMFAC2017, which were adjusted with the CARB EMFAC off-model adjustment factors. More details about the updates in emissions calculation methodologies and data are available in the EMFAC2017 Technical Support Document.[17]

Consumer Products

CalEEMod computes emissions associated with consumer products[18] 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 2020 rate is computed at 85% and the 2030 rate is anticipated to be 78 percent of the 2008 rate that CalEEMod uses.

Energy

Default energy usage assumptions included in CalEEMod were applied to this project.

Electricity Generation

Emissions rates associated with electricity consumption were applied to the project, using default usage rates assumed in CalEEMod. Silicon Valley Power (SVP) is the provider of electricity to the project. Silicon Valley Power (SVP) now provides electricity to the City of Santa Clara, with 50 percent renewable and 100 percent being carbon free electricity. The estimated 2020 and 2030

[15] California Air Resource Board, 2019. *EMFAC Off-Model Adjustment Factors to Account for the SAFE Vehicle Rule Part One*. November. Web: https://ww3.arb.ca.gov/msei/emfac_off_model_adjustment_factors_final_draft.pdf

[16] California Air Resource Board, 2020. *EMFAC Off-Model Adjustment Factors for Carbon Dioxide (CO_20 Emissions to Accounts for the SAFE Vehicles Rule Part One and the Final SAFE Rule*. June. Web: https://ww3.arb.ca.gov/msei/emfac_off_model_co2_adjustment_factors_06262020-final.pdf?utm_medium=email&utm_source=govdelivery

[17] See CARB 2018: https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-modeling-tools-emfac

[18] 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"

rates provided by SVP are 348 and 270 pounds of CO_2 per megawatt of electricity delivered, respectively.[19] The rate in CalEEMod was adjusted to account for SVP's estimated 2024 and 2030 CO_2 intensity rate.

Other Inputs

Default model assumptions for emissions associated with solid waste generation and water/wastewater use were applied to the project. No woodburning emissions from hearths was assumed.

Summary of Operational Period Emissions

Table 7 reports the predicted emissions from complete build out of the ECR Specific Plan area in terms of annual emissions in tons and average daily operational emissions, assuming 365 days of operation per year. Net emissions between the proposed ECR Specific Plan area and existing uses are also shown. There are no emission thresholds that apply to potential emissions generated by a plan, such as the ECR Specific Plan. As shown in Table 7, average daily and annual emissions of ROG associated with operation of the plan area would exceed the BAAQMD significance thresholds for projects.

The City's Climate Action Plan requires that the new projects implement vehicles miles travelled reductions, depending on the General Plan land use designation, project type and transportation district the project is located in. For the ECR Specific Plan, a 10-percent target would apply to new residential developments. *Attachment 1* to this report includes the construction (schedule and equipment), and operational assumptions, CalEEMod model output files, and EMFAC2017 modeling output files for the proposed specific plan

Table 7. ECR Specific Plan Operational Period Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
Existing Annual Emissions in 2020 (tons)[1]	*21.45*	*7.33*	*7.06*	*2.11*
Future Existing Annual Emissions (tons/year)	19.21	4.44	7.01	2.05
Plan (Existing + Project) Annual Emissions (tons/year)	55.04	10.97	11.35	3.58
Total Net Plan Operational Emissions (tons/year)	**35.83**	6.53	4.32	1.52
BAAQMD Project Thresholds (tons per year)	***10 tons***	***10 tons***	***15 tons***	***10 tons***
Average Daily Net Project Operational Emissions (pounds per day)[2]	**196.33**	35.77	23.77	8.34
BAAQMD Thresholds (pounds per day)	***54 lbs./day***	***54 lbs./day***	***82 lbs./day***	***54 lbs./day***

[1] Listed for informational purposes. [2] Assumes 365-day operation.

[19] Correspondence with Kathleen Hughes, Silicon Valley Power, February 6, 2019.

Carbon Monoxide

Carbon monoxide (CO) is a pollutant that affects air quality locally. Monitoring data from all ambient air quality monitoring stations in the Bay Area indicate that existing carbon monoxide levels are currently below national and California ambient air quality standards. Monitored CO levels have decreased substantially since 1990 as newer vehicles with greatly improved exhaust emission control systems have replaced older vehicles. The Bay Area has been designated as an attainment area for the CO standards. The highest measured levels in the Bay Area during the past three years are 3.0 ppm or less for eight-hour averaging periods, compared with state and federal criteria of 9.0 ppm.

Even though current CO levels in the Bay Area are well below ambient air quality standards, and there have been no exceedances of CO standards in the Bay Area since 1991, elevated levels of CO still warrant analysis. CO hotspots (occurrences of localized high CO concentrations) could still occur near busy congested intersections. Recognizing the relatively low CO concentrations experienced in the Bay Area, the BAAQMD's CEQA Air Quality Guidelines state that a project would have a less-than-significant impact if it would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour. Peak hour traffic volumes at intersections affected by implementation of the ECR Specific Plan area would be less than 15,000 per hour. Therefore, this impact would be less-than-significant.

Mitigation Measure AQ-3 Require Project-Level Operational Assessment for Projects in the ECR Specific Plan.

Operational criteria pollutant analysis shall be conducted in accordance with the latest guidance provided by BAAQMD for projects with a potential to exceed project emission thresholds. The BAAQMD CEQA Air Quality Guidelines provide project screening level sizes to determine if projects warrant modeling to evaluate their emissions. Projects smaller than the screening sizes listed in Table 3-1, pages 3-2 and 3-3, of the BAAQMD CEQA Air Quality Guidelines would be considered to have less-than-significant operational air pollutant emissions. Projects that are found to have emissions above significant thresholds would be required to implement additional mitigation:

- Proposed residential development within the ECR Specific Plan shall implement TDM programs to reduce residential vehicle miles traveled as required by the City's Climate Action Plan. The TDM programs would be reviewed and approved by the Community Development Director prior to issuance of building permits. An annual TDM monitoring report shall be submitted to the Community Development Director to document each development is meeting the required TDM program reductions.

- Proposed development within the ECR Specific Plan shall incorporate additional green building measures such as rooftop solar photovoltaic (PV) systems, rough-ins for electric vehicle charging, use of efficient lighting and irrigation, and recycled water, as feasible, to the satisfaction of the Community Development Director.

- Developed parcels shall require within their CC&Rs and/or ground leases requirements for all future interior spaces to be repainted only with architectural coatings that meet the "Low-VOC" or "Super-Compliant" requirements.

Impact AIR-3: Expose project sensitive receptors to substantial pollutant concentrations during operation?

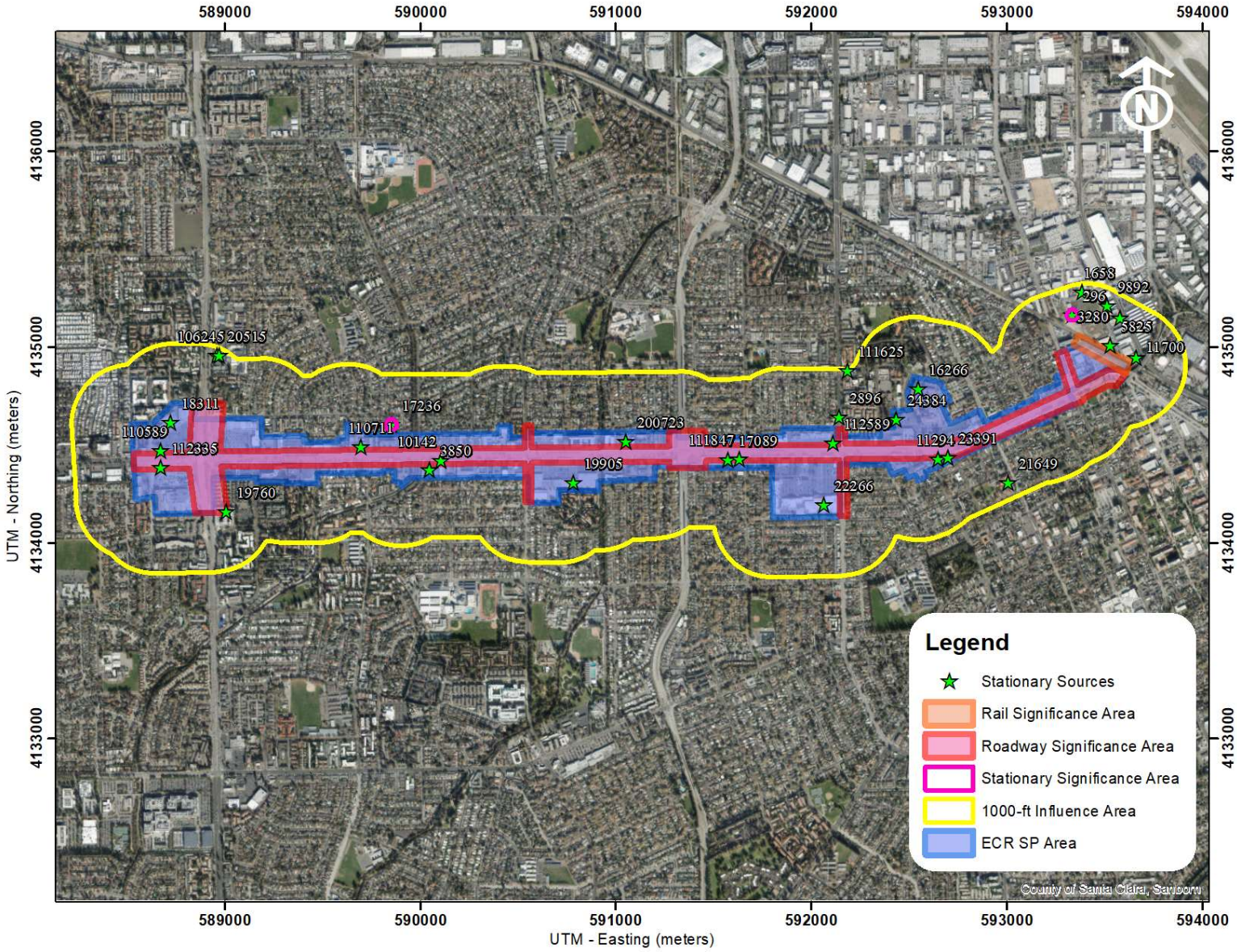
As discussed above, in December 2015, the Supreme Court determined that an analysis of the impacts of the environment on a project – known as "CEQA-in-reverse" – is only required under two limited circumstances: (1) when a statute provides an express legislative directive to consider such impacts; and (2) when a proposed project risks exacerbating environmental hazards or conditions that already exist (Cal. Supreme Court Case No. S213478). However, the Clean Air Plan contains the following goal: "reduce population exposure and protecting public health in the Bay Area." Therefore, the potential community risk impact to future onsite receptors is addressed here.

To address exposure of sensitive receptors to substantial pollutant levels, the BAAQMD CEQA Guidelines developed thresholds that address community health risk. These include increased cancer risk, non-cancer hazards and increased annual concentrations of $PM_{2.5}$. Sources of TACs and $PM_{2.5}$ lead to increased community risk levels. Diesel particulate matter (DPM) is the predominant TAC in the area.

TAC Effects on ECR Specific Plan Sensitive Receptors

The project would include new sensitive receptors, primarily in the form of residents. Substantial sources of air pollution can adversely affect sensitive receptors proposed as part of new projects. BAAQMD recommends using a 1,000-foot screening radius around a project site for purposes of identifying community health risk from siting a new sensitive receptor or a new source of TACs. Nearby stationary sources of TACs (e.g., emergency back-up generators and gas stations) and traffic on local roadways could affect the proposed residences. There is a rail line along the eastern boundary of the plan area. Implementation of the proposed project is not expected to introduce any new substantial stationary sources of TACs. Busy nearby roadways with average daily traffic (ADT) of over 10,000 vehicles include El Camino Real, Lawrence Expressway, Kiely Boulevard/Bowers Avenue, San Thomas Expressway, Scott Boulevard, and Lafayette Street. There is a rail line near the site is a source of TAC emissions from diesel-powered locomotives. Twenty-nine stationary sources were identified within the 1,000-foot influence area using the BAAQMD's stationary source stationary source website map and Google Earth map. Figure 2 shows the ECR Specific Plan area, the 1,000-foot influence area, significance areas from roadways and rail, and the nearby stationary sources. Details of the screening and community risk calculations are included in Attachment 2.

Figure 2. ECR Specific Plan Area and 1,000-foot Influence Area with Identified Significance Areas and Stationary Sources



Roadway Impacts

For local roadways, BAAQMD has provided a screening calculator to determine if roadways with traffic volumes of over 10,000 vehicles per day may have a significant effect on a proposed project. Three local roadways appear to affect the project site: El Camino Real, Lawrence Expressway, Kiely Boulevard/Bowers Avenue, San Thomas Expressway, Scott Boulevard, and Lafayette Street.

Two adjustments were made to the cancer risk predictions made by this calculator: (1) adjustment for latest vehicle emissions rates and (2) adjustment of cancer risk to reflect new OEHHA guidance described above. The calculator uses EMFAC2011 emission rates for the year 2014. Overall, emission rates will decrease by the time the project is constructed and occupied. The project is not likely to be occupied prior to 2018. In addition, a new version of the emissions factor model, EMFAC2014 is available. This version predicts lower emission rates. An adjustment factor of 0.5 was developed by comparing emission rates of total organic gases (TOG) for vehicle running exhaust (i.e., tailpipe exhaust) and evaporative ROG running losses developed using EMFAC2011 for year 2014 and those from EMFAC2014 for year 2018[20]. The predicted cancer risk was then adjusted using a factor of 1.3744 to account for new OEHHA guidance. This factor was provided by BAAQMD for use with their CEQA screening tools that are used to predict cancer risk.[21]

Inputs to the screening calculator include county, roadway orientation, side of the roadway the receptor is located, distance from the edge of the roadway, and the average daily traffic volume or ADT. Traffic volumes were based on the project traffic impact assessment, using the average of the am and pm peak-hour volume and multiplying by ten to get the average daily traffic trips (ADT)[22]. Sensitive receptors within 150 feet west and 300 feet east of the Lawrence and San Thomas Expressways, within 100 feet north and south of El Camino Real, and within 50 to 100 feet within Kiely Boulevard/Bowers Avenue, Scott Boulevard, and Lafayette Street would exceed thresholds. Figure 2 shows the areas within the Plan in which the roadways would have a cancer risk or $PM_{2.5}$ concentration exceeding its respective BAAQMD significance thresholds for community risk from single sources.

Stationary Source TAC Impacts

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Permitted Stationary Sources 2018* GIS website[23] and *Stationary Source Risk & Hazard Analysis Google Earth Tool,* which identifies the location of nearby stationary sources and their estimated risk and hazard impacts.[24] Of the 29 stationary sources identified within the Plan area, only Plant #296 and #17236 had risk impacts exceeding BAAQMD thresholds without distance adjustments. Sensitive receptors within 100 feet from these two sources would exceed thresholds. Figure 2

[20] EMFAC2014 produces emission rates for 2018 that are 54 percent less for exhaust $PM_{2.5}$ and 44 percent less for total organic gases than EMFAC2011 produces for the year 2014.
[21] Email from Virginia Lau, BAAQMD to Bill Popenuck of Illingworth & Rodkin, Inc, dated November 15, 2015.
[22] Fehr & Peers. 2018. *Tasman East Specific Plan Administrative Draft Transportation Impact Assessment*. January. See Figures 4-2 and 5-1.
[23] BAAQMD, https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65
[24] See http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools, accessed January 29, 2015.

shows the stationary sources within the Plan and the stationary sources' risk impacts are in Attachment 2.

Railroad Community Risk Impacts

The ECR Specific Plan site is located near the rail line used for Caltrain and a Union Pacific Railroad line used for Amtrak passenger and freight rail service. The eastern portion of the Plan Area is located near these rail lines. Trains traveling on these lines generate TAC and $PM_{2.5}$ emissions from diesel locomotives. Due to the proximity of the rail line to the Plan Area, potential community risks to future Plan Area residents from DPM and $PM_{2.5}$ emissions from diesel locomotive engines were evaluated.

Caltrain currently operates diesel locomotives on this line. The Peninsula Corridor Electrification Project is a key component of the Caltrain Modernization Program that would electrify the Caltrain Corridor from San Francisco to San Jose. Under this program, Caltrain diesel-locomotive hauled trains would be converted to Electric Multiple Unit (EMU) trains after 2020. Currently all of Caltrain's trains use diesel locomotives. As part of the program to modernize operation of the Caltrain rail corridor between San Jose and San Francisco, Caltrain is planning to switch from diesel locomotives to use of electric trains in the near future.[25] Nearly all of the trains in the future are planned to be 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. Amtrak's Capitol Corridor and Coast Starlight passenger trains use this rail line. Based on current Amtrak schedules, the Amtrak Capitol Corridor, which provides service between Sacramento/Auburn and San Jose, has 7 weekday trains and 7 weekend trains that used these rail lines. The Amtrak Coast Starlight operates between Seattle and Los Angles, with 2 daily trains. The Altamont Corridor Express (ACE) passenger trains also stop at the Santa Clara Station. There are 8 weekday ACE trains and 4 trains on Saturdays. In addition to the Caltrain, Amtrak, and ACE trains, there are about ten freight trains that also use this rail line on a daily basis.[26]

Emissions and dispersion modeling were conducted to predict diesel particulate matter exposure along this rail line. Modeled concentrations from the rail lines were used to calculate potential increased cancer risks for new Plan Area residents assuming almost continual exposure (350 days per year for 24 hours per day) over a 30-year period. Based on this modeling, cancer risk exceeding 10 chances per million would extend out approximately 200 feet from the rail line. The maximum $PM_{2.5}$ concentrations would be less than 0.01 $\mu g/m^3$ and the HI would be less than 0.01.

Summary of TAC Community Risk

Figure 2 shows the areas of significance from the rail line and roadways source within the Plan area, as well as identifies stationary sources within the Plan area. Any development of sensitive receptors within these affected areas would expose sensitive receptors to significant exposure of cancer risk and/or $PM_{2.5}$ concentrations. This would be a *potentially significant impact.*

[25] Caltrain, 2014. *Peninsula Corridor Electrification Project. Final Environmental Impact Report*. December 2014.
[26] *Bay Area Regional Rail Plan, Technical Memorandum 4a, Conditions, Configuration & Traffic on Existing System*, Metropolitan Transportation Commission, November 15, 2006.

Mitigation Measure AQ-3 Projects developed within the ECR Specific Plan that are affected by air pollutant or TAC sources shall implement appropriate measures to minimize long-term toxic air contaminant (TAC) and annual $PM_{2.5}$ exposure for new project occupants:

This mitigation measure applies to any project developed within affected areas that are near high volume roadways, stationary sources or Caltrain, as indicated in Figure 2. Either include measures to reduce long-term exposure to TAC and $PM_{2.5}$, as described below, or conduct site-specific analysis to identify the level of exposure to TACs in terms of cancer risk and annual $PM_{2.5}$ concentrations. The analysis shall use procedures prescribed by BAAQMD (e.g., the BAAQMD CEQA Air Quality Guidelines) to predict these exposures. Where cancer risk exceeds 10 chances per million from any single source or 100 chances per million for cumulative sources (i.e., within 1,000 feet), where annual $PM_{2.5}$ concentrations exceed 0.3 $\mu g/m^3$ from any single source or 0.8 $\mu g/m^3$ for cumulative sources, and where HI exceed 1.0 from any single source or 10.0 for cumulative sources, the following measures shall be implemented:

a. Design project developments to limit exposure from sources of TACs and fine particulate matter ($PM_{2.5}$) emissions.
b. Install air filtration at units that have predicted $PM_{2.5}$ concentrations above 0.3 $\mu g/m^3$. Air filtration devices shall be rated MERV13 or higher. Alternately, at the approval of the City, equivalent control technology may be used if it is shown by a qualified air quality consultant or heating, ventilation, and air conditioning (HVAC) engineer that it would reduce risk below significance thresholds.
c. As part of implementing this measure, an ongoing maintenance plan for the building's HVAC air filtration system shall be required.
d. Ensure that any lease agreements and other property documents (1) require cleaning, maintenance, and monitoring of the affected units for air flow leaks; (2) include assurance that new owners and 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.
e. Require that, prior to building occupancy, an authorized air pollutant consultant or HVAC engineer verify the installation of all necessary measures to reduce cancer risk below 10 chances per million from any source and $PM_{2.5}$ concentrations below 0.3 $\mu g/m^3$.

Effectiveness of Mitigation Measure AQ-3

The BAAQMD CEQA Air Quality Guidelines and BAAQMD's Planning Healthy Places recommend that developments in areas affected by air pollutant sources install and maintain air filtration systems of fresh air supply. These systems should be installed on either an individual unit-by-unit basis, with individual air intake and exhaust ducts ventilating each unit separately, or through a centralized building ventilation system. The ventilation system should be certified to achieve certain effectiveness.

The air filtration recommendations identified for Mitigation Measure AQ-3, filtration system using MERV13, was evaluated for effectiveness. Increased cancer risks for each of the filtration cases were calculated assuming a combination of outdoor and indoor exposure. This includes 3 hours of outdoor exposure to ambient DPM concentrations and 21 hours of indoor exposure to filtered air was assumed. In this case, the effective particulate control efficiency using a MERV13 filtration system is about 85 percent and 70 percent when accounting for 3 hours of non-filtered air.

Assuming the effectiveness of filtration systems described above, implementation of Mitigation Measure AQ-3 would reduce maximum cancer risk, annual $PM_{2.5}$ concentrations, and HI to below respective threshold levels. Therefore, with implementation of Mitigation Measure AQ-3, this impact would be reduced to a of *less-than-significant* level.

Project Construction TAC Exposure

Subsequent land use activities associated with implementation of the ECR Specific Plan could include short-term construction sources of TACs. There are sensitive receptors adjacent to many portions of the Plan Area and there will be future residents in the ECR Specific Plan development areas that could potentially be exposed to construction TACs during construction activity.

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. The construction exhaust emissions may pose community risks for sensitive receptors such as nearby residents. The primary community risk impact issues associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A community risk assessment of the project construction activities would have to be conducted at a project level to address these impacts. Since specific construction plans and schedules for construction are not known, it is not possible to quantify the impacts and determine the significance. There are various measures that can be incorporated into construction plans that could minimize these potential impacts.

Because residential development at the project site would be developed over time there would be on-site residences (new sensitive receptors) occupied while construction would be occurring in other areas of the Plan Area. Community health risks to nearby off-site and future on-site sensitive receptors associated with temporary construction of the future development is considered *potentially significant*. *Implementation of Mitigation Measures AQ-1 and AQ-2 would reduce this impact to less-than-significant.*

<u>Effectiveness of Mitigation Measures AQ-1 and AQ-2</u>

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 the Additional Measures identified in *Mitigation Measure AQ-2* through future project-specific assessments would further reduce on-site diesel exhaust emissions. The selection of appropriate equipment could reduce emissions substantially. For example, the use of diesel-powered construction equipment that meets U.S. EPA particulate matter emissions standards for Tier 4 engines or included diesel particulate matter filters certified by CARB can reduce diesel particulate matter emissions by at least 80 percent. That measure alone would likely reduce construction health risk

impacts to a less-than-significant level. Other measures identified in Mitigation Measure AQ-2 would further reduce impacts. Additional measures to reduce TAC and $PM_{2.5}$ emissions would include hourly limits for generator or crane use, electrification or use of alternative fuels for portable equipment, appropriate staging of equipment, and additional limitations on equipment idling. The application of appropriate measures would reduce maximum cancer risk, annual $PM_{2.5}$ concentrations, and HI to below respective threshold levels. 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.*

Project Operation TAC Exposure

Sources of TACs or $PM_{2.5}$ emissions associated with the project have not been identified. The types of land uses envisioned under the ECR Specific Plan are not anticipated to include these sources such that significant exposures could occur. These uses may include diesel generator or natural gas-fueled boilers that would require permitting by BAAQMD. These types of sources of air pollution that operate within accordance of BAAQMD rules and regulations would not cause significant exposure for on- or off-site sensitive receptors. This would be a *less-than-significant impact*.

Impact AIR-4: Create objectionable odors affecting a substantial number of people?

The project would generate localized emissions of diesel exhaust during construction equipment operation and truck activity. These emissions may be noticeable from time to time by adjacent receptors. However, they would be localized and are not likely to adversely affect people off site by resulting in confirmed odor complaints. The ECR Specific Plan does not identify any uses that are typical sources of odors that could lead to objectionable odors that generate frequent odor complaints.

Odor impacts could occur if residents associated with the project experienced objectionable odors and made complaints. Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, there are no quantitative methodologies to determine the presence of a significant odor impact. The significance of odor impacts is based on the potential to cause odor complaints.

BAAQMD publishes screening buffer distances for odor sources and sensitive receptors in their CEQA Air Quality Guidelines. There are no identified major sources of odors. Uses in the plan area may include restaurants or auto repair shops that could have localized odors but not likely to result in frequent odor complaints.

GREENHOUSE GAS EMISSIONS

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

The City of Santa Clara Climate Action Plan[27] serves as a Qualified Greenhouse Gas Reduction Strategy or a community-wide plan approved by BAAQMD to reduce greenhouse gas (GHG) emissions in accordance with AB 32 goals. A Scoping Plan for AB 32 was adopted by CARB in December 2008. It contains the State of California'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.

The City's Climate Action Plan (or CAP) identifies how the City will achieve the state recommended GHG emissions reduction target of 15% below 2008 levels by the year 2020. While the plan would continue to reduce GHG emissions beyond 2020, it does not address the new GHG emission targets for 2030. Therefore, GHG emissions associated with the ECR Specific Plan development were modeled for 2030 and compared against the computed per capita threshold of 2.8 metric tons per capita per year.

The CalEEMod model that was used to predict air pollutant emissions was used to compute annual GHG emissions in 2030. The annual GHG emissions for 2030 from build-out of the ECR Specific Plan were divided by the reported population of 17,891 people (3,729 people under Existing conditions) to compute per service population emissions. The CalEEMod modeling accounted for aspects of the ECR Specific Plan that would reduce traffic trip rates and travel lengths, including proximity to transit and employment centers.

As shown in Table 8, 2030 full build-out operation of the Proposed Project would have annual service population (SP) emissions of 0.90 MT of CO_2e/year/SP in 2030, which would not exceed the 2030 Substantial Progress threshold of 2.8 MT of CO_2e/year/SP Emissions are anticipated to be less in 2040 as motor vehicle emissions decrease and emissions from energy uses are anticipated to decrease also. Full build-out conditions in 2030 indicate that emissions would be below the 2040 threshold, so it is anticipated that the project would have emissions below the 2040 thresholds also. The emissions of GHG associated with the ECR Specific Plan would be *less-than-significant*.

[27] City of Santa Clara, 2013. *Santa Clara Climate Action Plan*. December.

Table 8. ECR Specific Plan GHG Emissions (MT of CO_2e and by Service Population)

Source Category	Existing Uses in 2020	Existing Uses in 2030	ECR Specific Plan Build Out in 2030
Area	132	132	458
Energy Consumption	6,938	5,716	11,183
Mobile	6,635[1]	5,064[1]	8,682
Solid Waste Generation	1,774	1,774	3,000
Water Usage	602	513	1,096
Total (MT of CO_2e)	16,081	13,199	24,419
Net Increase in 2030 (MT of CO_2e)			**11,220**
Service Population Efficiency Metric (MT CO_2e/year/SP)	4.31[2]	3.54[2]	1.36[3]
2030 Substantial Progress Threshold			***2.8 MT CO2e/year/SP***

Notes: [1]Includes plan area specific VMT. [2]Based on an estimated population of 3,729 persons. [3]Based on an estimated population of 17,891 persons. SP = Service Population

Impact GHG-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. The project would comply with requirements of the Green Building Code. 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.

According to the City Climate Action Plan, the Santa Clara community emitted approximately 2,037,800 metric tons of carbon dioxide equivalent (MT CO_2e) in the year 2008. Of that, 54 percent came from non-residential energy, 26 percent came from transportation, 9 percent came from community point sources, 8 percent came from residential energy, 2 percent came from off-road equipment, 1 percent came from waste, and less than one percent each came from rail transit, water and wastewater energy, and direct wastewater.

One purpose of the Qualified Greenhouse Gas Reduction Strategy is to streamline the decision-making process regarding a proposed project's impact on GHG emissions within the City. Thus, the project's consistency with relevant Climate Action Plan measures and actions has been used to evaluate the significance of this impact.

The following emissions reduction measures and actions shown in Table 9 are relevant to the proposed project, with the project's consistency evaluated below.

Table 9. City of Santa Clara Climate Action Plan Consistency

Applicable Climate Action Plan Measures	Consistency
Focus Area 2: Energy Efficiency Programs	
Measure 2.4: Customer-Installed Solar	Consistent The ECR Specific Plan would encourage the incorporation of photovoltaic solar panels. Developers would also be encouraged to incorporate solar power, to the degree feasible, and at minimum provide solar ready infrastructure.
Focus Area 3: Water Conservation	
Measure 3.1: Urban Water Management Plan Targets	Consistent New and redevelopment projects under the ECR Specific Plan would include measures to reduce stormwater runoff volume, rate, and pollutants, and direct all storm water runoff from hardscapes towards landscaped areas. ECR Specific Plan development would install and utilize recycled water irrigation and water saving technology, whenever possible. The ECR Specific Plan would support General Plan Policy 5.10.4-P7, which requires the installation of native and low-water-consumption plant species when landscaping new development and public spaces to reduce water usage. . All buildings within the ECR Specific Plan would have dual water supply systems with reclaimed water serving toilet/urinal flushing in conformance with the City standards.
Focus Area 4: Waste Reduction	
Measure 4.2: Increased Waste Diversion	Consistent The ECR Specific Plan would include on-site recycling facilities, implement a construction waste management plan, and meet the waste diversion goals outlined in the California Integrated Waste Management Act and AB 935.
Focus Area 5: Off-Road Equipment	
Measure 5.2: Alternative Construction Fuels	Consistent Development projects within the ECR Specific Plan would be required to comply with BAAQMD's best management practices to control on-site construction exhaust and fugitive dust (refer to Mitigation Measures AQ-1, and AQ-2, above).
Focus Area: 6: Transportation and Land Use	

Applicable Climate Action Plan Measures	Consistency
Measure 6.1: Transportation Demand Management Program	Consistent New development projects under the ECR Specific Plan would include measures to implement the high-density residential, community mixed use and regional mixed use TDM goals, primarily through encouragement of walking, biking, and transit usage while reducing the need to drive for daily needs.
Measure 6.3: Electric Vehicle Parking	Consistent The ECR Specific Plan would encourage the provision of EV charging stations in parking areas.
Focus Area 7: Urban Heat Island Effect	
Measure 7.1: Urban Forestry	Consistent The ECR Specific Plan would include measures to introduce and provide ample native landscaping, trees, and shrubs to the community along streets, sidewalks, communal areas, trails, and parks, and regularly maintain trees.
Measure 7.2: Urban Cooling	Consistent The ECR Specific Plan would include design guidelines for solar building orientation to minimize the effects of the hot summer sun, and design the landscape with the most effective, broad branching trees and shrubs that provide shade and comfort to communal areas, sidewalks, and trails.

As indicated in Table 9, the ECR Specific Plan would include implementing policies and measures that are generally consistent with the City's Climate Action Plan.

Attachment 1: CalEEMod Modeling and Assumptions

PROJECT DATA

Scenario	Population	Daily Trips	Daily VMT	VMT/capita	Dwelling Units	1,000 square feet of Retail
Existing No Project	3,729	8,595	132,596	35.6	2,500	2,265
Existing With Project	17,891	21,575	119,939	6.7	8,700	1,870
Net Change	14,162	12,980	(12,657)		6,200	-395
Cumulative No Project	4,496	10466	125,045	27.8		
Cumulative With Project	18,657	20875	202,414	10.8		
	14,161	10,409	77,369			

Operational Criteria Air Pollutants							
		Annual Emissions in Tons/Year					
Scenario	**Year**	**ROG**	**NOX**	**Total PM10**	**Total PM2.5**	**CO2e (MT)**	**Service Population GHG (MT/Persons)**
Existing	2020	21.45	7.33	7.06	2.11	16,081	4.31
Existing	2030	19.21	4.44	7.01	2.05	13,199	3.54
Existing with ECR Plan	2030	55.04	10.97	11.35	3.58	24,419	1.36
Net Change	*Tons/Year*	**35.83**	**6.53**	**4.34**	**1.52**	**11,220**	**0.79**
	Pounds/Day	**196.33**	**35.77**	**23.77**	**8.34**		

Category	**CO2e**		
	Existing 2020	Existing 2030	Project 2030
Area	132	132	458
Energy	6,938	5,716	11,183
Mobile	6,635	5,064	8,682
Waste	1,774	1,774	3,000
Water	602	513	1,096
TOTAL	16,081	13,199	24,419
Net GHG Emissions			**11,220**
Service Population	3,729		17,891
Service Population Emissions	**4.31**	**3.54**	**1.36**

ECR Specific Plan - VMT Adjustments based on CalEEMod and TIA

EXISTING

From CalEEMod

	VMT					Trips			
	Annual	*Avg Daily*	*Weekday*	*Saturday*	*Sunday*	Weekday	Saturday	Sunday	Weekly
Apartments	37,531,119	102,825	105,198	101,085	92,701	16,625	15,975	14,650	16,250
Retail	141,555,118	387,822	423,550	401,761	195,242	100,385	95,221	46,274	91,917
			528,748			117,010	111,196	60,924	
			CalEEMod	***mi/trip =***	***4.52***				

	CalEEMod Default trips			**Adjusted Trips**		
	Weekday	*Saturday*	*Sunday*	*Weekday*	*Saturday*	*Sunday*
Apartments	6.65	6.39	5.86	0.20	0.19	0.17
Retail	44.32	42.04	20.43	1.32	1.25	0.61
	CalEEMod Default VMT			**Adjusted Trip Length**		
	Res H-W	*Res H-S*	*Res H-O*	*Res H-W*	*Res H-S*	*Res H-O*
Apartments	10.8	4.8	5.7	36.87	16.39	19.46
	Non Res C-C	*Non Res C-W*	*Non Res C-NW*	*Non Res C-C*	*Non Res C-W*	*Non Res C-NW*
Retail	7.3	9.5	7.3	24.92	32.43	24.92

From Traffic

VMT			Trips		
132,596			8,595	CalEEMod=	289,129
Traffic	***mi/trip =***	***15.43***			
Adjustment to Trip Length =	341.4%		**Adjustment to Trips =**	3%	

ECR Specific Plan - VMT Adjustments based on CalEEMod and TIA

PROJECT (Existing + Project)

From CalEEMod

	VMT					Trips			
	Annual	*Avg Daily*	*Weekday*	*Saturday*	*Sunday*	Weekday	Saturday	Sunday	Weekly
Apartments	130,608,293	357,831	366,089	351,775	322,598	57,855	55,593	50,982	56,550
Retail	116,869	320	350	332	161	83	79	38	76
			366,438			57,938	55,672	51,020	
			CalEEMod	***mi/trip =***	***6.32***				

	CalEEMod Default trips			**Adjusted Trips**		
	Weekday	*Saturday*	*Sunday*	*Weekday*	*Saturday*	*Sunday*
Apartments	6.65	6.39	5.86	0.87	0.84	0.77
Retail	44.32	42.04	20.43	5.81	5.51	2.68
	CalEEMod Default VMT			**Adjusted Trip Length**		
	Res H-W	*Res H-S*	*Res H-O*	*Res H-W*	*Res H-S*	*Res H-O*
Apartments	10.8	4.8	5.7	9.49	4.22	5.01
	Non Res C-C	*Non Res C-W*	*Non Res C-NW*	*Non Res C-C*	*Non Res C-W*	*Non Res C-NW*
Retail	7.3	9.5	7.3	6.42	8.35	6.42

From Traffic

VMT			Trips		
119,939			21,575	CalEEMod=	164,630
Traffic	***mi/trip =***	***5.56***			
Adjustment to Trip Length = 88%			**Adjustment to Trips =** 13%		

AREA	SRC_TYPE	CATEGORY	SUBCATEG	POLLUTAN	SEASON	CONTROL_TY	2008	2010	2030	v1.05_RF1160
SANTA CLARA	AREAWIDE	SOLVENT E	CONSUMEI	ROG	ANNUAL AVER	GROWN AND	11.5533	10.4949	11.2269	v1.05_RF1160
SANTA CLARA	AREAWIDE	SOLVENT E	ARCHITECT	ROG	ANNUAL AVER	GROWN AND	5.6738	5.7141	5.0678	v1.05_RF1160
SANTA CLARA	AREAWIDE	SOLVENT E	PESTICIDES	ROG	ANNUAL AVER	GROWN AND	0.5318	0.5812	0.3998	v1.05_RF1160
SANTA CLARA	AREAWIDE	SOLVENT E	ASPHALT P	ROG	ANNUAL AVER	GROWN AND	0.3	0.2172	0.3084	v1.05_RF1160
SANTA CLARA	AREAWIDE	MISCELLAN	RESIDENTI/	ROG	ANNUAL AVER	GROWN AND	1.299	0.9297	0.9318	v1.05_RF1160
SANTA CLARA	AREAWIDE	MISCELLAN	FARMING (	ROG	ANNUAL AVER	GROWN AND	0.3546	0.3546	0.3546	v1.05_RF1160
SANTA CLARA	AREAWIDE	MISCELLAN	CONSTRUC	ROG	ANNUAL AVER	GROWN AND	0	0	0	v1.05_RF1160
SANTA CLARA	AREAWIDE	MISCELLAN	PAVED RO/	ROG	ANNUAL AVER	GROWN AND	0	0	0	v1.05_RF1160
SANTA CLARA	AREAWIDE	MISCELLAN	UNPAVED I	ROG	ANNUAL AVER	GROWN AND	0	0	0	v1.05_RF1160
SANTA CLARA	AREAWIDE	MISCELLAN	FUGITIVE V	ROG	ANNUAL AVER	GROWN AND	0	0	0	v1.05_RF1160
SANTA CLARA	AREAWIDE	MISCELLAN	FIRES	ROG	ANNUAL AVER	GROWN AND	0.0403	0.0411	0.0449	v1.05_RF1160
SANTA CLARA	AREAWIDE	MISCELLAN	MANAGED	ROG	ANNUAL AVER	GROWN AND	0.0457	0.1443	0.1311	v1.05_RF1160
SANTA CLARA	AREAWIDE	MISCELLAN	COOKING	ROG	ANNUAL AVER	GROWN AND	0.1208	0.1103	0.1561	v1.05_RF1160
SANTA CLARA	AREAWIDE	MISCELLAN	OTHER (MI	ROG	ANNUAL AVER	GROWN AND	0.306	0.3517	0.4181	v1.05_RF1160

		2008	2010	**2030**	**2020**
Consumer Products	ROG	11.5533	10.495	11.227	
	Population	1,790,185	1,790,185	2,223,743	
	Rate	0.006454	0.005862523	0.0050487	
			91%	78%	**85%**

Architectual Coatings	ROG	5.6738	5.7141	5.0678	
	Population	1,790,185	1,790,185	2,223,743	
	Rate	0.003169	0.003191905	0.002279	
			101%	72%	**86%**

	2020	**2030**
CalEEMod	0.0000214	0.0000214
Adjusted	0.0000182	0.0000167

ECR Specific Plan - Existing (2020)

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	2,500.00	Dwelling Unit	65.79	2,500,000.00	0
Strip Mall	2,265.00	1000sqft	82.92	2,265,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	348	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Silicon Valley Power main electricity provider in City of Santa Clara. SVP 2020 predicted intensity factor is 348 pounds/MWh

Land Use - ECR Precise Plan Land Use - Existing Land Use

Construction Phase - Operation Model No Construction

Off-road Equipment - no construction

Trips and VMT -

Vehicle Trips - Adjust CalEEMod Trips by traffic/default or 8,595/289129 = 3% Trip Change. Adjust VMT traffic/default = 15.43 miles/4.52 miles = 341.4% Trip length change

Vehicle Emission Factors - 2020 EMFAC2017 Emission Factors for Santa Clara County

Woodstoves - Assuming no wood burning (woodstoves or fireplaces) but all fireplaces would be 3385 NG per BAAQMD Regulation 6 Rule 3

Consumer Products - Adjusted Consumer ROG for 2020 = 0.0000182

Energy Use -

Water And Wastewater - Assuming 100% Wastewater Treatment Plant

Solid Waste -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	120.00	0.00
tblConsumerProducts	ROG_EF	2.14E-05	1.82E-05
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	375.00	800.00
tblFireplaces	NumberWood	425.00	0.00
tblFleetMix	HHD	0.02	0.02
tblFleetMix	HHD	0.02	0.02
tblFleetMix	LDA	0.60	0.59
tblFleetMix	LDA	0.60	0.59
tblFleetMix	LDT1	0.04	0.05
tblFleetMix	LDT1	0.04	0.05
tblFleetMix	LDT2	0.19	0.18
tblFleetMix	LDT2	0.19	0.18
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD2	4.9810e-003	5.0270e-003
tblFleetMix	LHD2	4.9810e-003	5.0270e-003
tblFleetMix	MCY	5.3630e-003	5.3070e-003
tblFleetMix	MCY	5.3630e-003	5.3070e-003
tblFleetMix	MDV	0.11	0.11
tblFleetMix	MDV	0.11	0.11
tblFleetMix	MH	7.8500e-004	7.7900e-004
tblFleetMix	MH	7.8500e-004	7.7900e-004
tblFleetMix	MHD	0.01	0.01

tblFleetMix	MHD	0.01	0.01
tblFleetMix	OBUS	2.0830e-003	1.7470e-003
tblFleetMix	OBUS	2.0830e-003	1.7470e-003
tblFleetMix	SBUS	6.2000e-004	9.2600e-004
tblFleetMix	SBUS	6.2000e-004	9.2600e-004
tblFleetMix	UBUS	1.5710e-003	1.3020e-003
tblFleetMix	UBUS	1.5710e-003	1.3020e-003
tblLandUse	LotAcreage	52.00	82.92
tblLandUse	Population	7,150.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	348
tblVehicleEF	HHD	0.52	0.03
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.11	0.00
tblVehicleEF	HHD	2.70	5.38
tblVehicleEF	HHD	1.02	0.76
tblVehicleEF	HHD	3.82	6.2050e-003
tblVehicleEF	HHD	4,650.35	1,078.53
tblVehicleEF	HHD	1,665.34	1,581.53
tblVehicleEF	HHD	11.77	0.06
tblVehicleEF	HHD	22.38	6.03
tblVehicleEF	HHD	4.47	4.62
tblVehicleEF	HHD	19.49	1.73
tblVehicleEF	HHD	0.02	0.01
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.02	0.07
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tblVehicleEF	HHD	0.02	0.01

tblVehicleEF	HHD	0.03	0.03
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tblVehicleEF	HHD	6.3600e-003	2.2500e-004
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tblVehicleEF	HHD	0.02	0.01
tblVehicleEF	HHD	1.8200e-004	1.0000e-006
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tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.04	0.23
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tblVehicleEF	LDA	2.6540e-003	8.7000e-005
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tblVehicleEF	LDA	0.11	0.11
tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	0.02	0.02
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tblVehicleEF	LDT1	0.08	0.08
tblVehicleEF	LDT1	0.03	0.03
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tblVehicleEF	LDT1	0.26	0.21
tblVehicleEF	LDT1	0.08	0.08
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.18	0.74
tblVehicleEF	LDT1	0.24	0.47
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tblVehicleEF	LDT2	1.5040e-003	1.4280e-003
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tblVehicleEF	LDT2	0.05	0.07
tblVehicleEF	LDT2	0.13	0.14
tblVehicleEF	LDT2	0.04	0.06
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.08	0.45

tblVehicleEF	LDT2	0.13	0.39
tblVehicleEF	LDT2	3.7010e-003	0.01
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tblVehicleEF	LDT2	0.05	0.07
tblVehicleEF	LDT2	0.13	0.14
tblVehicleEF	LDT2	0.04	0.06
tblVehicleEF	LDT2	0.02	0.03
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tblVehicleEF	LDT2	0.14	0.43
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tblVehicleEF	LHD1	0.02	0.02
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tblVehicleEF	LHD1	3.15	1.23
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tblVehicleEF	LHD1	713.46	837.42
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tblVehicleEF	LHD1	0.07	0.06
tblVehicleEF	LHD1	1.42	1.05
tblVehicleEF	LHD1	1.13	0.37
tblVehicleEF	LHD1	8.5300e-004	7.7000e-004
tblVehicleEF	LHD1	9.8970e-003	9.6220e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	1.1500e-003	3.0500e-004
tblVehicleEF	LHD1	8.1600e-004	7.3700e-004
tblVehicleEF	LHD1	2.4740e-003	2.4060e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	1.0590e-003	2.8100e-004
tblVehicleEF	LHD1	2.9040e-003	2.4030e-003

tblVehicleEF	LHD1	0.11	0.09
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.4230e-003	1.1790e-003
tblVehicleEF	LHD1	0.14	0.11
tblVehicleEF	LHD1	0.34	0.62
tblVehicleEF	LHD1	0.33	0.10
tblVehicleEF	LHD1	9.0000e-005	8.9000e-005
tblVehicleEF	LHD1	7.0210e-003	8.1860e-003
tblVehicleEF	LHD1	4.0800e-004	1.2600e-004
tblVehicleEF	LHD1	2.9040e-003	2.4030e-003
tblVehicleEF	LHD1	0.11	0.09
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	1.4230e-003	1.1790e-003
tblVehicleEF	LHD1	0.17	0.14
tblVehicleEF	LHD1	0.34	0.62
tblVehicleEF	LHD1	0.36	0.11
tblVehicleEF	LHD2	4.0630e-003	3.5440e-003
tblVehicleEF	LHD2	0.01	8.7930e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.13	0.14
tblVehicleEF	LHD2	0.68	0.77
tblVehicleEF	LHD2	1.50	0.75
tblVehicleEF	LHD2	14.10	14.26
tblVehicleEF	LHD2	728.87	809.32
tblVehicleEF	LHD2	25.76	8.63
tblVehicleEF	LHD2	0.11	0.11
tblVehicleEF	LHD2	1.10	1.29
tblVehicleEF	LHD2	0.57	0.22
tblVehicleEF	LHD2	1.3170e-003	1.3780e-003
tblVehicleEF	LHD2	0.01	0.01

tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	5.0900e-004	1.6100e-004
tblVehicleEF	LHD2	1.2600e-003	1.3190e-003
tblVehicleEF	LHD2	2.6740e-003	2.6690e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	4.6800e-004	1.4800e-004
tblVehicleEF	LHD2	1.1000e-003	1.3640e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	5.4900e-004	6.5500e-004
tblVehicleEF	LHD2	0.12	0.12
tblVehicleEF	LHD2	0.10	0.37
tblVehicleEF	LHD2	0.14	0.06
tblVehicleEF	LHD2	1.3800e-004	1.3600e-004
tblVehicleEF	LHD2	7.0950e-003	7.8220e-003
tblVehicleEF	LHD2	2.8500e-004	8.5000e-005
tblVehicleEF	LHD2	1.1000e-003	1.3640e-003
tblVehicleEF	LHD2	0.04	0.05
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	5.4900e-004	6.5500e-004
tblVehicleEF	LHD2	0.14	0.15
tblVehicleEF	LHD2	0.10	0.37
tblVehicleEF	LHD2	0.15	0.06
tblVehicleEF	MCY	0.44	0.33
tblVehicleEF	MCY	0.16	0.26
tblVehicleEF	MCY	19.82	20.00
tblVehicleEF	MCY	10.12	8.95
tblVehicleEF	MCY	168.14	210.53
tblVehicleEF	MCY	46.41	62.15
tblVehicleEF	MCY	1.16	1.16

tblVehicleEF	MCY	0.32	0.27
tblVehicleEF	MCY	1.8900e-003	1.8410e-003
tblVehicleEF	MCY	4.0800e-003	3.2620e-003
tblVehicleEF	MCY	1.7710e-003	1.7250e-003
tblVehicleEF	MCY	3.8550e-003	3.0800e-003
tblVehicleEF	MCY	0.91	1.83
tblVehicleEF	MCY	0.74	0.73
tblVehicleEF	MCY	0.50	1.01
tblVehicleEF	MCY	2.27	2.28
tblVehicleEF	MCY	0.64	2.21
tblVehicleEF	MCY	2.25	1.98
tblVehicleEF	MCY	2.0710e-003	2.0830e-003
tblVehicleEF	MCY	6.9600e-004	6.1500e-004
tblVehicleEF	MCY	0.91	1.83
tblVehicleEF	MCY	0.74	0.73
tblVehicleEF	MCY	0.50	1.01
tblVehicleEF	MCY	2.79	2.80
tblVehicleEF	MCY	0.64	2.21
tblVehicleEF	MCY	2.44	2.16
tblVehicleEF	MDV	0.01	6.1720e-003
tblVehicleEF	MDV	0.02	0.10
tblVehicleEF	MDV	1.47	1.23
tblVehicleEF	MDV	3.59	3.68
tblVehicleEF	MDV	487.26	420.60
tblVehicleEF	MDV	110.36	90.34
tblVehicleEF	MDV	0.19	0.14
tblVehicleEF	MDV	0.33	0.44
tblVehicleEF	MDV	1.9100e-003	1.7670e-003
tblVehicleEF	MDV	2.6380e-003	2.2440e-003
tblVehicleEF	MDV	1.7630e-003	1.6310e-003

tblVehicleEF	MDV	2.4290e-003	2.0650e-003
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.18	0.16
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	0.04	0.03
tblVehicleEF	MDV	0.11	0.50
tblVehicleEF	MDV	0.29	0.52
tblVehicleEF	MDV	4.8850e-003	4.1580e-003
tblVehicleEF	MDV	1.1670e-003	8.9400e-004
tblVehicleEF	MDV	0.07	0.08
tblVehicleEF	MDV	0.18	0.16
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	0.05	0.04
tblVehicleEF	MDV	0.11	0.50
tblVehicleEF	MDV	0.31	0.57
tblVehicleEF	MH	0.05	0.02
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	3.56	2.05
tblVehicleEF	MH	7.30	2.50
tblVehicleEF	MH	1,229.07	1,611.87
tblVehicleEF	MH	61.91	20.50
tblVehicleEF	MH	1.59	1.60
tblVehicleEF	MH	0.96	0.25
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	1.5660e-003	3.5200e-004
tblVehicleEF	MH	3.2120e-003	3.2600e-003
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	1.4480e-003	3.2500e-004
tblVehicleEF	MH	1.05	0.96

tblVehicleEF	MH	0.09	0.08
tblVehicleEF	MH	0.36	0.32
tblVehicleEF	MH	0.15	0.10
tblVehicleEF	MH	0.02	1.93
tblVehicleEF	MH	0.44	0.12
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	7.4700e-004	2.0300e-004
tblVehicleEF	MH	1.05	0.96
tblVehicleEF	MH	0.09	0.08
tblVehicleEF	MH	0.36	0.32
tblVehicleEF	MH	0.20	0.14
tblVehicleEF	MH	0.02	1.93
tblVehicleEF	MH	0.48	0.13
tblVehicleEF	MHD	0.02	3.3020e-003
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	0.06	9.8030e-003
tblVehicleEF	MHD	0.46	0.36
tblVehicleEF	MHD	0.68	0.93
tblVehicleEF	MHD	8.00	1.27
tblVehicleEF	MHD	140.29	78.16
tblVehicleEF	MHD	1,210.30	1,180.29
tblVehicleEF	MHD	62.15	9.18
tblVehicleEF	MHD	0.89	0.73
tblVehicleEF	MHD	2.30	3.39
tblVehicleEF	MHD	10.47	1.06
tblVehicleEF	MHD	2.8510e-003	2.6060e-003
tblVehicleEF	MHD	0.05	0.09
tblVehicleEF	MHD	1.0450e-003	1.3000e-004
tblVehicleEF	MHD	2.7280e-003	2.4930e-003
tblVehicleEF	MHD	0.04	0.09

tblVehicleEF	MHD	9.6100e-004	1.1900e-004
tblVehicleEF	MHD	1.1800e-003	5.4800e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	5.7100e-004	2.6100e-004
tblVehicleEF	MHD	0.12	0.24
tblVehicleEF	MHD	0.03	0.14
tblVehicleEF	MHD	0.47	0.06
tblVehicleEF	MHD	1.3510e-003	7.4100e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	7.6200e-004	9.1000e-005
tblVehicleEF	MHD	1.1800e-003	5.4800e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.05	0.03
tblVehicleEF	MHD	5.7100e-004	2.6100e-004
tblVehicleEF	MHD	0.15	0.28
tblVehicleEF	MHD	0.03	0.14
tblVehicleEF	MHD	0.52	0.06
tblVehicleEF	OBUS	0.01	7.6010e-003
tblVehicleEF	OBUS	0.01	9.9430e-003
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.29	0.57
tblVehicleEF	OBUS	0.65	0.90
tblVehicleEF	OBUS	5.78	2.02
tblVehicleEF	OBUS	110.21	99.74
tblVehicleEF	OBUS	1,322.53	1,402.55
tblVehicleEF	OBUS	67.52	15.98
tblVehicleEF	OBUS	0.66	0.69
tblVehicleEF	OBUS	2.30	2.31
tblVehicleEF	OBUS	2.92	0.92

tblVehicleEF	OBUS	3.1200e-004	2.9700e-003
tblVehicleEF	OBUS	0.01	0.04
tblVehicleEF	OBUS	7.2600e-004	1.4400e-004
tblVehicleEF	OBUS	2.9900e-004	2.8410e-003
tblVehicleEF	OBUS	0.01	0.04
tblVehicleEF	OBUS	6.6800e-004	1.3300e-004
tblVehicleEF	OBUS	1.1970e-003	1.0920e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.06
tblVehicleEF	OBUS	5.1100e-004	4.7000e-004
tblVehicleEF	OBUS	0.08	0.13
tblVehicleEF	OBUS	0.03	0.17
tblVehicleEF	OBUS	0.36	0.10
tblVehicleEF	OBUS	1.0630e-003	9.4700e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.7700e-004	1.5800e-004
tblVehicleEF	OBUS	1.1970e-003	1.0920e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.06	0.07
tblVehicleEF	OBUS	5.1100e-004	4.7000e-004
tblVehicleEF	OBUS	0.10	0.15
tblVehicleEF	OBUS	0.03	0.17
tblVehicleEF	OBUS	0.40	0.11
tblVehicleEF	SBUS	0.87	0.04
tblVehicleEF	SBUS	0.02	7.1250e-003
tblVehicleEF	SBUS	0.10	4.2090e-003
tblVehicleEF	SBUS	7.94	1.89
tblVehicleEF	SBUS	1.35	0.58
tblVehicleEF	SBUS	11.03	0.64
tblVehicleEF	SBUS	1,147.37	347.29

tblVehicleEF	SBUS	1,074.56	1,091.13
tblVehicleEF	SBUS	53.01	3.52
tblVehicleEF	SBUS	10.41	3.76
tblVehicleEF	SBUS	4.78	5.50
tblVehicleEF	SBUS	12.80	0.69
tblVehicleEF	SBUS	0.01	4.8070e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.03	0.04
tblVehicleEF	SBUS	8.5500e-004	3.8000e-005
tblVehicleEF	SBUS	0.01	4.5990e-003
tblVehicleEF	SBUS	2.6490e-003	2.7520e-003
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	7.8600e-004	3.5000e-005
tblVehicleEF	SBUS	3.8820e-003	4.4100e-004
tblVehicleEF	SBUS	0.04	4.2270e-003
tblVehicleEF	SBUS	0.96	0.21
tblVehicleEF	SBUS	1.4980e-003	1.7000e-004
tblVehicleEF	SBUS	0.13	0.10
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	0.55	0.02
tblVehicleEF	SBUS	0.01	3.3020e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	7.2000e-004	3.5000e-005
tblVehicleEF	SBUS	3.8820e-003	4.4100e-004
tblVehicleEF	SBUS	0.04	4.2270e-003
tblVehicleEF	SBUS	1.38	0.30
tblVehicleEF	SBUS	1.4980e-003	1.7000e-004
tblVehicleEF	SBUS	0.17	0.11
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	0.60	0.03

tblVehicleEF	UBUS	0.28	1.38
tblVehicleEF	UBUS	0.04	2.5800e-003
tblVehicleEF	UBUS	5.74	10.36
tblVehicleEF	UBUS	7.96	0.14
tblVehicleEF	UBUS	2,147.22	1,606.71
tblVehicleEF	UBUS	88.39	1.64
tblVehicleEF	UBUS	12.54	0.73
tblVehicleEF	UBUS	15.64	0.02
tblVehicleEF	UBUS	0.63	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.29	5.2780e-003
tblVehicleEF	UBUS	9.6700e-004	2.0000e-006
tblVehicleEF	UBUS	0.27	0.03
tblVehicleEF	UBUS	3.0000e-003	8.3320e-003
tblVehicleEF	UBUS	0.27	5.0490e-003
tblVehicleEF	UBUS	8.8900e-004	2.0000e-006
tblVehicleEF	UBUS	2.2470e-003	1.5400e-004
tblVehicleEF	UBUS	0.04	2.3510e-003
tblVehicleEF	UBUS	1.0240e-003	9.7000e-005
tblVehicleEF	UBUS	0.79	0.02
tblVehicleEF	UBUS	7.8890e-003	0.02
tblVehicleEF	UBUS	0.54	0.01
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	1.0250e-003	1.6000e-005
tblVehicleEF	UBUS	2.2470e-003	1.5400e-004
tblVehicleEF	UBUS	0.04	2.3510e-003
tblVehicleEF	UBUS	1.0240e-003	9.7000e-005
tblVehicleEF	UBUS	1.13	1.41
tblVehicleEF	UBUS	7.8890e-003	0.02
tblVehicleEF	UBUS	0.59	0.01

tblVehicleTrips	CC_TL	7.30	24.92
tblVehicleTrips	CNW_TL	7.30	24.92
tblVehicleTrips	CW_TL	9.50	32.43
tblVehicleTrips	HO_TL	5.70	19.46
tblVehicleTrips	HS_TL	4.80	16.39
tblVehicleTrips	HW_TL	10.80	36.87
tblVehicleTrips	ST_TR	6.39	0.19
tblVehicleTrips	ST_TR	42.04	1.25
tblVehicleTrips	SU_TR	5.86	0.17
tblVehicleTrips	SU_TR	20.43	0.61
tblVehicleTrips	WD_TR	6.65	0.20
tblVehicleTrips	WD_TR	44.32	1.32
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	50.00	0.00
tblWoodstoves	NumberNoncatalytic	50.00	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	19.3471	0.3018	18.6821	1.53E-03		0.1095	0.1095		0.1095	0.1095	0	130.2339	130.2339	0.0316	1.83E-03	131.5693
Energy	0.1454	1.2584	0.6445	7.93E-03		0.1005	0.1005		0.1005	0.1005	0	6,890.20	6,890.20	0.4818	0.1204	6,938.11
Mobile	1.9575	5.774	23.4454	0.0693	6.7559	0.0987	6.8547	1.8074	0.0933	1.9006	0	6,628.86	6,628.86	0.2426	0	6,634.92
Waste						0	0		0	0	716.2029	0	716.2029	42.3264	0	1,774.36
Water						0	0		0	0	116.9878	395.9687	512.9564	0.4357	0.2612	601.6966
Total	**21.45**	**7.3342**	**42.7721**	**0.0788**	**6.7559**	**0.3087**	**7.0646**	**1.8074**	**0.3032**	**2.1106**	**833.1907**	**14,045.26**	**14,878.45**	**43.5181**	**0.3834**	**16,080.66**

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	19.3471	0.3018	18.6821	1.5300e-003		0.1095	0.1095		0.1095	0.1095	0.0000	130.2339	130.2339	0.0316	1.8300e-003	131.5693
Energy	0.1454	1.2584	0.6445	7.9300e-003		0.1005	0.1005		0.1005	0.1005	0.0000	6,890.1980	6,890.1980	0.4818	0.1204	6,938.1137
Mobile	1.9575	5.7740	23.4454	0.0693	6.7559	0.0987	6.8547	1.8074	0.0933	1.9006	0.0000	6,628.8577	6,628.8577	0.2426	0.0000	6,634.9229
Waste						0.0000	0.0000		0.0000	0.0000	716.2029	0.0000	716.2029	42.3264	0.0000	1,774.3623
Water						0.0000	0.0000		0.0000	0.0000	116.9878	395.9687	512.9564	0.4357	0.2612	601.6966
Total	**21.4500**	**7.3342**	**42.7721**	**0.0788**	**6.7559**	**0.3087**	**7.0646**	**1.8074**	**0.3032**	**2.1106**	**833.1907**	**14,045.2582**	**14,878.4488**	**43.5181**	**0.3834**	**16,080.6647**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.9575	5.7740	23.4454	0.0693	6.7559	0.0987	6.8547	1.8074	0.0933	1.9006	0.0000	6,628.8577	6,628.8577	0.2426	0.0000	6,634.9229
Unmitigated	1.9575	5.7740	23.4454	0.0693	6.7559	0.0987	6.8547	1.8074	0.0933	1.9006	0.0000	6,628.8577	6,628.8577	0.2426	0.0000	6,634.9229

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	500.00	475.00	425.00	3,828,601	3,828,601
Strip Mall	2,989.80	2,831.25	1381.65	14,355,070	14,355,070
Total	3,489.80	3,306.25	1,806.65	18,183,671	18,183,671

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	36.87	16.39	19.46	31.00	15.00	54.00	86	11	3
Strip Mall	32.43	24.92	24.92	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	0.585494	0.052026	0.183432	0.108306	0.021147	0.005027	0.013218	0.021288	0.001747	0.001302	0.005307	0.000926	0.000779
Strip Mall	0.585494	0.052026	0.183432	0.108306	0.021147	0.005027	0.013218	0.021288	0.001747	0.001302	0.005307	0.000926	0.000779

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	5,451.1535	5,451.1535	0.4543	0.0940	5,490.5177
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	5,451.1535	5,451.1535	0.4543	0.0940	5,490.5177
NaturalGas Mitigated	0.1454	1.2584	0.6445	7.9300e-003		0.1005	0.1005		0.1005	0.1005	0.0000	1,439.0445	1,439.0445	0.0276	0.0264	1,447.5960
NaturalGas Unmitigated	0.1454	1.2584	0.6445	7.9300e-003		0.1005	0.1005		0.1005	0.1005	0.0000	1,439.0445	1,439.0445	0.0276	0.0264	1,447.5960

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	2.15986e+007	0.1165	0.9952	0.4235	6.3500e-003		0.0805	0.0805		0.0805	0.0805	0.0000	1,152.5849	1,152.5849	0.0221	0.0211	1,159.4341
Strip Mall	5.36805e+006	0.0290	0.2631	0.2210	1.5800e-003		0.0200	0.0200		0.0200	0.0200	0.0000	286.4596	286.4596	5.4900e-003	5.2500e-003	288.1619
Total		**0.1454**	**1.2584**	**0.6445**	**7.9300e-003**		**0.1005**	**0.1005**		**0.1005**	**0.1005**	**0.0000**	**1,439.0445**	**1,439.0445**	**0.0276**	**0.0264**	**1,447.5960**

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	2.15986e+007	0.1165	0.9952	0.4235	6.3500e-003		0.0805	0.0805		0.0805	0.0805	0.0000	1,152.5849	1,152.5849	0.0221	0.0211	1,159.4341
Strip Mall	5.36805e+006	0.0290	0.2631	0.2210	1.5800e-003		0.0200	0.0200		0.0200	0.0200	0.0000	286.4596	286.4596	5.4900e-003	5.2500e-003	288.1619
Total		**0.1454**	**1.2584**	**0.6445**	**7.9300e-003**		**0.1005**	**0.1005**		**0.1005**	**0.1005**	**0.0000**	**1,439.0445**	**1,439.0445**	**0.0276**	**0.0264**	**1,447.5960**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.03209e+007	1,629.1516	0.1358	0.0281	1,640.9162
Strip Mall	2.42129e+007	3,822.0019	0.3185	0.0659	3,849.6016
Total		**5,451.1535**	**0.4543**	**0.0940**	**5,490.5177**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e

Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.03209e+007	1,629.1516	0.1358	0.0281	1,640.9162
Strip Mall	2.42129e+007	3,822.0019	0.3185	0.0659	3,849.6016
Total		**5,451.1535**	**0.4543**	**0.0940**	**5,490.5177**

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	19.3471	0.3018	18.6821	1.5300e-003		0.1095	0.1095		0.1095	0.1095	0.0000	130.2339	130.2339	0.0316	1.8300e-003	131.5693
Unmitigated	19.3471	0.3018	18.6821	1.5300e-003		0.1095	0.1095		0.1095	0.1095	0.0000	130.2339	130.2339	0.0316	1.8300e-003	131.5693

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	2.9409					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Consumer Products	15.8270					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0101	0.0862	0.0367	5.5000e-004		6.9700e-003	6.9700e-003		6.9700e-003	6.9700e-003	0.0000	99.8714	99.8714	1.9100e-003	1.8300e-003	100.4649
Landscaping	0.5691	0.2156	18.6454	9.8000e-004		0.1025	0.1025		0.1025	0.1025	0.0000	30.3625	30.3625	0.0297	0.0000	31.1044
Total	**19.3471**	**0.3018**	**18.6821**	**1.5300e-003**		**0.1095**	**0.1095**		**0.1095**	**0.1095**	**0.0000**	**130.2339**	**130.2339**	**0.0316**	**1.8300e-003**	**131.5693**

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	2.9409					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	15.8270					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0101	0.0862	0.0367	5.5000e-004		6.9700e-003	6.9700e-003		6.9700e-003	6.9700e-003	0.0000	99.8714	99.8714	1.9100e-003	1.8300e-003	100.4649
Landscaping	0.5691	0.2156	18.6454	9.8000e-004		0.1025	0.1025		0.1025	0.1025	0.0000	30.3625	30.3625	0.0297	0.0000	31.1044
Total	**19.3471**	**0.3018**	**18.6821**	**1.5300e-003**		**0.1095**	**0.1095**		**0.1095**	**0.1095**	**0.0000**	**130.2339**	**130.2339**	**0.0316**	**1.8300e-003**	**131.5693**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			

Mitigated	512.9564	0.4357	0.2612	601.6966
Unmitigated	512.9564	0.4357	0.2612	601.6966

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	162.885 / 102.688	253.4864	0.2147	0.1287	297.2062
Strip Mall	167.774 / 102.829	259.4701	0.2210	0.1325	304.4904
Total		**512.9564**	**0.4357**	**0.2612**	**601.6966**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	162.885 / 102.688	253.4864	0.2147	0.1287	297.2062
Strip Mall	167.774 / 102.829	259.4701	0.2210	0.1325	304.4904
Total		**512.9564**	**0.4357**	**0.2612**	**601.6966**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	716.2029	42.3264	0.0000	1,774.3623
Unmitigated	716.2029	42.3264	0.0000	1,774.3623

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	1150	233.4396	13.7959	0.0000	578.3368
Strip Mall	2378.25	482.7633	28.5305	0.0000	1,196.0255
Total		**716.2029**	**42.3264**	**0.0000**	**1,774.3623**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	1150	233.4396	13.7959	0.0000	578.3368
Strip Mall	2378.25	482.7633	28.5305	0.0000	1,196.0255
Total		**716.2029**	**42.3264**	**0.0000**	**1,774.3623**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

ECR Specific Plan - Existing (2030)

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	2,500.00	Dwelling Unit	65.79	2,500,000.00	0
Strip Mall	2,265.00	1000sqft	82.92	2,265,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	270	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Silicon Valley Power main electricity provider in City of Santa Clara. SVP 2030 predicted intensity factor is 270 pounds/MWh

Land Use - ECR Precise Plan Land Use - Existing Land Use

Construction Phase - Operation Model No Construction

Off-road Equipment - no construction

Trips and VMT -

Vehicle Trips - Adjust CalEEMod Trips by traffic/default or 8,595/289,129 = 3% Trip Change. Adjust VMT traffic/default = 15.43 miles/4.52 miles = 341.4% Trip length change

Vehicle Emission Factors - 2030 EMFAC2017 Emission Factors for Santa Clara County

Woodstoves - Assuming no wood burning (woodstoves or fireplaces) but all fireplaces would be 3385 NG per BAAQMD Regulation 6 Rule 3

Consumer Products - Adjusted Consumer ROG for 2020 = 0.0000167

Energy Use -

Water And Wastewater - Assuming 100% Wastewater Treatment Plant

Solid Waste -

Vehicle Emission Factors -

Vehicle Emission Factors -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	120.00	0.00
tblConsumerProducts	ROG_EF	2.14E-05	1.67E-05
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	375.00	800.00
tblFireplaces	NumberWood	425.00	0.00
tblFleetMix	HHD	0.02	0.02
tblFleetMix	HHD	0.02	0.02
tblFleetMix	LDA	0.62	0.60
tblFleetMix	LDA	0.62	0.60
tblFleetMix	LDT1	0.03	0.05
tblFleetMix	LDT1	0.03	0.05
tblFleetMix	LDT2	0.18	0.17
tblFleetMix	LDT2	0.18	0.17
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD2	5.0600e-003	5.5560e-003
tblFleetMix	LHD2	5.0600e-003	5.5560e-003
tblFleetMix	MCY	5.1220e-003	4.7800e-003
tblFleetMix	MCY	5.1220e-003	4.7800e-003
tblFleetMix	MDV	0.10	0.11
tblFleetMix	MDV	0.10	0.11
tblFleetMix	MH	6.5100e-004	7.2800e-004

tblFleetMix	MH	6.5100e-004	7.2800e-004
tblFleetMix	MHD	0.01	0.01
tblFleetMix	MHD	0.01	0.01
tblFleetMix	OBUS	2.2210e-003	1.4430e-003
tblFleetMix	OBUS	2.2210e-003	1.4430e-003
tblFleetMix	SBUS	6.4600e-004	9.0000e-004
tblFleetMix	SBUS	6.4600e-004	9.0000e-004
tblFleetMix	UBUS	1.4700e-003	1.1780e-003
tblFleetMix	UBUS	1.4700e-003	1.1780e-003
tblLandUse	LotAcreage	52.00	82.92
tblLandUse	Population	7,150.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	270
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tblVehicleEF	HHD	0.06	0.05
tblVehicleEF	HHD	0.06	0.00
tblVehicleEF	HHD	1.43	6.28
tblVehicleEF	HHD	0.94	0.41
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tblVehicleEF	HHD	12.27	0.05
tblVehicleEF	HHD	12.16	5.20
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tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	5.6600e-003	0.02

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tblVehicleEF	HHD	5.4140e-003	0.02
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tblVehicleEF	HHD	6.4000e-005	1.0000e-006
tblVehicleEF	HHD	0.08	0.02
tblVehicleEF	HHD	4.1900e-004	2.8400e-004
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tblVehicleEF	HHD	6.4000e-005	1.0000e-006
tblVehicleEF	HHD	0.15	0.07
tblVehicleEF	HHD	4.1900e-004	2.8400e-004
tblVehicleEF	HHD	0.08	2.0000e-006
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tblVehicleEF	LDA	0.06	0.06
tblVehicleEF	LDA	0.02	0.02
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tblVehicleEF	LDA	0.03	0.12
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tblVehicleEF	LDA	0.02	0.02
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tblVehicleEF	LDT1	1.3350e-003	9.7000e-004

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tblVehicleEF	LDT1	0.12	0.09
tblVehicleEF	LDT1	0.04	0.04
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tblVehicleEF	LDT2	0.07	0.09
tblVehicleEF	LDT2	0.03	0.05

tblVehicleEF	LDT2	7.4390e-003	6.5290e-003
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tblVehicleEF	LDT2	0.07	0.09
tblVehicleEF	LDT2	0.03	0.05
tblVehicleEF	LDT2	0.01	9.4890e-003
tblVehicleEF	LDT2	0.06	0.34
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tblVehicleEF	LHD1	3.9820e-003	4.1480e-003
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tblVehicleEF	LHD1	0.61	0.47
tblVehicleEF	LHD1	1.67	0.89
tblVehicleEF	LHD1	8.93	8.25
tblVehicleEF	LHD1	641.43	698.55
tblVehicleEF	LHD1	26.94	10.09
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.53	0.30
tblVehicleEF	LHD1	0.67	0.23
tblVehicleEF	LHD1	7.8900e-004	9.1500e-004
tblVehicleEF	LHD1	0.01	9.9010e-003
tblVehicleEF	LHD1	0.01	7.0190e-003
tblVehicleEF	LHD1	6.6500e-004	2.1000e-004
tblVehicleEF	LHD1	7.5500e-004	8.7500e-004
tblVehicleEF	LHD1	2.6030e-003	2.4750e-003
tblVehicleEF	LHD1	9.7020e-003	6.6710e-003

tblVehicleEF	LHD1	6.1100e-004	1.9300e-004
tblVehicleEF	LHD1	1.8620e-003	1.4030e-003
tblVehicleEF	LHD1	0.08	0.05
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	1.0210e-003	7.7200e-004
tblVehicleEF	LHD1	0.10	0.07
tblVehicleEF	LHD1	0.26	0.43
tblVehicleEF	LHD1	0.15	0.04
tblVehicleEF	LHD1	8.9000e-005	8.0000e-005
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tblVehicleEF	LHD1	3.0000e-004	1.0000e-004
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tblVehicleEF	LHD1	0.08	0.05
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.0210e-003	7.7200e-004
tblVehicleEF	LHD1	0.11	0.09
tblVehicleEF	LHD1	0.26	0.43
tblVehicleEF	LHD1	0.16	0.05
tblVehicleEF	LHD2	2.5430e-003	2.5050e-003
tblVehicleEF	LHD2	5.3180e-003	5.3390e-003
tblVehicleEF	LHD2	3.2330e-003	4.8110e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.45	0.49
tblVehicleEF	LHD2	0.88	0.48
tblVehicleEF	LHD2	13.62	13.00
tblVehicleEF	LHD2	675.95	679.81
tblVehicleEF	LHD2	21.83	6.44
tblVehicleEF	LHD2	0.07	0.07
tblVehicleEF	LHD2	0.22	0.38
tblVehicleEF	LHD2	0.26	0.12

tblVehicleEF	LHD2	1.0460e-003	1.5020e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	9.3120e-003	0.01
tblVehicleEF	LHD2	3.7400e-004	1.0600e-004
tblVehicleEF	LHD2	1.0000e-003	1.4370e-003
tblVehicleEF	LHD2	2.7080e-003	2.7110e-003
tblVehicleEF	LHD2	8.8860e-003	0.01
tblVehicleEF	LHD2	3.4400e-004	9.8000e-005
tblVehicleEF	LHD2	5.1500e-004	6.4200e-004
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.0800e-004	3.7400e-004
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.04	0.14
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	1.3300e-004	1.2400e-004
tblVehicleEF	LHD2	6.5670e-003	6.5570e-003
tblVehicleEF	LHD2	2.3300e-004	6.4000e-005
tblVehicleEF	LHD2	5.1500e-004	6.4200e-004
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	3.0800e-004	3.7400e-004
tblVehicleEF	LHD2	0.11	0.11
tblVehicleEF	LHD2	0.04	0.14
tblVehicleEF	LHD2	0.05	0.02
tblVehicleEF	MCY	0.46	0.32
tblVehicleEF	MCY	0.16	0.25
tblVehicleEF	MCY	17.52	17.61
tblVehicleEF	MCY	10.34	9.20
tblVehicleEF	MCY	171.38	209.76

tblVehicleEF	MCY	42.85	59.23
tblVehicleEF	MCY	1.14	1.14
tblVehicleEF	MCY	0.32	0.27
tblVehicleEF	MCY	2.1570e-003	2.1380e-003
tblVehicleEF	MCY	3.3210e-003	2.8620e-003
tblVehicleEF	MCY	2.0120e-003	1.9940e-003
tblVehicleEF	MCY	3.1070e-003	2.6760e-003
tblVehicleEF	MCY	0.88	1.79
tblVehicleEF	MCY	0.61	0.63
tblVehicleEF	MCY	0.46	0.95
tblVehicleEF	MCY	2.12	2.13
tblVehicleEF	MCY	0.46	1.49
tblVehicleEF	MCY	2.11	1.88
tblVehicleEF	MCY	2.0640e-003	2.0760e-003
tblVehicleEF	MCY	6.5900e-004	5.8600e-004
tblVehicleEF	MCY	0.88	1.79
tblVehicleEF	MCY	0.61	0.63
tblVehicleEF	MCY	0.46	0.95
tblVehicleEF	MCY	2.66	2.67
tblVehicleEF	MCY	0.46	1.49
tblVehicleEF	MCY	2.30	2.04
tblVehicleEF	MDV	5.1180e-003	1.7720e-003
tblVehicleEF	MDV	7.2260e-003	0.04
tblVehicleEF	MDV	0.68	0.54
tblVehicleEF	MDV	1.51	2.29
tblVehicleEF	MDV	358.67	301.13
tblVehicleEF	MDV	82.28	63.46
tblVehicleEF	MDV	0.07	0.04
tblVehicleEF	MDV	0.11	0.18
tblVehicleEF	MDV	1.3880e-003	1.0200e-003

tblVehicleEF	MDV	2.0820e-003	1.3440e-003
tblVehicleEF	MDV	1.2780e-003	9.4000e-004
tblVehicleEF	MDV	1.9150e-003	1.2360e-003
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.13	0.10
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.01	6.8620e-003
tblVehicleEF	MDV	0.09	0.34
tblVehicleEF	MDV	0.10	0.20
tblVehicleEF	MDV	3.5870e-003	2.9760e-003
tblVehicleEF	MDV	8.4800e-004	6.2800e-004
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.13	0.10
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.02	9.9460e-003
tblVehicleEF	MDV	0.09	0.34
tblVehicleEF	MDV	0.11	0.22
tblVehicleEF	MH	8.2310e-003	5.0270e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.45	0.31
tblVehicleEF	MH	3.72	1.64
tblVehicleEF	MH	1,184.19	1,350.27
tblVehicleEF	MH	56.79	15.54
tblVehicleEF	MH	0.84	1.06
tblVehicleEF	MH	0.62	0.24
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	8.8300e-004	2.1200e-004
tblVehicleEF	MH	3.2210e-003	3.2970e-003
tblVehicleEF	MH	0.01	0.02

tblVehicleEF	MH	8.1200e-004	1.9500e-004
tblVehicleEF	MH	0.46	0.35
tblVehicleEF	MH	0.04	0.03
tblVehicleEF	MH	0.18	0.14
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	0.01	0.54
tblVehicleEF	MH	0.22	0.07
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.3200e-004	1.5400e-004
tblVehicleEF	MH	0.46	0.35
tblVehicleEF	MH	0.04	0.03
tblVehicleEF	MH	0.18	0.14
tblVehicleEF	MH	0.05	0.05
tblVehicleEF	MH	0.01	0.54
tblVehicleEF	MH	0.24	0.08
tblVehicleEF	MHD	0.02	3.8320e-003
tblVehicleEF	MHD	2.7470e-003	1.0340e-003
tblVehicleEF	MHD	0.03	8.3830e-003
tblVehicleEF	MHD	0.37	0.41
tblVehicleEF	MHD	0.25	0.15
tblVehicleEF	MHD	3.74	0.87
tblVehicleEF	MHD	131.96	65.10
tblVehicleEF	MHD	1,167.79	993.45
tblVehicleEF	MHD	59.45	8.55
tblVehicleEF	MHD	0.34	0.34
tblVehicleEF	MHD	1.04	1.43
tblVehicleEF	MHD	9.99	1.69
tblVehicleEF	MHD	5.2000e-005	1.6200e-004
tblVehicleEF	MHD	3.0080e-003	7.0060e-003
tblVehicleEF	MHD	8.2100e-004	1.1200e-004

tblVehicleEF	MHD	5.0000e-005	1.5500e-004
tblVehicleEF	MHD	2.8710e-003	6.6960e-003
tblVehicleEF	MHD	7.5400e-004	1.0300e-004
tblVehicleEF	MHD	6.4300e-004	2.8900e-004
tblVehicleEF	MHD	0.03	0.01
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	3.8200e-004	1.6800e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.02	0.07
tblVehicleEF	MHD	0.23	0.04
tblVehicleEF	MHD	1.2710e-003	6.1800e-004
tblVehicleEF	MHD	0.01	9.4800e-003
tblVehicleEF	MHD	6.6000e-004	8.5000e-005
tblVehicleEF	MHD	6.4300e-004	2.8900e-004
tblVehicleEF	MHD	0.03	0.01
tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	3.8200e-004	1.6800e-004
tblVehicleEF	MHD	0.05	0.01
tblVehicleEF	MHD	0.02	0.07
tblVehicleEF	MHD	0.25	0.05
tblVehicleEF	OBUS	0.01	7.0980e-003
tblVehicleEF	OBUS	4.0840e-003	2.1970e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.24	0.64
tblVehicleEF	OBUS	0.30	0.26
tblVehicleEF	OBUS	4.08	1.58
tblVehicleEF	OBUS	110.55	97.36
tblVehicleEF	OBUS	1,272.30	1,210.85
tblVehicleEF	OBUS	64.94	13.46
tblVehicleEF	OBUS	0.24	0.43

tblVehicleEF	OBUS	0.85	1.45
tblVehicleEF	OBUS	2.74	1.13
tblVehicleEF	OBUS	2.2000e-005	1.4200e-004
tblVehicleEF	OBUS	2.8340e-003	7.8820e-003
tblVehicleEF	OBUS	9.3800e-004	1.5600e-004
tblVehicleEF	OBUS	2.1000e-005	1.3600e-004
tblVehicleEF	OBUS	2.6900e-003	7.5260e-003
tblVehicleEF	OBUS	8.6200e-004	1.4400e-004
tblVehicleEF	OBUS	1.1660e-003	1.0620e-003
tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	5.3200e-004	4.8700e-004
tblVehicleEF	OBUS	0.04	0.02
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.26	0.08
tblVehicleEF	OBUS	1.0660e-003	9.2400e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.2100e-004	1.3300e-004
tblVehicleEF	OBUS	1.1660e-003	1.0620e-003
tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	5.3200e-004	4.8700e-004
tblVehicleEF	OBUS	0.05	0.02
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.28	0.08
tblVehicleEF	SBUS	0.81	0.07
tblVehicleEF	SBUS	7.6490e-003	4.4040e-003
tblVehicleEF	SBUS	0.06	6.3380e-003
tblVehicleEF	SBUS	8.87	2.93
tblVehicleEF	SBUS	0.48	0.37

tblVehicleEF	SBUS	7.57	0.86
tblVehicleEF	SBUS	1,023.58	337.48
tblVehicleEF	SBUS	1,008.60	970.50
tblVehicleEF	SBUS	61.81	5.06
tblVehicleEF	SBUS	4.35	2.71
tblVehicleEF	SBUS	1.72	3.09
tblVehicleEF	SBUS	10.76	1.18
tblVehicleEF	SBUS	2.1870e-003	2.0480e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	8.4940e-003	0.02
tblVehicleEF	SBUS	1.1020e-003	6.8000e-005
tblVehicleEF	SBUS	2.0920e-003	1.9600e-003
tblVehicleEF	SBUS	2.5880e-003	2.6690e-003
tblVehicleEF	SBUS	8.1060e-003	0.02
tblVehicleEF	SBUS	1.0130e-003	6.2000e-005
tblVehicleEF	SBUS	3.7080e-003	8.7000e-004
tblVehicleEF	SBUS	0.03	8.3040e-003
tblVehicleEF	SBUS	1.05	0.32
tblVehicleEF	SBUS	1.7580e-003	4.1400e-004
tblVehicleEF	SBUS	0.07	0.06
tblVehicleEF	SBUS	0.02	0.05
tblVehicleEF	SBUS	0.40	0.04
tblVehicleEF	SBUS	0.01	3.2190e-003
tblVehicleEF	SBUS	9.7440e-003	9.2880e-003
tblVehicleEF	SBUS	7.4900e-004	5.0000e-005
tblVehicleEF	SBUS	3.7080e-003	8.7000e-004
tblVehicleEF	SBUS	0.03	8.3040e-003
tblVehicleEF	SBUS	1.53	0.46
tblVehicleEF	SBUS	1.7580e-003	4.1400e-004
tblVehicleEF	SBUS	0.08	0.07

tblVehicleEF	SBUS	0.02	0.05
tblVehicleEF	SBUS	0.43	0.04
tblVehicleEF	UBUS	0.23	1.86
tblVehicleEF	UBUS	0.05	2.1860e-003
tblVehicleEF	UBUS	3.04	14.11
tblVehicleEF	UBUS	7.59	0.14
tblVehicleEF	UBUS	1,937.16	1,668.67
tblVehicleEF	UBUS	126.43	1.40
tblVehicleEF	UBUS	4.75	0.71
tblVehicleEF	UBUS	13.02	0.02
tblVehicleEF	UBUS	0.54	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.10	5.1160e-003
tblVehicleEF	UBUS	1.3960e-003	1.5000e-005
tblVehicleEF	UBUS	0.23	0.03
tblVehicleEF	UBUS	3.0000e-003	8.3320e-003
tblVehicleEF	UBUS	0.10	4.8930e-003
tblVehicleEF	UBUS	1.2840e-003	1.4000e-005
tblVehicleEF	UBUS	2.5990e-003	6.1000e-005
tblVehicleEF	UBUS	0.04	8.1400e-004
tblVehicleEF	UBUS	1.5170e-003	3.6000e-005
tblVehicleEF	UBUS	0.23	0.03
tblVehicleEF	UBUS	9.4350e-003	4.9280e-003
tblVehicleEF	UBUS	0.65	9.2610e-003
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	1.4020e-003	1.4000e-005
tblVehicleEF	UBUS	2.5990e-003	6.1000e-005
tblVehicleEF	UBUS	0.04	8.1400e-004
tblVehicleEF	UBUS	1.5170e-003	3.6000e-005
tblVehicleEF	UBUS	0.48	1.90

tblVehicleEF	UBUS	9.4350e-003	4.9280e-003
tblVehicleEF	UBUS	0.71	0.01
tblVehicleTrips	CC_TL	7.30	24.92
tblVehicleTrips	CNW_TL	7.30	24.92
tblVehicleTrips	CW_TL	9.50	32.42
tblVehicleTrips	HO_TL	5.70	19.46
tblVehicleTrips	HS_TL	4.80	16.39
tblVehicleTrips	HW_TL	10.80	36.87
tblVehicleTrips	ST_TR	6.39	0.19
tblVehicleTrips	ST_TR	42.04	1.25
tblVehicleTrips	SU_TR	5.86	0.17
tblVehicleTrips	SU_TR	20.43	0.61
tblVehicleTrips	WD_TR	6.65	0.20
tblVehicleTrips	WD_TR	44.32	1.32
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	50.00	0.00
tblWoodstoves	NumberNoncatalytic	50.00	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	18.0292	0.2999	18.5711	1.53E-03		0.11	0.11		0.11	0.11	0	130.2339	130.2339	0.0309	1.83E-03	131.5522
Energy	0.1454	1.2584	0.6445	7.93E-03		0.1005	0.1005		0.1005	0.1005	0	5,668.39	5,668.39	0.4818	0.1204	5,716.30
Mobile	1.0341	2.886	13.5224	0.0557	6.7585	0.0381	6.7967	1.8083	0.0358	1.8441	0	5,060.23	5,060.23	0.1495	0	5,063.97
Waste						0	0		0	0	716.2029	0	716.2029	42.3264	0	1,774.36
Water						0	0		0	0	116.9878	307.2171	424.2048	0.4357	0.2612	512.945
Total	**19.2087**	**4.4443**	**32.7381**	**0.0652**	**6.7585**	**0.2486**	**7.0071**	**1.8083**	**0.2462**	**2.0545**	**833.1907**	**11,166.07**	**11,999.26**	**43.4243**	**0.3834**	**13,199.13**

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	18.0292	0.2999	18.5711	1.5300e-003		0.1100	0.1100		0.1100	0.1100	0.0000	130.2339	130.2339	0.0309	1.8300e-003	131.5522
Energy	0.1454	1.2584	0.6445	7.9300e-003		0.1005	0.1005		0.1005	0.1005	0.0000	5,668.3877	5,668.3877	0.4818	0.1204	5,716.3034
Mobile	1.0341	2.8860	13.5224	0.0557	6.7585	0.0381	6.7967	1.8083	0.0358	1.8441	0.0000	5,060.2307	5,060.2307	0.1495	0.0000	5,063.9693
Waste						0.0000	0.0000		0.0000	0.0000	716.2029	0.0000	716.2029	42.3264	0.0000	1,774.3623
Water						0.0000	0.0000		0.0000	0.0000	116.9878	307.2171	424.2048	0.4357	0.2612	512.9450
Total	**19.2087**	**4.4443**	**32.7381**	**0.0652**	**6.7585**	**0.2486**	**7.0071**	**1.8083**	**0.2462**	**2.0545**	**833.1907**	**11,166.0693**	**11,999.2600**	**43.4243**	**0.3834**	**13,199.1322**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0341	2.8860	13.5224	0.0557	6.7585	0.0381	6.7967	1.8083	0.0358	1.8441	0.0000	5,060.2307	5,060.2307	0.1495	0.0000	5,063.9693
Unmitigated	1.0341	2.8860	13.5224	0.0557	6.7585	0.0381	6.7967	1.8083	0.0358	1.8441	0.0000	5,060.2307	5,060.2307	0.1495	0.0000	5,063.9693

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	500.00	475.00	425.00	3,828,601	3,828,601
Strip Mall	2,989.80	2,831.25	1381.65	14,354,160	14,354,160
Total	3,489.80	3,306.25	1,806.65	18,182,761	18,182,761

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	36.87	16.39	19.46	31.00	15.00	54.00	86	11	3
Strip Mall	32.42	24.92	24.92	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	0.595423	0.053963	0.171400	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.004780	0.000900	0.000728

Strip Mall	0.595423	0.053963	0.171400	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.004780	0.000900	0.000728

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	4,229.3432	4,229.3432	0.4543	0.0940	4,268.7075
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	4,229.3432	4,229.3432	0.4543	0.0940	4,268.7075
NaturalGas Mitigated	0.1454	1.2584	0.6445	7.9300e-003		0.1005	0.1005		0.1005	0.1005	0.0000	1,439.0445	1,439.0445	0.0276	0.0264	1,447.5960
NaturalGas Unmitigated	0.1454	1.2584	0.6445	7.9300e-003		0.1005	0.1005		0.1005	0.1005	0.0000	1,439.0445	1,439.0445	0.0276	0.0264	1,447.5960

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	2.15986e+007	0.1165	0.9952	0.4235	6.3500e-003		0.0805	0.0805		0.0805	0.0805	0.0000	1,152.5849	1,152.5849	0.0221	0.0211	1,159.4341
Strip Mall	5.36805e+006	0.0290	0.2631	0.2210	1.5800e-003		0.0200	0.0200		0.0200	0.0200	0.0000	286.4596	286.4596	5.4900e-003	5.2500e-003	288.1619

Total		**0.1454**	**1.2584**	**0.6445**	**7.9300e-003**		**0.1005**	**0.1005**		**0.1005**	**0.1005**	**0.0000**	**1,439.0445**	**1,439.0445**	**0.0276**	**0.0264**	**1,447.5960**

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	2.15986e+007	0.1165	0.9952	0.4235	6.3500e-003		0.0805	0.0805		0.0805	0.0805	0.0000	1,152.5849	1,152.5849	0.0221	0.0211	1,159.4341
Strip Mall	5.36805e+006	0.0290	0.2631	0.2210	1.5800e-003		0.0200	0.0200		0.0200	0.0200	0.0000	286.4596	286.4596	5.4900e-003	5.2500e-003	288.1619
Total		**0.1454**	**1.2584**	**0.6445**	**7.9300e-003**		**0.1005**	**0.1005**		**0.1005**	**0.1005**	**0.0000**	**1,439.0445**	**1,439.0445**	**0.0276**	**0.0264**	**1,447.5960**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.03209e+007	1,263.9969	0.1358	0.0281	1,275.7615
Strip Mall	2.42129e+007	2,965.3463	0.3185	0.0659	2,992.9460
Total		**4,229.3432**	**0.4543**	**0.0940**	**4,268.7075**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.03209e+007	1,263.9969	0.1358	0.0281	1,275.7615
Strip Mall	2.42129e+007	2,965.3463	0.3185	0.0659	2,992.9460
Total		**4,229.3432**	**0.4543**	**0.0940**	**4,268.7075**

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	18.0292	0.2999	18.5711	1.5300e-003		0.1100	0.1100		0.1100	0.1100	0.0000	130.2339	130.2339	0.0309	1.8300e-003	131.5522
Unmitigated	18.0292	0.2999	18.5711	1.5300e-003		0.1100	0.1100		0.1100	0.1100	0.0000	130.2339	130.2339	0.0309	1.8300e-003	131.5522

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	2.9409					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	14.5225					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0101	0.0862	0.0367	5.5000e-004		6.9700e-003	6.9700e-003		6.9700e-003	6.9700e-003	0.0000	99.8714	99.8714	1.9100e-003	1.8300e-003	100.4649
Landscaping	0.5557	0.2136	18.5344	9.8000e-004		0.1030	0.1030		0.1030	0.1030	0.0000	30.3625	30.3625	0.0290	0.0000	31.0873
Total	**18.0292**	**0.2999**	**18.5711**	**1.5300e-003**		**0.1100**	**0.1100**		**0.1100**	**0.1100**	**0.0000**	**130.2339**	**130.2339**	**0.0309**	**1.8300e-003**	**131.5522**

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	2.9409					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	14.5225					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0101	0.0862	0.0367	5.5000e-004		6.9700e-003	6.9700e-003		6.9700e-003	6.9700e-003	0.0000	99.8714	99.8714	1.9100e-003	1.8300e-003	100.4649
Landscaping	0.5557	0.2136	18.5344	9.8000e-004		0.1030	0.1030		0.1030	0.1030	0.0000	30.3625	30.3625	0.0290	0.0000	31.0873
Total	**18.0292**	**0.2999**	**18.5711**	**1.5300e-003**		**0.1100**	**0.1100**		**0.1100**	**0.1100**	**0.0000**	**130.2339**	**130.2339**	**0.0309**	**1.8300e-003**	**131.5522**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e

Category	MT/yr			
Mitigated	424.2048	0.4357	0.2612	512.9450
Unmitigated	424.2048	0.4357	0.2612	512.9450

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	162.885 / 102.688	209.5873	0.2147	0.1287	253.3071
Strip Mall	167.774 / 102.829	214.6175	0.2210	0.1325	259.6379
Total		**424.2049**	**0.4357**	**0.2612**	**512.9450**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	162.885 / 102.688	209.5873	0.2147	0.1287	253.3071
Strip Mall	167.774 / 102.829	214.6175	0.2210	0.1325	259.6379
Total		**424.2049**	**0.4357**	**0.2612**	**512.9450**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	716.2029	42.3264	0.0000	1,774.3623
Unmitigated	716.2029	42.3264	0.0000	1,774.3623

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	1150	233.4396	13.7959	0.0000	578.3368
Strip Mall	2378.25	482.7633	28.5305	0.0000	1,196.0255
Total		**716.2029**	**42.3264**	**0.0000**	**1,774.3623**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	1150	233.4396	13.7959	0.0000	578.3368
Strip Mall	2378.25	482.7633	28.5305	0.0000	1,196.0255
Total		**716.2029**	**42.3264**	**0.0000**	**1,774.3623**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

ECR Specific Plan - Existing Plus Project (2030)

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	8,700.00	Dwelling Unit	228.95	8,700,000.00	24882
Strip Mall	1,870.00	1000sqft	42.93	1,870,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	270	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Silicon Valley Power main electricity provider in City of Santa Clara. SVP 2030 predicted intensity factor is 270 pounds/MWh

Land Use - ECR Precise Plan Land Use - Existing + Project

Construction Phase - Operation Model No Construction

Off-road Equipment - no construction

Vehicle Trips - Adjust CalEEMod Trip Gen Rate by traffic/default --> 21,575 trips/164,630 trips = 13%. Adjust VMT trip length traffic/default = 5.56 miles per trip/6.32 miles per trip = 88%

Vehicle Emission Factors - 2030 EMFAC2017 Santa Clara County Emission Factors

Woodstoves - No wood - 2,784 Natural Gas

Consumer Products - Adjusted Consumer ROG for 2030 = 0.0000167

Energy Use -

Water And Wastewater - Assuming wastewater treatment plant 100% aerobic

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	180.00	0.00
tblConstructionPhase	PhaseEndDate	11/5/2020	2/27/2020
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	1,305.00	2,784.00
tblFireplaces	NumberWood	1,479.00	0.00
tblFleetMix	HHD	0.02	0.02
tblFleetMix	HHD	0.02	0.02
tblFleetMix	LDA	0.62	0.60
tblFleetMix	LDA	0.62	0.60
tblFleetMix	LDT1	0.03	0.05
tblFleetMix	LDT1	0.03	0.05
tblFleetMix	LDT2	0.18	0.17
tblFleetMix	LDT2	0.18	0.17
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD2	5.0600e-003	5.5563e-003
tblFleetMix	LHD2	5.0600e-003	5.5563e-003
tblFleetMix	MCY	5.1220e-003	4.7803e-003
tblFleetMix	MCY	5.1220e-003	4.7803e-003
tblFleetMix	MDV	0.10	0.11
tblFleetMix	MDV	0.10	0.11
tblFleetMix	MH	6.5100e-004	7.2763e-004
tblFleetMix	MH	6.5100e-004	7.2763e-004
tblFleetMix	MHD	0.01	0.01
tblFleetMix	MHD	0.01	0.01
tblFleetMix	OBUS	2.2210e-003	1.4429e-003

tblFleetMix	OBUS	2.2210e-003	1.4429e-003
tblFleetMix	SBUS	6.4600e-004	9.0041e-004
tblFleetMix	SBUS	6.4600e-004	9.0041e-004
tblFleetMix	UBUS	1.4700e-003	1.1782e-003
tblFleetMix	UBUS	1.4700e-003	1.1782e-003
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tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.0210e-003	7.7200e-004
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tblVehicleEF	LHD2	2.7080e-003	2.7110e-003
tblVehicleEF	LHD2	8.8860e-003	0.01
tblVehicleEF	LHD2	3.4400e-004	9.8000e-005

tblVehicleEF	LHD2	5.1500e-004	6.4200e-004
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.0800e-004	3.7400e-004
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.04	0.14
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	1.3300e-004	1.2400e-004
tblVehicleEF	LHD2	6.5670e-003	6.5600e-003
tblVehicleEF	LHD2	2.3300e-004	6.4000e-005
tblVehicleEF	LHD2	5.1500e-004	6.4200e-004
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	3.0800e-004	3.7400e-004
tblVehicleEF	LHD2	0.11	0.11
tblVehicleEF	LHD2	0.04	0.14
tblVehicleEF	LHD2	0.05	0.02
tblVehicleEF	MCY	0.46	0.32
tblVehicleEF	MCY	0.16	0.25
tblVehicleEF	MCY	17.52	17.61
tblVehicleEF	MCY	10.34	9.20
tblVehicleEF	MCY	171.38	209.76
tblVehicleEF	MCY	42.85	59.23
tblVehicleEF	MCY	1.14	1.14
tblVehicleEF	MCY	0.32	0.27
tblVehicleEF	MCY	2.1570e-003	2.1380e-003
tblVehicleEF	MCY	3.3210e-003	2.8620e-003
tblVehicleEF	MCY	2.0120e-003	1.9940e-003
tblVehicleEF	MCY	3.1070e-003	2.6760e-003
tblVehicleEF	MCY	0.88	1.79

tblVehicleEF	MCY	0.61	0.63
tblVehicleEF	MCY	0.46	0.95
tblVehicleEF	MCY	2.12	2.13
tblVehicleEF	MCY	0.46	1.49
tblVehicleEF	MCY	2.11	1.88
tblVehicleEF	MCY	2.0640e-003	2.0760e-003
tblVehicleEF	MCY	6.5900e-004	5.8600e-004
tblVehicleEF	MCY	0.88	1.79
tblVehicleEF	MCY	0.61	0.63
tblVehicleEF	MCY	0.46	0.95
tblVehicleEF	MCY	2.66	2.67
tblVehicleEF	MCY	0.46	1.49
tblVehicleEF	MCY	2.30	2.04
tblVehicleEF	MDV	5.1180e-003	1.7720e-003
tblVehicleEF	MDV	7.2260e-003	0.04
tblVehicleEF	MDV	0.68	0.55
tblVehicleEF	MDV	1.51	2.32
tblVehicleEF	MDV	358.67	322.27
tblVehicleEF	MDV	82.28	67.92
tblVehicleEF	MDV	0.07	0.04
tblVehicleEF	MDV	0.11	0.18
tblVehicleEF	MDV	1.3880e-003	1.0340e-003
tblVehicleEF	MDV	2.0820e-003	1.3440e-003
tblVehicleEF	MDV	1.2780e-003	9.5400e-004
tblVehicleEF	MDV	1.9150e-003	1.2360e-003
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.13	0.10
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.01	6.8870e-003
tblVehicleEF	MDV	0.09	0.34

tblVehicleEF	MDV	0.10	0.20
tblVehicleEF	MDV	3.5870e-003	2.9760e-003
tblVehicleEF	MDV	8.4800e-004	6.2800e-004
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.13	0.10
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.02	9.9830e-003
tblVehicleEF	MDV	0.09	0.34
tblVehicleEF	MDV	0.11	0.22
tblVehicleEF	MH	8.2310e-003	5.0270e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.45	0.31
tblVehicleEF	MH	3.72	1.64
tblVehicleEF	MH	1,184.19	1,350.27
tblVehicleEF	MH	56.79	15.54
tblVehicleEF	MH	0.84	1.06
tblVehicleEF	MH	0.62	0.24
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	8.8300e-004	2.1200e-004
tblVehicleEF	MH	3.2210e-003	3.2970e-003
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	8.1200e-004	1.9500e-004
tblVehicleEF	MH	0.46	0.35
tblVehicleEF	MH	0.04	0.03
tblVehicleEF	MH	0.18	0.14
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	0.01	0.54
tblVehicleEF	MH	0.22	0.07
tblVehicleEF	MH	0.01	0.01

tblVehicleEF	MH	6.3200e-004	1.5400e-004
tblVehicleEF	MH	0.46	0.35
tblVehicleEF	MH	0.04	0.03
tblVehicleEF	MH	0.18	0.14
tblVehicleEF	MH	0.05	0.05
tblVehicleEF	MH	0.01	0.54
tblVehicleEF	MH	0.24	0.08
tblVehicleEF	MHD	0.02	3.8320e-003
tblVehicleEF	MHD	2.7470e-003	1.0340e-003
tblVehicleEF	MHD	0.03	8.3830e-003
tblVehicleEF	MHD	0.37	0.41
tblVehicleEF	MHD	0.25	0.15
tblVehicleEF	MHD	3.74	0.87
tblVehicleEF	MHD	131.96	65.10
tblVehicleEF	MHD	1,167.79	993.45
tblVehicleEF	MHD	59.45	8.55
tblVehicleEF	MHD	0.34	0.34
tblVehicleEF	MHD	1.04	1.43
tblVehicleEF	MHD	9.99	1.69
tblVehicleEF	MHD	5.2000e-005	1.6200e-004
tblVehicleEF	MHD	3.0080e-003	7.0060e-003
tblVehicleEF	MHD	8.2100e-004	1.1200e-004
tblVehicleEF	MHD	5.0000e-005	1.5500e-004
tblVehicleEF	MHD	2.8710e-003	6.6960e-003
tblVehicleEF	MHD	7.5400e-004	1.0300e-004
tblVehicleEF	MHD	6.4300e-004	2.8900e-004
tblVehicleEF	MHD	0.03	0.01
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	3.8200e-004	1.6800e-004
tblVehicleEF	MHD	0.04	0.01

tblVehicleEF	MHD	0.02	0.07
tblVehicleEF	MHD	0.23	0.04
tblVehicleEF	MHD	1.2710e-003	6.1800e-004
tblVehicleEF	MHD	0.01	9.4800e-003
tblVehicleEF	MHD	6.6000e-004	8.5000e-005
tblVehicleEF	MHD	6.4300e-004	2.8900e-004
tblVehicleEF	MHD	0.03	0.01
tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	3.8200e-004	1.6800e-004
tblVehicleEF	MHD	0.05	0.01
tblVehicleEF	MHD	0.02	0.07
tblVehicleEF	MHD	0.25	0.05
tblVehicleEF	OBUS	0.01	7.0980e-003
tblVehicleEF	OBUS	4.0840e-003	2.1970e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.24	0.64
tblVehicleEF	OBUS	0.30	0.26
tblVehicleEF	OBUS	4.08	1.58
tblVehicleEF	OBUS	110.55	97.36
tblVehicleEF	OBUS	1,272.30	1,210.85
tblVehicleEF	OBUS	64.94	13.46
tblVehicleEF	OBUS	0.24	0.43
tblVehicleEF	OBUS	0.85	1.45
tblVehicleEF	OBUS	2.74	1.13
tblVehicleEF	OBUS	2.2000e-005	1.4200e-004
tblVehicleEF	OBUS	2.8340e-003	7.8820e-003
tblVehicleEF	OBUS	9.3800e-004	1.5600e-004
tblVehicleEF	OBUS	2.1000e-005	1.3600e-004
tblVehicleEF	OBUS	2.6900e-003	7.5260e-003
tblVehicleEF	OBUS	8.6200e-004	1.4400e-004

tblVehicleEF	OBUS	1.1660e-003	1.0620e-003
tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	5.3200e-004	4.8700e-004
tblVehicleEF	OBUS	0.04	0.02
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.26	0.08
tblVehicleEF	OBUS	1.0660e-003	9.2400e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.2100e-004	1.3300e-004
tblVehicleEF	OBUS	1.1660e-003	1.0620e-003
tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	5.3200e-004	4.8700e-004
tblVehicleEF	OBUS	0.05	0.02
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.28	0.08
tblVehicleEF	SBUS	0.81	0.07
tblVehicleEF	SBUS	7.6490e-003	4.4040e-003
tblVehicleEF	SBUS	0.06	6.3380e-003
tblVehicleEF	SBUS	8.87	2.93
tblVehicleEF	SBUS	0.48	0.37
tblVehicleEF	SBUS	7.57	0.86
tblVehicleEF	SBUS	1,023.58	337.48
tblVehicleEF	SBUS	1,008.60	970.50
tblVehicleEF	SBUS	61.81	5.06
tblVehicleEF	SBUS	4.35	2.71
tblVehicleEF	SBUS	1.72	3.09
tblVehicleEF	SBUS	10.76	1.18
tblVehicleEF	SBUS	2.1870e-003	2.0480e-003

tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	8.4940e-003	0.02
tblVehicleEF	SBUS	1.1020e-003	6.8000e-005
tblVehicleEF	SBUS	2.0920e-003	1.9600e-003
tblVehicleEF	SBUS	2.5880e-003	2.6690e-003
tblVehicleEF	SBUS	8.1060e-003	0.02
tblVehicleEF	SBUS	1.0130e-003	6.2000e-005
tblVehicleEF	SBUS	3.7080e-003	8.7000e-004
tblVehicleEF	SBUS	0.03	8.3040e-003
tblVehicleEF	SBUS	1.05	0.32
tblVehicleEF	SBUS	1.7580e-003	4.1400e-004
tblVehicleEF	SBUS	0.07	0.06
tblVehicleEF	SBUS	0.02	0.05
tblVehicleEF	SBUS	0.40	0.04
tblVehicleEF	SBUS	0.01	3.2190e-003
tblVehicleEF	SBUS	9.7440e-003	9.2900e-003
tblVehicleEF	SBUS	7.4900e-004	5.0000e-005
tblVehicleEF	SBUS	3.7080e-003	8.7000e-004
tblVehicleEF	SBUS	0.03	8.3040e-003
tblVehicleEF	SBUS	1.53	0.46
tblVehicleEF	SBUS	1.7580e-003	4.1400e-004
tblVehicleEF	SBUS	0.08	0.07
tblVehicleEF	SBUS	0.02	0.05
tblVehicleEF	SBUS	0.43	0.04
tblVehicleEF	UBUS	0.23	1.86
tblVehicleEF	UBUS	0.05	2.1860e-003
tblVehicleEF	UBUS	3.04	14.11
tblVehicleEF	UBUS	7.59	0.14
tblVehicleEF	UBUS	1,937.16	1,668.67
tblVehicleEF	UBUS	126.43	1.40

tblVehicleEF	UBUS	4.75	0.71
tblVehicleEF	UBUS	13.02	0.02
tblVehicleEF	UBUS	0.54	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.10	5.1200e-003
tblVehicleEF	UBUS	1.3960e-003	1.5000e-005
tblVehicleEF	UBUS	0.23	0.03
tblVehicleEF	UBUS	3.0000e-003	8.3320e-003
tblVehicleEF	UBUS	0.10	4.8900e-003
tblVehicleEF	UBUS	1.2840e-003	1.4000e-005
tblVehicleEF	UBUS	2.5990e-003	6.1000e-005
tblVehicleEF	UBUS	0.04	8.1400e-004
tblVehicleEF	UBUS	1.5170e-003	3.6000e-005
tblVehicleEF	UBUS	0.23	0.03
tblVehicleEF	UBUS	9.4350e-003	4.9280e-003
tblVehicleEF	UBUS	0.65	9.2610e-003
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	1.4020e-003	1.4000e-005
tblVehicleEF	UBUS	2.5990e-003	6.1000e-005
tblVehicleEF	UBUS	0.04	8.1400e-004
tblVehicleEF	UBUS	1.5170e-003	3.6000e-005
tblVehicleEF	UBUS	0.48	1.90
tblVehicleEF	UBUS	9.4350e-003	4.9280e-003
tblVehicleEF	UBUS	0.71	0.01
tblVehicleTrips	CC_TL	7.30	6.42
tblVehicleTrips	CNW_TL	7.30	6.42
tblVehicleTrips	CW_TL	9.50	8.35
tblVehicleTrips	HO_TL	5.70	5.01
tblVehicleTrips	HS_TL	4.80	4.22
tblVehicleTrips	HW_TL	10.80	9.49

tblVehicleTrips	ST_TR	6.39	0.84
tblVehicleTrips	ST_TR	42.04	5.51
tblVehicleTrips	SU_TR	5.86	0.77
tblVehicleTrips	SU_TR	20.43	2.68
tblVehicleTrips	WD_TR	6.65	0.87
tblVehicleTrips	WD_TR	44.32	5.81
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	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	50.3443	1.043	64.5726	5.33E-03		0.3826	0.3826		0.3826	0.3826	0	453.1065	453.1065	0.1073	6.37E-03	457.6874
Energy	0.4292	3.6807	1.6563	0.0234		0.2965	0.2965		0.2965	0.2965	0	11,094.42	11,094.42	0.8168	0.23	11,183.39
Mobile	4.2657	6.2486	31.3509	0.0889	10.5993	0.0667	10.666	2.8359	0.0624	2.8984	0	8,672.75	8,672.75	0.3836	0	8,682.34
Waste						0	0		0	0	1,210.94	0	1,210.94	71.5647	0	3,000.06
Water						0	0		0	0	249.5559	656.9977	906.5536	0.9295	0.5573	1,095.87

Total	**55.0392**	**10.9723**	**97.5798**	**0.1176**	**10.5993**	**0.7458**	**11.345**	**2.8359**	**0.7415**	**3.5774**	**1,460.50**	**20,877.27**	**22,337.77**	**73.8019**	**0.7937**	**24,419.34**

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	50.3443	1.0430	64.5726	5.3300e-003		0.3826	0.3826		0.3826	0.3826	0.0000	453.1065	453.1065	0.1073	6.3700e-003	457.6874
Energy	0.4292	3.6807	1.6563	0.0234		0.2965	0.2965		0.2965	0.2965	0.0000	11,094.4187	11,094.4187	0.8168	0.2300	11,183.3865
Mobile	4.2657	6.2486	31.3509	0.0889	10.5993	0.0667	10.6660	2.8359	0.0624	2.8984	0.0000	8,672.7499	8,672.7499	0.3836	0.0000	8,682.3401
Waste						0.0000	0.0000		0.0000	0.0000	1,210.9426	0.0000	1,210.9426	71.5647	0.0000	3,000.0590
Water						0.0000	0.0000		0.0000	0.0000	249.5559	656.9977	906.5536	0.9295	0.5573	1,095.8675
Total	**55.0392**	**10.9723**	**97.5798**	**0.1176**	**10.5993**	**0.7458**	**11.3450**	**2.8359**	**0.7415**	**3.5774**	**1,460.4985**	**20,877.2727**	**22,337.7712**	**73.8019**	**0.7937**	**24,419.3405**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.2657	6.2486	31.3509	0.0889	10.5993	0.0667	10.6660	2.8359	0.0624	2.8984	0.0000	8,672.7499	8,672.7499	0.3836	0.0000	8,682.3401
Unmitigated	4.2657	6.2486	31.3509	0.0889	10.5993	0.0667	10.6660	2.8359	0.0624	2.8984	0.0000	8,672.7499	8,672.7499	0.3836	0.0000	8,682.3401

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	7,569.00	7,308.00	6699.00	15,036,657	15,036,657
Strip Mall	10,864.70	10,303.70	5011.60	13,478,929	13,478,929
Total	18,433.70	17,611.70	11,710.60	28,515,586	28,515,586

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	9.49	4.22	5.01	31.00	15.00	54.00	86	11	3
Strip Mall	8.35	6.42	6.42	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	0.595423	0.053963	0.171400	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.004780	0.000900	0.000728
Strip Mall	0.595423	0.053963	0.171400	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.004780	0.000900	0.000728

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	6,846.9202	6,846.9202	0.7354	0.1522	6,910.6473
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	6,846.9202	6,846.9202	0.7354	0.1522	6,910.6473
NaturalGas Mitigated	0.4292	3.6807	1.6563	0.0234		0.2965	0.2965		0.2965	0.2965	0.0000	4,247.4985	4,247.4985	0.0814	0.0779	4,272.7392
NaturalGas Unmitigated	0.4292	3.6807	1.6563	0.0234		0.2965	0.2965		0.2965	0.2965	0.0000	4,247.4985	4,247.4985	0.0814	0.0779	4,272.7392

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	7.51632e+007	0.4053	3.4634	1.4738	0.0221		0.2800	0.2800		0.2800	0.2800	0.0000	4,010.9954	4,010.9954	0.0769	0.0735	4,034.8307
Strip Mall	4.4319e+006	0.0239	0.2173	0.1825	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	236.5031	236.5031	4.5300e-003	4.3400e-003	237.9085
Total		**0.4292**	**3.6807**	**1.6563**	**0.0234**		**0.2965**	**0.2965**		**0.2965**	**0.2965**	**0.0000**	**4,247.4985**	**4,247.4985**	**0.0814**	**0.0779**	**4,272.7392**

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	7.51632e+007	0.4053	3.4634	1.4738	0.0221		0.2800	0.2800		0.2800	0.2800	0.0000	4,010.9954	4,010.9954	0.0769	0.0735	4,034.8307
Strip Mall	4.4319e+006	0.0239	0.2173	0.1825	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	236.5031	236.5031	4.5300e-003	4.3400e-003	237.9085
Total		**0.4292**	**3.6807**	**1.6563**	**0.0234**		**0.2965**	**0.2965**		**0.2965**	**0.2965**	**0.0000**	**4,247.4985**	**4,247.4985**	**0.0814**	**0.0779**	**4,272.7392**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	3.59166e+007	4,398.7094	0.4725	0.0978	4,439.6499
Strip Mall	1.99903e+007	2,448.2108	0.2630	0.0544	2,470.9973
Total		**6,846.9202**	**0.7354**	**0.1522**	**6,910.6473**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	3.59166e+007	4,398.7094	0.4725	0.0978	4,439.6499
Strip Mall	1.99903e+007	2,448.2108	0.2630	0.0544	2,470.9973
Total		**6,846.9202**	**0.7354**	**0.1522**	**6,910.6473**

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	50.3443	1.0430	64.5726	5.3300e-003		0.3826	0.3826		0.3826	0.3826	0.0000	453.1065	453.1065	0.1073	6.3700e-003	457.6874
Unmitigated	50.3443	1.0430	64.5726	5.3300e-003		0.3826	0.3826		0.3826	0.3826	0.0000	453.1065	453.1065	0.1073	6.3700e-003	457.6874

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	7.0994					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	41.2811					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0351	0.3001	0.1277	1.9200e-003		0.0243	0.0243		0.0243	0.0243	0.0000	347.5526	347.5526	6.6600e-003	6.3700e-003	349.6179
Landscaping	1.9287	0.7429	64.4449	3.4100e-003		0.3583	0.3583		0.3583	0.3583	0.0000	105.5539	105.5539	0.1006	0.0000	108.0694
Total	**50.3443**	**1.0430**	**64.5726**	**5.3300e-003**		**0.3826**	**0.3826**		**0.3826**	**0.3826**	**0.0000**	**453.1065**	**453.1065**	**0.1073**	**6.3700e-003**	**457.6874**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	7.0994					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	41.2811					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0351	0.3001	0.1277	1.9200e-003		0.0243	0.0243		0.0243	0.0243	0.0000	347.5526	347.5526	6.6600e-003	6.3700e-003	349.6179
Landscaping	1.9287	0.7429	64.4449	3.4100e-003		0.3583	0.3583		0.3583	0.3583	0.0000	105.5539	105.5539	0.1006	0.0000	108.0694
Total	**50.3443**	**1.0430**	**64.5726**	**5.3300e-003**		**0.3826**	**0.3826**		**0.3826**	**0.3826**	**0.0000**	**453.1065**	**453.1065**	**0.1073**	**6.3700e-003**	**457.6874**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	906.5536	0.9295	0.5573	1,095.8675
Unmitigated	906.5536	0.9295	0.5573	1,095.8675

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	566.84 / 357.356	729.3638	0.7471	0.4479	881.5087
Strip Mall	138.516 / 84.8967	177.1898	0.1824	0.1094	214.3589
Total		**906.5536**	**0.9295**	**0.5573**	**1,095.8675**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	566.84 / 357.356	729.3638	0.7471	0.4479	881.5087
Strip Mall	138.516 / 84.8967	177.1898	0.1824	0.1094	214.3589
Total		**906.5536**	**0.9295**	**0.5573**	**1,095.8675**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1,210.9426	71.5647	0.0000	3,000.0590
Unmitigated	1,210.9426	71.5647	0.0000	3,000.0590

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	4002	812.3698	48.0097	0.0000	2,012.6119
Strip Mall	1963.5	398.5728	23.5550	0.0000	987.4471
Total		**1,210.9426**	**71.5647**	**0.0000**	**3,000.0590**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	4002	812.3698	48.0097	0.0000	2,012.6119
Strip Mall	1963.5	398.5728	23.5550	0.0000	987.4471

Total		1,210.9426	71.5647	0.0000	3,000.0590

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

2020 CalEEMod EMFAC2017 Emission Factors Input

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.005686	0.003544	0.003302	0.025130628	0.007601	0	0	0.044219	0
A	CH4_RUNEX	0.003061	0.006556	0.00449	0.006172	0.011225	0.008793	0.013196	0.056648183	0.009943	1.380213	0.333827	0.007125	0.016859
A	CH4_STREX	0.06158	0.084069	0.081711	0.101413	0.019191	0.01103	0.009803	4.87779E-07	0.018855	0.00258	0.259776	0.004209	0.026132
A	CO_IDLEX	0	0	0	0	0.19047	0.142792	0.364797	5.381310661	0.565144	0	0	1.894787	0
A	CO_RUNEX	0.736561	1.351241	1.003501	1.232214	1.023891	0.771004	0.928211	0.756605562	0.900725	10.36097	19.99611	0.582408	2.050114
A	CO_STREX	2.362649	2.614037	3.074408	3.678815	1.229225	0.750524	1.267857	0.006205206	2.017869	0.139137	8.946242	0.637133	2.498592
A	CO2_NBIO_IDLEX	0	0	0	0	9.126201	14.25716	78.16002	1078.526034	99.74072	0	0	347.2943	0
A	CO2_NBIO_RUNEX	264.6828	314.0482	346.9281	420.5959	837.4163	809.3153	1180.288	1581.525685	1402.55	1606.707	210.5269	1091.129	1611.867
A	CO2_NBIO_STREX	56.06856	67.50385	74.99767	90.34237	12.75434	8.627124	9.18131	0.061222853	15.97991	1.640734	62.14697	3.524483	20.50394
A	NOX_IDLEX	0	0	0	0	0.062989	0.110446	0.732466	6.026695246	0.693057	0	0	3.763152	0
A	NOX_RUNEX	0.051168	0.123207	0.099387	0.135628	1.045086	1.287405	3.388912	4.619755776	2.309783	0.732277	1.158904	5.497143	1.598227
A	NOX_STREX	0.218867	0.293938	0.352075	0.440057	0.373271	0.217312	1.058606	1.728993809	0.915821	0.01786	0.270251	0.6899	0.250367
A	PM10_IDLEX	0	0	0	0	0.00077	0.001378	0.002606	0.012264788	0.00297	0	0	0.004807	0
A	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034	0.060814617	0.13034	0.069383	0.01176	0.7448	0.13034
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009622	0.010676	0.012	0.035452864	0.012	0.033326	0.004	0.011007	0.013038
A	PM10_RUNEX	0.001566	0.002246	0.001551	0.001767	0.012284	0.017883	0.093391	0.072838445	0.04036	0.005278	0.001841	0.035337	0.028863
A	PM10_STREX	0.001981	0.002771	0.001931	0.002244	0.000305	0.000161	0.00013	1.28049E-06	0.000144	1.65E-06	0.003262	3.77E-05	0.000352
A	PM25_IDLEX	0	0	0	0	0.000737	0.001319	0.002493	0.011734219	0.002841	0	0	0.004599	0
A	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586	0.026063407	0.05586	0.029736	0.00504	0.3192	0.05586
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002406	0.002669	0.003	0.008863216	0.003	0.008332	0.001	0.002752	0.00326
A	PM25_RUNEX	0.001443	0.002068	0.001428	0.001631	0.011699	0.01708	0.089345	0.069687459	0.038603	0.005049	0.001725	0.033796	0.027559
A	PM25_STREX	0.001822	0.002548	0.001776	0.002065	0.000281	0.000148	0.000119	1.17737E-06	0.000133	1.51E-06	0.00308	3.46E-05	0.000325
A	ROG_DIURN	0.049788	0.109352	0.067169	0.078959	0.002403	0.001364	0.000548	5.09091E-06	0.001092	0.000154	1.82709	0.000441	0.958556
A	ROG_HTSK	0.113332	0.205466	0.136978	0.157961	0.08972	0.05265	0.023627	0.000224773	0.016019	0.002351	0.72916	0.004227	0.078921
A	ROG_IDLEX	0	0	0	0	0.023424	0.017391	0.021795	0.437617719	0.059533	0	0	0.21059	0
A	ROG_RESTL	0.042322	0.083358	0.061386	0.073262	0.001179	0.000655	0.000261	2.79696E-06	0.00047	9.66E-05	1.008845	0.00017	0.31908
A	ROG_RUNEX	0.012439	0.02921	0.018746	0.028566	0.108818	0.124819	0.239523	0.171746984	0.126474	0.020121	2.281256	0.095562	0.102406
A	ROG_RUNLS	0.23231	0.741356	0.453224	0.497231	0.61609	0.372566	0.139895	0.001407463	0.170318	0.016034	2.208467	0.031837	1.931362
A	ROG_STREX	0.287314	0.428129	0.391793	0.518852	0.098309	0.05613	0.055312	2.55603E-06	0.098741	0.011044	1.981452	0.024031	0.116998
A	SO2_IDLEX	0	0	0	0	8.87E-05	0.000136	0.000741	0.01004173	0.000947	0	0	0.003302	0
A	SO2_RUNEX	8.68E-05	0.002561	0.011242	0.004158	0.008186	0.007822	0.011242	0.014529534	0.013507	0.011284	0.002083	0.010406	0.015831
A	SO2_STREX	0	0	9.09E-05	0.000894	0.000126	8.54E-05	9.09E-05	6.0585E-07	0.000158	1.62E-05	0.000615	3.49E-05	0.000203
A	TOG_DIURN	0.049788	0.109352	0.067169	0.078959	0.002403	0.001364	0.000548	5.09091E-06	0.001092	0.000154	1.82709	0.000441	0.958556
A	TOG_HTSK	0.113332	0.205466	0.136978	0.157961	0.08972	0.05265	0.023627	0.000224773	0.016019	0.002351	0.72916	0.004227	0.078921
A	TOG_IDLEX	0	0	0	0	0.033219	0.02368	0.028395	0.503029188	0.074788	0	0	0.299749	0
A	TOG_RESTL	0.042322	0.083358	0.061386	0.073262	0.001179	0.000655	0.000261	2.79696E-06	0.00047	9.66E-05	1.008845	0.00017	0.31908
A	TOG_RUNEX	0.018091	0.042541	0.027303	0.040142	0.136216	0.14774	0.277027	0.244583604	0.151881	1.409072	2.798146	0.114307	0.138289
A	TOG_RUNLS	0.23231	0.741356	0.453224	0.497231	0.61609	0.372566	0.139895	0.001407463	0.170318	0.016034	2.208467	0.031837	1.931362
A	TOG_STREX	0.31457	0.468743	0.428962	0.568013	0.107621	0.061456	0.06056	2.79853E-06	0.108081	0.012092	2.155713	0.026311	0.128055

2020 CalEEMod EMFAC2017 Fleet Mix Input

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
	0.585494	0.052026	0.183432	0.108306	0.021147	0.005027	0.013218	0.021288	0.001747	0.001302	0.005307	0.000926	0.000779

Adjustment Factors for EMFAC2017 Gasoline Light Duty Vehicles						
Year	NOx Exhaust	TOG Evaporative	TOG Exhaust	PM Exhaust	CO Exhaust	CO2 Exhaust
NA	1	1	1	1	1	1
2021	1.0002	1.0001	1.0002	1.0009	1.0005	1.0023
2022	1.0004	1.0003	1.0004	1.0018	1.0014	1.0065
2023	1.0007	1.0006	1.0007	1.0032	1.0027	1.0126
2024	1.0012	1.0010	1.0011	1.0051	1.0044	1.0207
2025	1.0018	1.0016	1.0016	1.0074	1.0065	1.0309
2026	1.0023	1.0022	1.0020	1.0091	1.0083	1.0394
2027	1.0028	1.0028	1.0024	1.0105	1.0102	1.0475
2028	1.0034	1.0035	1.0028	1.0117	1.0120	1.0554
2029	1.0040	1.0042	1.0032	1.0129	1.0138	1.0629
2030	1.0047	1.0051	1.0037	1.0142	1.0156	1.0702
2031	1.0054	1.0061	1.0042	1.0155	1.0173	1.0770
2032	1.0061	1.0072	1.0047	1.0169	1.0189	1.0834
2033	1.0068	1.0083	1.0052	1.0182	1.0204	1.0893
2034	1.0075	1.0095	1.0058	1.0196	1.0218	1.0947
2035	1.0081	1.0108	1.0063	1.0210	1.0232	1.0997
2036	1.0088	1.0121	1.0069	1.0223	1.0244	1.1041
2037	1.0094	1.0134	1.0074	1.0236	1.0255	1.1080
2038	1.0099	1.0148	1.0079	1.0248	1.0265	1.1114
2039	1.0104	1.0161	1.0085	1.0259	1.0274	1.1143
2040	1.0109	1.0174	1.0090	1.0270	1.0281	1.1168
2041	1.0113	1.0186	1.0095	1.0279	1.0288	1.1189
2042	1.0116	1.0198	1.0099	1.0286	1.0294	1.1207
2043	1.0119	1.0207	1.0103	1.0293	1.0299	1.1221
2044	1.0122	1.0216	1.0106	1.0299	1.0303	1.1233
2045	1.0124	1.0225	1.0109	1.0303	1.0306	1.1243
2046	1.0125	1.0233	1.0111	1.0308	1.0309	1.1251
2047	1.0127	1.0240	1.0113	1.0311	1.0311	1.1258
2048	1.0128	1.0246	1.0115	1.0314	1.0313	1.1263
2049	1.0128	1.0252	1.0116	1.0316	1.0315	1.1268
2050	1.0129	1.0257	1.0117	1.0318	1.0316	1.1272
Enter Year: **NA**	**1**	**1**	**1**	**1**	**1**	**1**

*PM Exhaust off model factor is only applied to the PM Exhaust emissions not start/idle

The off-model adjustment factors need to be applied only to emissions from gasoline light duty vehicles (LDA, LDT1, LDT2 and MDV). Please note that the adjustment factors are by calendar year and includes all model years.

Enter NA in the date field if adjustments do not apply

Source: EMFAC2017 (v1.0.2) Emission Rates
Region Type: County
Region: Santa Clara
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, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX, RESTLOSS and DIURN

Region	Calendar Y	Vehicle Ca	Model Yea	Speed	Fuel	Population	VMT	Trips	NOx_RUNE	NOx_IDLE	NOx_STRE	PM2.5_RU	PM2.5_IDL	PM2.5_STF	PM2.5_PM	PM2.5_PM	PM10_RUN	PM10_IDLI	PM10_STR	PM10_PM	PM10_PMI	CO2_RUNE	CO2_IDLE	CO2_STRE	CH4_RUNE	CH4_IDLE	CH4_STRE	N2O_RUNI	N2O_IDLE	N2O_STRE	ROG_RUNI	ROG_IDLE	ROG_STRE	ROG_HOTS	ROG_RUNI	ROG_REST	ROG_DIUR	TOG_RUNI	TOG_IDLE	TOG_STRE	TOG_HOTS	TOG_RUNI	TOG_REST	TOG_DIUR	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
Santa Clara	2020	HHDT	Aggregate	Aggregate	Gasoline	5.454157	461.7244	109.1268	4.595106	0	0.461846	0.001415	0	0.000918	0.005	0.02646	0.001538	0	0.000998	0.02	0.06174	2099.2	0	47.72822	0.130924	0	0.00038	0.160224	0	0.014885	0.701269	0	0.001993	0.175229	1.097232	0.043627	0.079407	1.02329	0	0.002182	0.175229	1.097232	0.043627	0.079407	34.94003	0	4.837466	0.020773	0	0.000472
Santa Clara	2020	HHDT	Aggregate	Aggregate	Diesel	7877.582	964354.9	83712.03	4.653326	64.18689	1.756506	0.070592	0.125161	0	0.008863	0.026058	0.073784	0.13082	0	0.035453	0.060802	1558.482	11478.67	0	0.007952	0.219409	0	0.244972	1.804287	0	0.1712	4.723818	0	0	0	0	0.194899	5.377707	0	0	0	0	0	0	0.607093	57.23999	0	0.014724	0.108445	0
Santa Clara	2020	HHDT	Aggregate	Aggregate	Natural Ga	321.0495	13089.69	1252.093	2.147438	22.03115	0	0.00544	0.03832	0	0.009	0.02646	0.005686	0.040052	0	0.036	0.06174	3260.989	4141.271	0	3.641629	1.2756	0	0.664774	0.844225	0	0.193344	0.053875	0	0	0	0	3.877558	1.342462	0	0	0	0	0	0	10.5658	21.46988	0	0	0	0
Santa Clara	2020	LDA	Aggregate	Aggregate	Gasoline	698042.7	25845511	3282091	0.052251	0	0.228221	0.001418	0	0.0019	0.002	0.01575	0.001542	0	0.002066	0.008	0.03675	273.4802	0	58.46482	0.003178	0	0.064212	0.005385	0	0.028913	0.012784	0	0.299593	0.11801	0.242238	0.207351	0.243537	0.018643	0	0.328014	0.11801	0.242238	0.207351	0.243537	0.764393	0	2.463624	0.002706	0	0.000579
Santa Clara	2020	LDA	Aggregate	Aggregate	Diesel	6184.557	240044.1	29354.99	0.107242	0	0	0.008955	0	0	0.002	0.01575	0.00936	0	0	0.008	0.03675	210.6156	0	0	0.000806	0	0	0.033106	0	0	0.017356	0	0	0	0	0	0.019759	0	0	0	0	0	0	0.225399	0	0	0.001991	0	0
Santa Clara	2020	LDA	Aggregate	Aggregate	Electricity	22473.42	810004.1	110915.4	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2020	LDT1	Aggregate	Aggregate	Gasoline	69721.49	2375892	321741.7	0.123478	0	0.295728	0.002019	0	0.002564	0.002	0.01575	0.002196	0	0.002788	0.008	0.03675	315.7555	0	67.91493	0.006591	0	0.084581	0.009083	0	0.031348	0.029304	0	0.430736	0.20669	0.74587	0.386988	0.507605	0.042703	0	0.471597	0.20669	0.74587	0.386988	0.507605	1.358752	0	2.629956	0.003125	0	0.000672
Santa Clara	2020	LDT1	Aggregate	Aggregate	Diesel	43.66329	798.9465	144.0473	1.349075	0	0	0.17911	0	0	0.002	0.01575	0.187208	0	0	0.008	0.03675	418.8885	0	0	0.010742	0	0	0.065843	0	0	0.231262	0	0	0	0	0	0.263276	0	0	0	0	0	0	1.310548	0	0	0.00396	0	0
Santa Clara	2020	LDT1	Aggregate	Aggregate	Electricity	369.4975	13183.41	1815.271	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2020	LDT2	Aggregate	Aggregate	Gasoline	243220.6	8316073	1134014	0.100404	0	0.356877	0.001412	0	0.0018	0.002	0.01575	0.001536	0	0.001957	0.008	0.03675	349.609	0	76.02052	0.004545	0	0.082826	0.007876	0	0.037051	0.018898	0	0.397136	0.138809	0.459405	0.290082	0.317324	0.027555	0	0.434812	0.138809	0.459405	0.290082	0.317324	1.01599	0	3.116338	0.00346	0	0.000752
Santa Clara	2020	LDT2	Aggregate	Aggregate	Diesel	1369.793	54854.29	6755.454	0.045407	0	0	0.005269	0	0	0.002	0.01575	0.005508	0	0	0.008	0.03675	290.3292	0	0	0.000681	0	0	0.045636	0	0	0.014666	0	0	0	0	0	0.016696	0	0	0	0	0	0	0.121994	0	0	0.002745	0	0
Santa Clara	2020	LDT2	Aggregate	Aggregate	Electricity	1730.361	55312.35	8710.739	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2020	LHDT1	Aggregate	Aggregate	Gasoline	16555.41	577439.5	246650.9	0.290892	0.040327	0.565743	0.002241	0	0.000426	0.002	0.03276	0.002437	0	0.000462	0.008	0.07644	1026.458	122.8059	19.33092	0.013497	0.125286	0.029087	0.01735	0.003165	0.04316	0.067069	0.461894	0.149	0.135983	0.933768	0.026613	0.054263	0.097103	0.673796	0.163115	0.135983	0.933768	0.026613	0.054263	1.233256	3.745335	1.863056	0.010158	0.001215	0.000191
Santa Clara	2020	LHDT1	Aggregate	Aggregate	Diesel	10110.85	393973.1	127181.7	2.150496	2.262878	0	0.02556	0.027243	0	0.003	0.03276	0.026716	0.028474	0	0.012	0.07644	560.3418	136.3456	0	0.007897	0.005098	0	0.088078	0.021432	0	0.170009	0.10976	0	0	0	0	0.193544	0.124954	0	0	0	0	0	0	0.717028	0.909745	0	0.005297	0.001289	0
Santa Clara	2020	LHDT2	Aggregate	Aggregate	Gasoline	2187.183	76423.21	32585.77	0.307728	0.040005	0.552323	0.002171	0	0.000376	0.002	0.03822	0.002362	0	0.000408	0.008	0.08918	1171.483	141.2238	21.9268	0.01152	0.124887	0.028035	0.018823	0.003093	0.04168	0.053155	0.458136	0.142662	0.133816	0.946919	0.024806	0.051632	0.077563	0.66851	0.156197	0.133816	0.946919	0.024806	0.051632	0.970066	3.74589	1.907541	0.011593	0.001398	0.000217
Santa Clara	2020	LHDT2	Aggregate	Aggregate	Diesel	3993.611	154520.5	50234.6	1.771936	2.268541	0	0.024454	0.02735	0	0.003	0.03822	0.02556	0.028587	0	0.012	0.08918	630.1933	218.324	0	0.007444	0.005098	0	0.099058	0.034317	0	0.160263	0.10976	0	0	0	0	0.182448	0.124954	0	0	0	0	0	0	0.672552	0.909745	0	0.005958	0.002064	0
Santa Clara	2020	MCY	Aggregate	Aggregate	Gasoline	31290.02	237504.4	62580.05	1.158904	0	0.270251	0.001725	0	0.00308	0.001	0.00504	0.001841	0	0.003262	0.004	0.01176	210.5269	0	62.14697	0.333827	0	0.259776	0.066618	0	0.015324	2.281256	0	1.981452	0.72916	2.208467	1.008845	1.82709	2.798146	0	2.155713	0.72916	2.208467	1.008845	1.82709	19.99611	0	8.946242	0.002083	0	0.000615
Santa Clara	2020	MDV	Aggregate	Aggregate	Gasoline	147007.3	4842885	678227.2	0.138086	0	0.451213	0.001551	0	0.002118	0.002	0.01575	0.001686	0	0.002301	0.008	0.03675	422.6557	0	92.63264	0.006327	0	0.103984	0.010054	0	0.041175	0.029052	0	0.532005	0.161952	0.509836	0.346558	0.373474	0.040904	0	0.582412	0.161952	0.509836	0.346558	0.373474	1.261079	0	3.772077	0.004183	0	0.000917
Santa Clara	2020	MDV	Aggregate	Aggregate	Diesel	3125.67	120041.7	15311.38	0.050338	0	0	0.00501	0	0	0.002	0.01575	0.005237	0	0	0.008	0.03675	380.532	0	0	0.000552	0	0	0.059814	0	0	0.011886	0	0	0	0	0	0.013531	0	0	0	0	0	0	0.19376	0	0	0.003597	0	0
Santa Clara	2020	MDV	Aggregate	Aggregate	Electricity	370.1586	12282.83	1882.383	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2020	MH	Aggregate	Aggregate	Gasoline	2976.086	26488.39	297.7276	0.544993	0	0.330219	0.001864	0	0.000428	0.003	0.05586	0.002026	0	0.000465	0.012	0.13034	1811.031	0	27.04347	0.02088	0	0.034467	0.030991	0	0.032948	0.097652	0	0.154313	0.104092	2.547352	0.042102	0.126478	0.140485	0	0.168896	0.104092	2.547352	0.042102	0.126478	2.621629	0	3.295495	0.017922	0	0.000268
Santa Clara	2020	MH	Aggregate	Aggregate	Diesel	949.5743	9283.956	94.95743	4.603246	0	0	0.100871	0	0	0.004	0.05586	0.105432	0	0	0.016	0.13034	1043.624	0	0	0.005387	0	0	0.164043	0	0	0.11597	0	0	0	0	0	0.132024	0	0	0	0	0	0	0.419503	0	0	0.009866	0	0
Santa Clara	2020	MHDT	Aggregate	Aggregate	Gasoline	1370.703	69099.33	27425.03	0.740158	0.087871	0.401862	0.001419	0	0.000535	0.003	0.05586	0.001543	0	0.000582	0.012	0.13034	1784.26	546.1591	41.21744	0.023732	0.252237	0.044009	0.033549	0.006868	0.028526	0.119137	1.003541	0.248311	0.10607	0.628029	0.023455	0.049258	0.173844	1.464365	0.27187	0.10607	0.628029	0.023455	0.049258	2.780775	15.01001	5.691764	0.017657	0.005405	0.000408
Santa Clara	2020	MHDT	Aggregate	Aggregate	Diesel	9404.156	538077.2	95693.52	3.729062	9.576591	1.246823	0.100636	0.032642	0	0.003	0.05586	0.105186	0.034118	0	0.012	0.13034	1102.727	943.66	0	0.011843	0.006459	0	0.173333	0.14833	0	0.254982	0.139062	0	0	0	0	0.290278	0.158311	0	0	0	0	0	0	0.690307	2.588109	0	0.010418	0.008915	0
Santa Clara	2020	OBUS	Aggregate	Aggregate	Gasoline	501.5159	25277.35	10034.33	0.560046	0.065077	0.335277	0.000884	0	0.000227	0.003	0.05586	0.000961	0	0.000246	0.012	0.13034	1816.323	384.4828	27.22532	0.016639	0.199522	0.032123	0.027436	0.00552	0.026549	0.08007	0.746829	0.168227	0.027292	0.290175	0.016007	0.037216	0.116238	1.089302	0.18414	0.027292	0.290175	0.016007	0.037216	1.820912	5.776085	3.437889	0.017974	0.003805	0.000269
Santa Clara	2020	OBUS	Aggregate	Aggregate	Diesel	769.5105	54989.62	7061.383	3.114093	15.35477	1.740784	0.055941	0.063126	0	0.003	0.05586	0.05847	0.065981	0	0.012	0.13034	1212.348	1965.294	0	0.006865	0.038824	0	0.190564	0.308917	0	0.147805	0.835877	0	0	0	0	0.168265	0.951582	0	0	0	0	0	0	0.477737	8.79096	0	0.011454	0.018567	0
Santa Clara	2020	SBUS	Aggregate	Aggregate	Gasoline	221.419	10559.16	885.676	0.478212	0.923504	0.556173	0.001216	0	0.00049	0.002	0.3192	0.001322	0	0.000533	0.008	0.7448	880.8126	2623.742	49.91302	0.014043	2.443005	0.059604	0.026286	0.087927	0.052384	0.069301	10.59704	0.340318	0.059859	0.450864	0.009627	0.024964	0.101124	15.46317	0.372605	0.059859	0.450864	0.009627	0.024964	1.495719	81.97134	9.022951	0.008716	0.025964	0.000494
Santa Clara	2020	SBUS	Aggregate	Aggregate	Diesel	1010.158	31993.5	11657.09	7.153595	46.52324	0.700061	0.044549	0.057105	0	0.003	0.3192	0.046563	0.059687	0	0.012	0.7448	1160.542	3737.121	0	0.004841	0.013564	0	0.182421	0.587423	0	0.10423	0.292035	0	0	0	0	0.118658	0.332459	0	0	0	0	0	0	0.280978	5.559383	0	0.010964	0.035306	0
Santa Clara	2020	UBUS	Aggregate	Aggregate	Gasoline	8.411742	1058.886	33.64697	0.434773	0	1.136366	0.000326	0	9.63E-05	0.003	0.05586	0.000354	0	0.000105	0.012	0.13034	2352.115	0	104.3917	0.006825	0	0.164166	0.033346	0	0.087368	0.022728	0	0.702663	0.149587	1.020187	0.024585	0.039313	0.033164	0	0.769327	0.149587	1.020187	0.024585	0.039313	0.482676	0	8.852622	0.023276	0	0.001033
Santa Clara	2020	UBUS	Aggregate	Aggregate	Diesel	422.8944	46444.08	1691.578	0.803452	0	0	0.005651	0	0	0.008415	0.029326	0.005907	0	0	0.03366	0.068427	1481.144	0	0	0.077358	0	0	0.232815	0	0	0.001105	0	0	0	0	0	0.078949	0	0	0	0	0	0	0.131304	0	0	0.014002	0	0
Santa Clara	2020	UBUS	Aggregate	Aggregate	Natural Ga	103.8909	12310.53	415.5637	0.489342	0	0	0.003183	0	0	0.008475	0.029034	0.003327	0	0	0.033899	0.067745	2016.307	0	0	6.413641	0	0	0.411037	0	0	0.091638	0	0	0	0	0	6.545591	0	0	0	0	0	0	49.80427	0	0	0	0	0

2030 CalEEMod EMFAC2017 Emission Factors Input

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.004148	0.002505	0.003832	0.024231453	0.007098	0	0	0.070082	0
A	CH4_RUNEX	0.000959	0.001671	0.001726	0.001772	0.005195	0.005339	0.001034	0.04518098	0.002197	1.859484	0.319087	0.004404	0.005027
A	CH4_STREX	0.028931	0.035248	0.041821	0.043924	0.009023	0.004811	0.008383	4.34672E-07	0.015222	0.002186	0.24786	0.006338	0.019545
A	CO_IDLEX	0	0	0	0	0.17731	0.131894	0.405402	6.28489984	0.644155	0	0	2.927328	0
A	CO_RUNEX	0.411156	0.540474	0.559142	0.551517	0.468742	0.489111	0.152189	0.405949458	0.262856	14.11073	17.60732	0.374881	0.311691
A	CO_STREX	1.716961	1.849789	2.287973	2.324828	0.890393	0.484256	0.872515	0.006685308	1.577018	0.139137	9.199577	0.858725	1.635194
A	CO2_NBIO_IDLEX	0	0	0	0	8.251826	13.00041	65.09769	930.0496847	97.36242	0	0	337.4754	0
A	CO2_NBIO_RUNEX	213.8884	258.4057	267.3331	322.2663	698.5465	679.813	993.4479	1226.348086	1210.85	1668.671	209.7572	970.5049	1350.267
A	CO2_NBIO_STREX	45.12682	55.17203	57.56738	67.91602	10.09364	6.438033	8.550649	0.051649278	13.46187	1.401901	59.22586	5.059627	15.54123
A	NOX_IDLEX	0	0	0	0	0.045908	0.074209	0.341766	5.199426871	0.431935	0	0	2.710433	0
A	NOX_RUNEX	0.019319	0.033468	0.034489	0.035665	0.299902	0.384329	1.428316	2.517362076	1.448391	0.706433	1.137409	3.086533	1.063099
A	NOX_STREX	0.125333	0.151052	0.168209	0.179169	0.225227	0.124883	1.689216	2.314548745	1.129093	0.015157	0.270173	1.184451	0.23668
A	PM10_IDLEX	0	0	0	0	0.000915	0.001502	0.000162	0.002145897	0.000142	0	0	0.002048	0
A	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034	0.061109857	0.13034	0.069383	0.01176	0.7448	0.13034
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009901	0.010844	0.012	0.035621239	0.012	0.033326	0.004	0.010676	0.013189
A	PM10_RUNEX	0.000929	0.00107	0.001025	0.001034	0.007019	0.013839	0.007006	0.023790073	0.007882	0.005116	0.002138	0.021245	0.016043
A	PM10_STREX	0.001275	0.001461	0.00134	0.001344	0.00021	0.000106	0.000112	5.80093E-07	0.000156	1.52E-05	0.002862	6.76E-05	0.000212
A	PM25_IDLEX	0	0	0	0	0.000875	0.001437	0.000155	0.002053066	0.000136	0	0	0.00196	0
A	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586	0.026189939	0.05586	0.029736	0.00504	0.3192	0.05586
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002475	0.002711	0.003	0.00890531	0.003	0.008332	0.001	0.002669	0.003297
A	PM25_RUNEX	0.000855	0.000984	0.000944	0.000954	0.006671	0.013218	0.006696	0.022760894	0.007526	0.004893	0.001994	0.02031	0.015312
A	PM25_STREX	0.001172	0.001344	0.001232	0.001236	0.000193	9.76E-05	0.000103	5.33374E-07	0.000144	1.4E-05	0.002676	6.22E-05	0.000195
A	ROG_DIURN	0.024903	0.046388	0.048996	0.057349	0.001403	0.000642	0.000289	1.32994E-06	0.001062	6.14E-05	1.786807	0.00087	0.347564
A	ROG_HTSK	0.061657	0.093564	0.089096	0.0981	0.054855	0.024352	0.013852	5.78076E-05	0.015622	0.000814	0.631299	0.008304	0.028392
A	ROG_IDLEX	0	0	0	0	0.01734	0.013466	0.01847	0.422100311	0.050126	0	0	0.322319	0
A	ROG_RESTL	0.022934	0.041206	0.048532	0.056738	0.000772	0.000374	0.000168	7.97633E-07	0.000487	3.58E-05	0.946881	0.000414	0.1401
A	ROG_RUNEX	0.003247	0.0065	0.006553	0.006887	0.072661	0.0982	0.011844	0.024014489	0.016744	0.026969	2.128511	0.060159	0.038911
A	ROG_RUNLS	0.170512	0.364405	0.336782	0.340289	0.429696	0.143744	0.071507	0.000284481	0.181965	0.004928	1.487321	0.053902	0.535482
A	ROG_STREX	0.118715	0.154126	0.182707	0.199251	0.043726	0.022756	0.041407	2.2699E-06	0.076636	0.009261	1.877593	0.036024	0.074231
A	SO2_IDLEX	0	0	0	0	7.99E-05	0.000124	0.000618	0.00865265	0.000924	0	0	0.003219	0
A	SO2_RUNEX	9E-05	0.002567	0.00948	0.002976	0.006812	0.006557	0.00948	0.011212041	0.011649	0.010417	0.002076	0.009288	0.013242
A	SO2_STREX	0	0	8.46E-05	0.000628	9.99E-05	6.37E-05	8.46E-05	5.11111E-07	0.000133	1.39E-05	0.000586	5.01E-05	0.000154
A	TOG_DIURN	0.024903	0.046388	0.048996	0.057349	0.001403	0.000642	0.000289	1.32994E-06	0.001062	6.14E-05	1.786807	0.00087	0.347564
A	TOG_HTSK	0.061657	0.093564	0.089096	0.0981	0.054855	0.024352	0.013852	5.78076E-05	0.015622	0.000814	0.631299	0.008304	0.028392
A	TOG_IDLEX	0	0	0	0	0.02413	0.017772	0.025282	0.485180108	0.063906	0	0	0.463821	0
A	TOG_RESTL	0.022934	0.041206	0.048532	0.056738	0.000772	0.000374	0.000168	7.97633E-07	0.000487	3.58E-05	0.946881	0.000414	0.1401
A	TOG_RUNEX	0.004716	0.009483	0.009524	0.009983	0.08579	0.112949	0.014288	0.071682245	0.021563	1.898202	2.666273	0.071678	0.048331
A	TOG_RUNLS	0.170512	0.364405	0.336782	0.340289	0.429696	0.143744	0.071507	0.000284481	0.181965	0.004928	1.487321	0.053902	0.535482
A	TOG_STREX	0.129977	0.168749	0.200041	0.218155	0.047875	0.024915	0.045336	2.48526E-06	0.083906	0.01014	2.04481	0.039442	0.081274

2030 CalEEMod EMFAC2017 Fleet Mix Input

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
	0.595423	0.053963	0.1714	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.00478	0.0009	0.000728

Adjustment Factors for EMFAC2017 Gasoline Light Duty Vehicles						
Year	NOx Exhaust	TOG Evaporative	TOG Exhaust	PM Exhaust	CO Exhaust	CO2 Exhaust
NA	1	1	1	1	1	1
2021	1.0002	1.0001	1.0002	1.0009	1.0005	1.0023
2022	1.0004	1.0003	1.0004	1.0018	1.0014	1.0065
2023	1.0007	1.0006	1.0007	1.0032	1.0027	1.0126
2024	1.0012	1.0010	1.0011	1.0051	1.0044	1.0207
2025	1.0018	1.0016	1.0016	1.0074	1.0065	1.0309
2026	1.0023	1.0022	1.0020	1.0091	1.0083	1.0394
2027	1.0028	1.0028	1.0024	1.0105	1.0102	1.0475
2028	1.0034	1.0035	1.0028	1.0117	1.0120	1.0554
2029	1.0040	1.0042	1.0032	1.0129	1.0138	1.0629
2030	1.0047	1.0051	1.0037	1.0142	1.0156	1.0702
2031	1.0054	1.0061	1.0042	1.0155	1.0173	1.0770
2032	1.0061	1.0072	1.0047	1.0169	1.0189	1.0834
2033	1.0068	1.0083	1.0052	1.0182	1.0204	1.0893
2034	1.0075	1.0095	1.0058	1.0196	1.0218	1.0947
2035	1.0081	1.0108	1.0063	1.0210	1.0232	1.0997
2036	1.0088	1.0121	1.0069	1.0223	1.0244	1.1041
2037	1.0094	1.0134	1.0074	1.0236	1.0255	1.1080
2038	1.0099	1.0148	1.0079	1.0248	1.0265	1.1114
2039	1.0104	1.0161	1.0085	1.0259	1.0274	1.1143
2040	1.0109	1.0174	1.0090	1.0270	1.0281	1.1168
2041	1.0113	1.0186	1.0095	1.0279	1.0288	1.1189
2042	1.0116	1.0198	1.0099	1.0286	1.0294	1.1207
2043	1.0119	1.0207	1.0103	1.0293	1.0299	1.1221
2044	1.0122	1.0216	1.0106	1.0299	1.0303	1.1233
2045	1.0124	1.0225	1.0109	1.0303	1.0306	1.1243
2046	1.0125	1.0233	1.0111	1.0308	1.0309	1.1251
2047	1.0127	1.0240	1.0113	1.0311	1.0311	1.1258
2048	1.0128	1.0246	1.0115	1.0314	1.0313	1.1263
2049	1.0128	1.0252	1.0116	1.0316	1.0315	1.1268
2050	1.0129	1.0257	1.0117	1.0318	1.0316	1.1272
Enter Year: **2030**	**1.0047**	**1.0051**	**1.0037**	**1.0142**	**1.0156**	**1.0702**

*PM Exhaust off model factor is only applied to the PM Exhaust emissions not start/idle

The off-model adjustment factors need to be applied only to emissions from gasoline light duty vehicles (LDA, LDT1, LDT2 and MDV). Please note that the adjustment factors are by calendar year and includes all model years.

Enter NA in the date field if adjustments do not apply

Source: EMFAC2017 (v1.0.2) Emission Rates
Region Type: County
Region: Santa Clara
Calendar Year: 2030
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, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX, RESTLOSS and DIURN

Region	Calendar Y	Vehicle Ca	Model Yea	Speed	Fuel	Population	VMT	Trips	NOx_RUNE	NOx_IDLE	NOx_STRE	PM2.5_RU	PM2.5_IDL	PM2.5_STF	PM2.5_PM	PM2.5_PM	PM10_RUI	PM10_IDLI	PM10_STR	PM10_PM	PM10_PMI	CO2_RUNE	CO2_IDLE	CO2_STRE	CH4_RUNE	CH4_IDLE	CH4_STRE	N2O_RUNI	N2O_IDLE	N2O_STRE	ROG_RUNI	ROG_IDLE	ROG_STRE	ROG_HOTS	ROG_RUNI	ROG_REST	ROG_DIUR	TOG_RUNI	TOG_IDLE	TOG_STRE	TOG_HOTS	TOG_RUNI	TOG_REST	TOG_DIUR	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
Santa Clara	2030	HHDT	Aggregate	Aggregate	Gasoline	6.644908	846.0095	132.9513	2.895279	0	0.044486	0.001084	0	0.000414	0.005	0.02646	0.001179	0	0.00045	0.02	0.06174	1677.599	0	40.07141	0.06849	0	0.000337	0.127319	0	0.001575	0.302922	0	0.001761	0.044849	0.220711	0.012382	0.020645	0.442024	0	0.001928	0.044849	0.220711	0.012382	0.020645	28.21474	0	5.186707	0.016601	0	0.000397
Santa Clara	2030	HHDT	Aggregate	Aggregate	Diesel	9431.66	1177485	1014553.9	2.539781	56.05241	2.353151	0.023044	0.021785	0	0.008907	0.026186	0.024086	0.02277	0	0.035627	0.061101	1202.821	10016.29	0	0.001063	0.214358	0	0.189067	1.574421	0	0.022896	4.615071	0	0	0	0	0	0.026066	5.253907	0	0	0	0	0	0	0.238872	67.80499	0	0.011364	0.094629	0
Santa Clara	2030	HHDT	Aggregate	Aggregate	Natural Ga	400.4237	16329.01	1561.653	0.881174	19.09434	0	0.003462	0.015749	0	0.009	0.02646	0.003619	0.016461	0	0.036	0.06174	2899.524	3653.632	0	3.225286	1.19295	0	0.591087	0.744817	0	0.090199	0.028054	0	0	0	0	0	3.341906	1.230036	0	0	0	0	0	0	11.01311	21.88788	0	0	0	0
Santa Clara	2030	LDA	Aggregate	Aggregate	Gasoline	869969.1	28403709	4092414	0.020358	0	0.132956	0.000879	0	0.001249	0.002	0.01575	0.000956	0	0.001359	0.008	0.03675	211.6944	0	44.94162	0.001023	0	0.030835	0.003085	0	0.020493	0.003388	0	0.12606	0.065117	0.180811	0.11416	0.123291	0.004944	0	0.13802	0.065117	0.180811	0.11416	0.123291	0.43107	0	1.801842	0.002095	0	0.000445
Santa Clara	2030	LDA	Aggregate	Aggregate	Diesel	10023.63	337674.2	47693.27	0.01676	0	0	0.001829	0	0	0.002	0.01575	0.001912	0	0	0.008	0.03675	166.1368	0	0	0.000273	0	0	0.026114	0	0	0.005885	0	0	0	0	0	0	0.006699	0	0	0	0	0	0	0.146966	0	0	0.001571	0	0
Santa Clara	2030	LDA	Aggregate	Aggregate	Electricity	46172.96	1625146	221619.4	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2030	LDT1	Aggregate	Aggregate	Gasoline	88972.38	2670256	412660.2	0.034308	0	0.154254	0.000998	0	0.001379	0.002	0.01575	0.001085	0	0.001499	0.008	0.03675	248.8135	0	52.89319	0.001722	0	0.036164	0.003879	0	0.021779	0.00667	0	0.15755	0.095382	0.371981	0.194977	0.219194	0.009733	0	0.172497	0.095382	0.371981	0.194977	0.219194	0.548445	0	1.868724	0.002462	0	0.000523
Santa Clara	2030	LDT1	Aggregate	Aggregate	Diesel	12.41764	352.1646	54.72798	0.189506	0	0	0.017188	0	0	0.002	0.01575	0.017965	0	0	0.008	0.03675	322.0531	0	0	0.001569	0	0	0.050622	0	0	0.033785	0	0	0	0	0	0	0.038462	0	0	0	0	0	0	0.286183	0	0	0.003045	0	0
Santa Clara	2030	LDT1	Aggregate	Aggregate	Electricity	2180.044	81488.93	10672.84	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2030	LDT2	Aggregate	Aggregate	Gasoline	281546.9	8446247	1307139	0.035247	0	0.174198	0.000925	0	0.001282	0.002	0.01575	0.001006	0	0.001394	0.008	0.03675	226.344	0	55.96845	0.00178	0	0.043514	0.003847	0	0.023481	0.006634	0	0.189401	0.09208	0.348635	0.233116	0.234964	0.00968	0	0.20737	0.09208	0.348635	0.233116	0.234964	0.568541	0	2.344012	0.002537	0	0.000554
Santa Clara	2030	LDT2	Aggregate	Aggregate	Diesel	2576.298	81354.46	12261.45	0.02908	0	0	0.003937	0	0	0.002	0.01575	0.004115	0	0	0.008	0.03675	226.4921	0	0	0.000595	0	0	0.035601	0	0	0.01282	0	0	0	0	0	0	0.014595	0	0	0	0	0	0	0.129762	0	0	0.002141	0	0
Santa Clara	2030	LDT2	Aggregate	Aggregate	Electricity	8320.478	213767.2	40645.17	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2030	LHDT1	Aggregate	Aggregate	Gasoline	17444.25	563109.1	259893.3	0.098098	0.030587	0.387515	0.002081	0	0.000333	0.002	0.03276	0.002264	0	0.000362	0.008	0.07644	897.5407	110.5325	17.36665	0.004317	0.101968	0.015524	0.006844	0.002802	0.033538	0.018245	0.350811	0.075233	0.094381	0.739315	0.019801	0.035959	0.026623	0.511903	0.082371	0.094381	0.739315	0.019801	0.035959	0.368714	3.768698	1.531971	0.008882	0.001094	0.000172
Santa Clara	2030	LHDT1	Aggregate	Aggregate	Diesel	14887.61	510107.2	187267.4	0.522674	1.343027	0	0.011738	0.026289	0	0.003	0.03276	0.012269	0.027477	0	0.012	0.07644	478.8761	118.3357	0	0.006165	0.005098	0	0.075273	0.018601	0	0.13273	0.10976	0	0	0	0	0	0.151104	0.124954	0	0	0	0	0	0	0.579164	0.909745	0	0.004527	0.001119	0
Santa Clara	2030	LHDT2	Aggregate	Aggregate	Gasoline	2535.293	81915.35	37772.09	0.091162	0.030032	0.379653	0.001975	0	0.000297	0.002	0.03822	0.002148	0	0.000323	0.008	0.08918	1021.816	126.3902	19.57212	0.00327	0.10112	0.014626	0.00699	0.00275	0.032936	0.012455	0.344716	0.06918	0.074032	0.436992	0.016932	0.02908	0.018175	0.503009	0.075743	0.074032	0.436992	0.016932	0.02908	0.249204	3.775612	1.472175	0.010112	0.001251	0.000194
Santa Clara	2030	LHDT2	Aggregate	Aggregate	Diesel	6126.051	201454.9	77058.01	0.503536	1.378592	0	0.017789	0.026933	0	0.003	0.03822	0.018593	0.028151	0	0.012	0.08918	540.7481	191.3797	0	0.006181	0.005098	0	0.084998	0.030082	0	0.133066	0.10976	0	0	0	0	0	0.151486	0.124954	0	0	0	0	0	0	0.586662	0.909745	0	0.005112	0.001809	0
Santa Clara	2030	MCY	Aggregate	Aggregate	Gasoline	38839.87	253703.2	77679.74	1.137409	0	0.270173	0.001994	0	0.002676	0.001	0.00504	0.002138	0	0.002862	0.004	0.01176	209.7572	0	59.22586	0.319087	0	0.24786	0.065566	0	0.015364	2.128511	0	1.877593	0.631299	1.487321	0.946881	1.786807	2.666273	0	2.04481	0.631299	1.487321	0.946881	1.786807	17.60732	0	9.199577	0.002076	0	0.000586
Santa Clara	2030	MDV	Aggregate	Aggregate	Gasoline	173606	5113918	803848	0.03715	0	0.190209	0.00093	0	0.001318	0.002	0.01575	0.001012	0	0.001433	0.008	0.03675	309.7804	0	67.68816	0.001872	0	0.04685	0.004005	0	0.024192	0.007071	0	0.21174	0.103941	0.361114	0.278651	0.281249	0.010317	0	0.231829	0.103941	0.361114	0.278651	0.281249	0.571385	0	2.441594	0.003066	0	0.00067
Santa Clara	2030	MDV	Aggregate	Aggregate	Diesel	5652.323	175214.3	26820.46	0.016338	0	0	0.001999	0	0	0.002	0.01575	0.00209	0	0	0.008	0.03675	295.1303	0	0	0.000296	0	0	0.04639	0	0	0.006382	0	0	0	0	0	0	0.007265	0	0	0	0	0	0	0.160558	0	0	0.00279	0	0
Santa Clara	2030	MDV	Aggregate	Aggregate	Electricity	5412.776	143464.5	26723.4	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2030	MH	Aggregate	Aggregate	Gasoline	2781.183	26082.35	278.2296	0.161957	0	0.344848	0.001294	0	0.000284	0.003	0.05586	0.001408	0	0.000309	0.012	0.13034	1534.746	0	22.64387	0.005412	0	0.028477	0.014768	0	0.039513	0.01789	0	0.108156	0.041368	0.780207	0.020421	0.050661	0.026105	0	0.118417	0.041368	0.780207	0.020421	0.050661	0.321425	0	2.382509	0.015188	0	0.000224
Santa Clara	2030	MH	Aggregate	Aggregate	Diesel	1271.562	11026.54	127.1562	3.194675	0	0	0.048471	0	0	0.004	0.05586	0.050662	0	0	0.016	0.13034	913.8987	0	0	0.004117	0	0	0.143652	0	0	0.088635	0	0	0	0	0	0	0.100905	0	0	0	0	0	0	0.288665	0	0	0.00864	0	0
Santa Clara	2030	MHDT	Aggregate	Aggregate	Gasoline	1942.274	96462.8	38861.02	0.137179	0.089333	0.328382	0.001276	0	0.000397	0.003	0.05586	0.001388	0	0.000432	0.012	0.13034	1512.526	477.0555	33.02741	0.004329	0.277482	0.032379	0.010371	0.008413	0.029895	0.018098	1.025296	0.159937	0.053505	0.276198	0.013009	0.02236	0.026409	1.49611	0.175111	0.053505	0.276198	0.013009	0.02236	0.365535	15.26266	3.370143	0.014968	0.004721	0.000327
Santa Clara	2030	MHDT	Aggregate	Aggregate	Diesel	11245.42	599136.6	111242.1	1.636194	4.546441	2.164606	0.007568	0.002068	0	0.003	0.05586	0.00791	0.002162	0	0.012	0.13034	909.8747	786.5238	0	0.000503	0.003226	0	0.14302	0.123631	0	0.010837	0.069445	0	0	0	0	0	0.012337	0.079058	0	0	0	0	0	0	0.11784	2.775159	0	0.008596	0.007431	0
Santa Clara	2030	OBUS	Aggregate	Aggregate	Gasoline	521.2442	22324.56	10429.05	0.201397	0.065222	0.308429	0.001191	0	0.000252	0.003	0.05586	0.001295	0	0.000274	0.012	0.13034	1542.791	344.1269	23.61734	0.005871	0.202191	0.026706	0.012891	0.005853	0.026143	0.025703	0.748687	0.134449	0.027407	0.319238	0.017082	0.037276	0.037506	1.092483	0.147204	0.027407	0.319238	0.017082	0.037276	0.529537	5.789149	2.766701	0.015267	0.003405	0.000234
Santa Clara	2030	OBUS	Aggregate	Aggregate	Diesel	845.8557	51263.29	7867.551	1.991442	9.302951	2.216948	0.010285	0.002947	0	0.003	0.05586	0.01075	0.003081	0	0.012	0.13034	1066.293	1893.973	0	0.000596	0.028932	0	0.167606	0.297706	0	0.012842	0.6229	0	0	0	0	0	0.01462	0.709124	0	0	0	0	0	0	0.14672	10.36618	0	0.010074	0.017893	0
Santa Clara	2030	SBUS	Aggregate	Aggregate	Gasoline	362.3014	15198.78	1449.205	0.285961	0.92653	0.616868	0.001215	0	0.000547	0.002	0.3192	0.001322	0	0.000595	0.008	0.7448	803.9675	2414.339	44.56576	0.00626	2.435971	0.055823	0.018735	0.089714	0.057177	0.030067	10.64152	0.317303	0.073145	0.474779	0.014584	0.030637	0.043873	15.52808	0.347407	0.073145	0.474779	0.014584	0.030637	0.649967	82.24088	7.563743	0.007956	0.023892	0.000441
Santa Clara	2030	SBUS	Aggregate	Aggregate	Diesel	980.5629	30722.11	11315.56	4.472027	34.94152	1.257143	0.029756	0.025511	0	0.003	0.3192	0.031102	0.026664	0	0.012	0.7448	1052.894	3501.127	0	0.003486	0.012263	0	0.1655	0.550328	0	0.075046	0.264022	0	0	0	0	0	0.085434	0.300569	0	0	0	0	0	0	0.238791	7.720739	0	0.009947	0.033077	0
Santa Clara	2030	UBUS	Aggregate	Aggregate	Gasoline	8.45001	1063.703	33.80004	0.336697	0	0.964336	0.002209	0	0.000888	0.003	0.05586	0.002402	0	0.000966	0.012	0.13034	1956.157	0	89.19596	0.006892	0	0.139066	0.027885	0	0.079916	0.022728	0	0.589249	0.05182	0.313542	0.009109	0.015639	0.033164	0	0.645153	0.05182	0.313542	0.009109	0.015639	0.405122	0	8.852622	0.019358	0	0.000883
Santa Clara	2030	UBUS	Aggregate	Aggregate	Diesel	376.8943	42036.62	1507.577	0.804174	0	0	0.005656	0	0	0.008428	0.029265	0.005912	0	0	0.033371	0.068284	1523.264	0	0	0.077448	0	0	0.239436	0	0	0.001107	0	0	0	0	0	0	0.079041	0	0	0	0	0	0	0.131472	0	0	0.0144	0	0
Santa Clara	2030	UBUS	Aggregate	Aggregate	Natural Ga	152.2876	16985.28	609.1502	0.487691	0	0	0.003174	0	0	0.008428	0.029265	0.003317	0	0	0.033371	0.068284	2010.534	0	0	6.385838	0	0	0.40986	0	0	0.091241	0	0	0	0	0	0	6.517216	0	0	0	0	0	0	49.56612	0	0	0	0	0

Attachment 2: Community Risk Assessment Information

Bay Area Air Quality Management District

Risk & Hazard Stationary Source Inquiry Form

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

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

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

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

Table A: Requester Contact Information

Date of Request	**1/2/2020**
Contact Name	Casey Divine
Affiliation	Illingworth & Rodkin, Inc.
Phone	707-794-0400 x103
Email	cdivine@illingworthrodkin.com
Project Name	30 Ingold Road Mixed-Use
Address	30 Ingold Road
City	Burlingame
County	San Mateo
Type (residential, commercial, mixed use,	Mixed Use
Project Size (# of units or building square feet)	
Comments:	

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

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

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

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

4. Identify stationary sources within at least a 1 Table B 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 blue 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]	FACID (Plant No.)	FNAME	FSTREET	Cancer Risk[2]	Hazard Risk[2]	$PM_{2.5}$[2]	Source No.[3]	Type of Source[4]	Fuel Code[5]	Status/Comments
	296	Western Forge and Flange Company	780 Reed Street	0.15	0	**0.304**		Contact BAAQMD		
	1658	ECS Refining, Inc	705 Reed Street	0.01	0	0.185		Contact BAAQMD		
	2896	Underwriters Laboratories, Inc	1655 Scott Boulevard	0.01	0	0.017		Contact BAAQMD		
	3280	Santa Clara Plating Co	1773 Grant Street	0	0	0		Contact BAAQMD		
	3850	El Camino Body Shop Inc	3160 EL CAMINO REAL	No Data	0	No Data		Contact BAAQMD		
	5825	Works Auto Body	1640 Grant St	No Data	0	No Data		Contact BAAQMD		
	9892	Custom Paint Finish	1849 Grant St	No Data	0	No Data		Contact BAAQMD		
	10142	F&S Auto Body Ltd Co	3100 El Camino Real Ste J	No Data	0	No Data		Contact BAAQMD		
	11294	International Auto Center Inc	1499 Lincoln St	No Data	0	No Data		Contact BAAQMD		
	11700	SRS Gilbert Industrial Coatings Inc	1597 Grant Street	0.01	0	0.203		Contact BAAQMD		
	16266	City of Santa Clara	1500 Warburton Avenue, IT	2.54	0	0.003		Generators		
	17089	Verizon Wireless (San Tomas)	2336 El Camino Real	2.28	0	0.003		Generators		
	17236	City of Santa Clara - Well Site: Zone 1, 7	1693 Pomeroy Avenue	**11.22**	0.02	0.014		Generators		
	18311	Lucky #773	3705 El Camino Real	0.01	0	0		Contact BAAQMD		
	19760	BRE Properties Inc	3595 Granada Avenue	0.66	0	0.001		Generators		
	19905	Moonlite Associates, LLC	2640 El Camino Real	1.38	0	No Data		Contact BAAQMD		
	20515	Santa Clara Unified School District	1889 Lawrence Road	0.54	0	0.001		Generators		
	21649	City of Santa Clara - Senior Center	1303 Fremont Street	1.25	0.02	0.001		Generators		
	22266	Target Store T2830	2004 El Camino Real	No Data	No Data	0.001		Contact BAAQMD		
	23391	One Stop Collision Center	1486 Jefferson Street	No Data	0	No Data		Contact BAAQMD		
	24384	K&K Outdoor Advertising LLC	1601 Civic Center Drive	2.11	0	0.003		Generators		
	106245	Santa Clara Unified School District	1889 Lawrence Rd	0.02	0	No Data		Gas Dispensing Facility		
	110589	Santa Clara Gas	3725 El Camino Real	0.76	0	No Data		Gas Dispensing Facility		
	110711	El Camino Valero	3305 El Camino Real	1.81	0.01	No Data		Gas Dispensing Facility		
	111625	ARCO Facility #02082 - Capitol Petroleum	1995 Warburton Ave	1.69	0.01	No Data		Gas Dispensing Facility		
	111847	ARCO Facility #00606	2320 El Camino Real	2.87	0.01	No Data		Gas Dispensing Facility		
	112335	Chevron USA/Food Mart #0243	3740 El Camino Real	6.78	0.03	No Data		Gas Dispensing Facility		
	112589	Performance Petroleum Inc - 76	2025 El Camino Real	1.51	0.01	No Data		Gas Dispensing Facility		
	200723	Precise Collision	2517 EL CAMINO REAL	No Data	0	No Data		Contact BAAQMD		

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 index of 0.003 or less. To be conservative, requestor should assume the cancer risk is 1 in a million and the hazard index is 0.003 for these sources.

c. BAAQMD Reg 11 Rule 16 required that all co-residential (sharing a wall, floor, ceiling or is in the same building as a residential unit) dry cleaners cease use of perc on July 1, 2010.
Therefore, there is no cancer risk, hazard or PM2.5 concentrations from co-residential dry cleaning businesses in the BAAQMD.

d. Non co-residential dry cleaners must phase out use of perc by Jan. 1, 2023. Therefore, the risk from these dry cleaners does not need to be factored in over a 70-year period, but instead should reflect the number of years perc use will continue after the project's residents or other sensitive receptors (such as students, patients, etc) take occupancy.

e. Gas stations can be adjusted using BAAQMD's Gas Station Distance Mulitplier worksheet.

f. Unless otherwise noted, exempt sources are considered insignificant. See BAAQMD Reg 2 Rule 1 for a list of exempt sources.

g. This spray booth is considered to be insignificant.

Date last updated: 03/13/2018

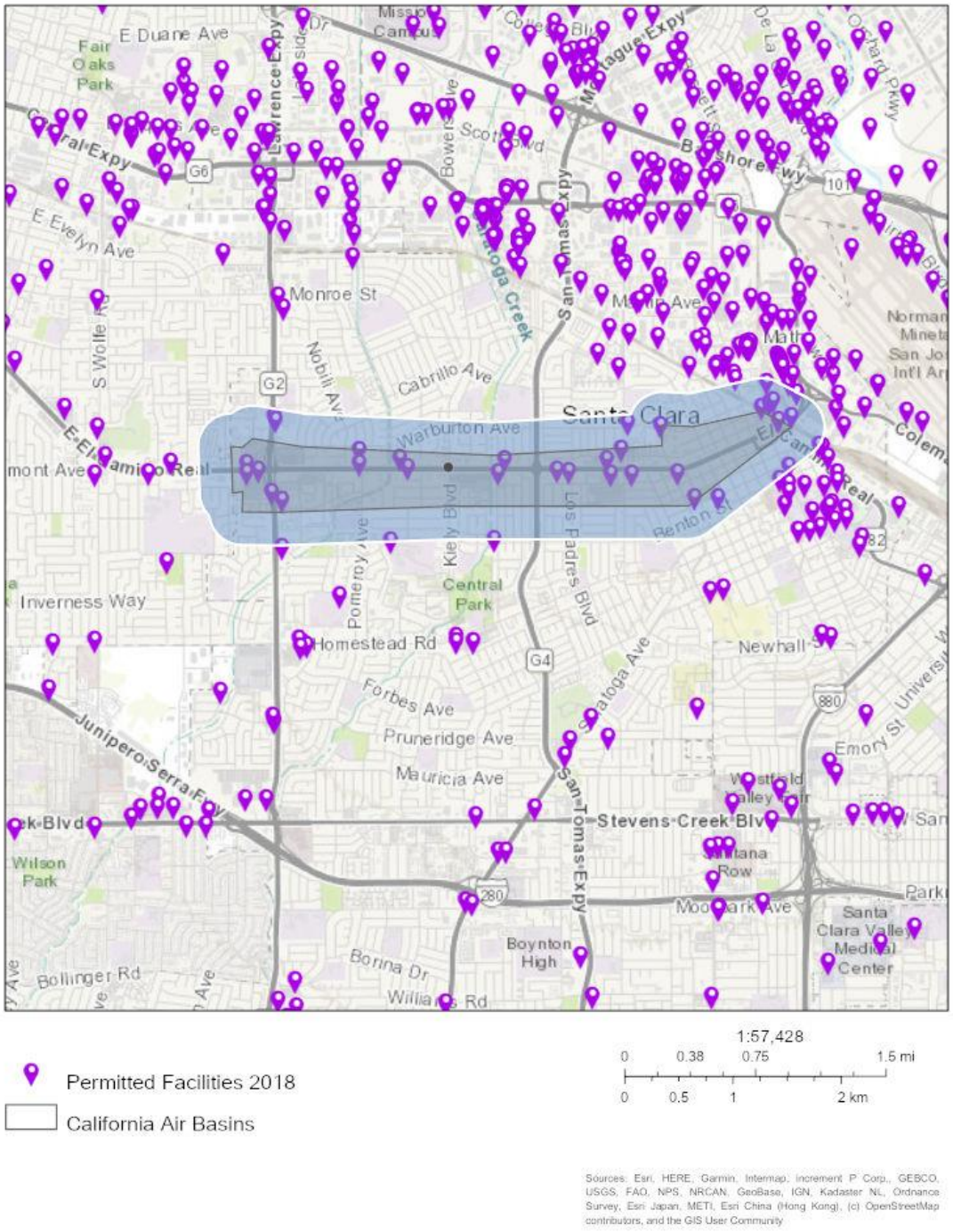
Road	Intersection	ADT	Side of Road	Distance to Sig. Risk (ft)	cancer risk	PM2.5
Lawrence Expressway	ECR	63605	West	150	10.31	0.3
Lawrence Expressway	ECR	63605	East	280	9.08	0.307
Kiely Boulevard-Bowers Avenue	ECR	18490	West	10	9.17	0.278
Kiely Boulevard-Bowers Avenue	ECR	18490	East	40	9.09	0.312
San Tomas Expressway	ECR	70585	West	170	10.38	0.302
San Tomas Expressway	ECR	70585	East	310	9.12	0.308
Scott Boulevard	ECR	20250	West	10	10.04	0.304
Scott Boulevard	ECR	20250	East	50	8.88	0.305
Lafayette Street	ECR	25795	West	30	9.99	0.299
Lafayette Street	ECR	25795	East	80	8.81	0.301
ECR	Lawrence Expressway	35135	North	50	10.65	0.309
ECR	Lawrence Expressway	35135	South	100	8.4	0.308
ECR	Kiely-Bowers	32325	North	40	10.73	0.313
ECR	Kiely-Bowers	32325	South	90	8.12	0.299
ECR	San Tomas Expressway	34165	North	50	10.36	0.3
ECR	San Tomas Expressway	34165	South	100	8.17	0.3
ECR	Scott Boulevard	25110	North	20	10.08	0.298
ECR	Scott Boulevard	25110	South	50	8.41	0.31
ECR	Lafayette Street	26720	North	20	10.72	0.317
ECR	Lafayette Street	26720	South	60	8.18	0.302

Stationary Source Risk & Hazards Screening Report

Area of Interest (AOI) Information

Area : 69,587,669.2 ft²

Jan 16 2020 9:51:14 Pacific Standard Time



Summary

Name	Count	Area(ft²)	Length(ft)
Permitted Facilities 2018	32	N/A	N/A

Permitted Facilities 2018

#	FACID	Name	Address	City	St
1	296	Western Forge and Flange Company	780 Reed Street	Santa Clara	CA
2	1658	ECS Refining, Inc	705 Reed Street	Santa Clara	CA
3	2896	Underwriters Laboratories, Inc	1655 Scott Boulevard	Santa Clara	CA
4	3280	Santa Clara Plating Co	1773 Grant Street	Santa Clara	CA
5	3850	El Camino Body Shop Inc	3160 EL CAMINO REAL	SANTA CLARA	CA
6	5579	Akins Collision Center Inc	530 Reed Street	Santa Clara	CA
7	5825	Works Auto Body	1640 Grant St	Santa Clara	CA
8	9892	Custom Paint Finish	1849 Grant St	Santa Clara	CA
9	10142	F&S Auto Body Ltd Co	3100 El Camino Real Ste J	Santa Clara	CA
10	11294	International Auto Center Inc	1499 Lincoln St	Santa Clara	CA
11	11700	SRS Gilbert Industrial Coatings Inc	1597 Grant Street	Santa Clara	CA
12	16266	City of Santa Clara	1500 Warburton Avenue, IT	Santa Clara	CA
13	17089	Verizon Wireless (San Tomas)	2336 El Camino Real	Santa Clara	CA
14	17236	City of Santa Clara - Well Site: Zone 1, 7	1693 Pomeroy Avenue	Santa Clara	CA
15	18311	Lucky #773	3705 El Camino Real	Santa Clara	CA
16	19760	BRE Properties Inc	3595 Granada Avenue	Santa Clara	CA
17	19905	Moonlite Associates, LLC	2640 El Camino Real	Santa Clara	CA
18	20303	New Cingular Wireless,PCS,LLC dba AT&T Mobility	200 Lawrence Expressway	Santa Clara	CA
19	20515	Santa Clara Unified School District	1889 Lawrence Road	Santa Clara	CA
20	21649	City of Santa Clara - Senior Center	1303 Fremont Street	Santa Clara	CA
21	22266	Target Store T2830	2004 El Camino Real	Santa Clara	CA
22	23391	One Stop Collision Center	1486 Jefferson Street	Santa Clara	CA
23	24384	K&K Outdoor Advertising LLC	1601 Civic Center Drive	Santa Clara	CA
24	106245	Santa Clara Unified School District	1889 Lawrence Rd	Santa Clara	CA
25	110589	Santa Clara Gas	3725 El Camino Real	Santa Clara	CA
26	110711	El Camino Valero	3305 El Camino Real	Santa Clara	CA
27	111158	City of Santa Clara	777 Benton St Fire Station #1 Tan	Santa Clara	CA
28	111625	ARCO Facility #02082 - Capitol Petroleum	1995 Warburton Ave	Santa Clara	CA
29	111847	ARCO Facility #00606	2320 El Camino Real	Santa Clara	CA
30	112335	Chevron USA/Food Mart #0243	3740 El Camino Real	Santa Clara	CA

31	112589	Performance Petroleum Inc - 76	2025 El Camino Real	Santa Clara	CA
32	200723	Precise Collision	2517 EL CAMINO REAL	SANTA CLARA	CA

#	Zip	County	Cancer	Hazard	PM_25	Type	Count
1	95050	Santa Clara	0.15	0.00	0.304	Contact BAAQMD	1
2	95050	Santa Clara	0.01	0.00	0.185	Contact BAAQMD	1
3	95050	Santa Clara	0.01	0.00	0.017	Contact BAAQMD	1
4	95050	Santa Clara	0.00	0.00	0.000	Contact BAAQMD	1
5	95051	Santa Clara	*No Data*	0.00	*No Data*	Contact BAAQMD	1
6	95050	Santa Clara	0.13	0.00	0.010	Contact BAAQMD	1
7	95050	Santa Clara	*No Data*	0.00	*No Data*	Contact BAAQMD	1
8	95050	Santa Clara	*No Data*	0.00	*No Data*	Contact BAAQMD	1
9	95051	Santa Clara	*No Data*	0.00	*No Data*	Contact BAAQMD	1
10	95050	Santa Clara	*No Data*	0.00	*No Data*	Contact BAAQMD	1
11	95050	Santa Clara	0.01	0.00	0.203	Contact BAAQMD	1
12	95050	Santa Clara	2.54	0.00	0.003	Generators	1
13	95051	Santa Clara	2.28	0.00	0.003	Generators	1
14	95051	Santa Clara	11.22	0.02	0.014	Generators	1
15	95051	Santa Clara	0.01	0.00	0.000	Contact BAAQMD	1
16	95051	Santa Clara	0.66	0.00	0.001	Generators	1
17	95051	Santa Clara	1.38	0.00	*No Data*	Contact BAAQMD	1
18	95050	Santa Clara	*No Data*	*No Data*	0.000	Contact BAAQMD	1
19	95051	Santa Clara	0.54	0.00	0.001	Generators	1
20	95050	Santa Clara	1.25	0.02	0.001	Generators	1
21	95050	Santa Clara	*No Data*	*No Data*	0.001	Contact BAAQMD	1
22	95050	Santa Clara	*No Data*	0.00	*No Data*	Contact BAAQMD	1
23	95050	Santa Clara	2.11	0.00	0.003	Generators	1
24	95051	Santa Clara	0.02	0.00	*No Data*	Gas Dispensing Facility	1
25	95051	Santa Clara	0.76	0.00	*No Data*	Gas Dispensing Facility	1
26	95051	Santa Clara	1.81	0.01	*No Data*	Gas Dispensing Facility	1
27	95050	Santa Clara	0.01	0.00	*No Data*	Gas Dispensing Facility	1
28	95050	Santa Clara	1.69	0.01	*No Data*	Gas Dispensing Facility	1
29	95050	Santa Clara	2.87	0.01	*No Data*	Gas Dispensing Facility	1

30	95051	Santa Clara	6.78	0.03	*No Data*	Gas Dispensing Facility	1
31	95050	Santa Clara	1.51	0.01	*No Data*	Gas Dispensing Facility	1
32	95051	Santa Clara	*No Data*	0.00	*No Data*	Contact BAAQMD	1

Note: The estimated risk and hazard impacts from these sources would be expected to be substantially lower when site specific Health Risk Screening Assessments are conducted.

The screening level map is not recommended for evaluating sensitive land uses such as schools, senior centers, day cares, and health facilities.