HILLSDALE TERRACES – CITY OF SAN MATEO

AIR QUALITY AND GREENHOUSE GAS ASSESSMENT

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This report documents the results of an assessment of air quality and greenhouse gas emissions for the Hillsdale Terraces mixed-use development project proposed on South El Camino Real between 27th and 28th Avenues in San Mateo, California.

1.1 HILLSDALE TERRACES LOCATION

The project site is located on South El Camino Real between 27th and 28th Avenues. The site is generally bounded by 28th Avenue on the south, South El Camino Real on the east, 27th Avenue on the north, and residential uses to the west, northwest, and south. Public transportation is served by SamTrans buses along El Camino Real and by Caltrain at the Hillsdale Caltrain Station located on the east side of El Camino Real. The Hillsdale Caltrain Station is planned to be relocated closer to the north block between 28th and 31st Avenues with improved connectivity via grade-separated railway crossings. These grade separations will also improve connectivity from the project site to the new 83-acre Bay Meadows Transit Village, which is currently under construction.

1.2 HILLSDALE TERRACES PROJECT DESCRIPTION

The project site is approximately 1 acre in size and consists of three parcels; two parcels are occupied by two buildings and parking lots currently used for auto sales, and the third parcel is vacant. The two buildings span approximately 2,246 and 3,560 square feet of space each, and the parking lots take up approximately 20,700 square feet.

The City of San Mateo General Plan Land Use Diagram (2011) designates the project site as Mixed Use, Regional Community Commercial/High Density Multi-Family. The proposed project is consistent with this land use designation. The project site is located within the Beresford Park planning area, which contains a policy supporting commercial and high-density residential use of the area spanning South El Camino Real between State Route 92 and 29th Avenue.

The project would demolish the two existing buildings and associated parking lots and construct a five-story, mixed-use building containing 13,978 square feet of commercial space on the ground floor and 74 multi-family residential units on the four floors above. The residential units on the top four floors would consist of 22 one-bedroom units, 44 two-bedroom units, and 8 three-bedroom units, providing a total of 80,726 square feet of living space. The top four floors would contain an additional 12,217 square feet of space for hallways, elevators, amenities, and mechanical rooms. The building would be accommodated by a three-story, 103,613-square-foot subterranean parking garage containing 171 parking spaces.

Primary access to the project site would be provided via South El Camino Real. A second access would be provided on 27th Avenue.

T:_CS\Work\San Mateo, County of\2014-2016 CEQA and GHG Guidance\Hillsdale Terraces\GHG Figures

Source: Costa Brown Architecture

Not To Scale

FIGURE 1
Proposed Site Plan

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2.1 AIR QUALITY SETTING

Air quality in a region is determined by the region's topography, meteorology, and existing air pollutant sources. These factors are discussed below, along with the current regulatory structure that applies to the San Francisco Bay Area Air Basin (SFBAAB), which encompasses the redevelopment site, pursuant to the regulatory authority of the Bay Area Air Quality Management District (BAAQMD).

AIR BASIN CHARACTERISTICS

San Francisco Bay Area Air Basin

The City of San Mateo is located in the Peninsula climatological subregion of the San Francisco Bay Area Air Basin (SFBAAB, air basin). This subregion extends from northwest of San Jose to the Golden Gate Bridge. The Santa Cruz Mountains run up the center of the Peninsula, with elevations exceeding 2,000 feet at the southern end and decreasing to 500 feet in South San Francisco. Coastal towns experience a high incidence of cool, foggy weather in the summer. Cities in the southeastern Peninsula climatological subregion experience warmer temperatures and fewer foggy days because the marine layer is blocked by the ridgeline to the west. The blocking effect of the Santa Cruz Mountains results in variations in summertime maximum temperatures in different parts of the climatological subregion. For example, in coastal areas of San Mateo County, the mean maximum summer temperatures are in the mid-60s (Fahrenheit), while in the City of San Mateo the mean maximum summer temperatures are in the low 80s. Mean minimum temperatures during the winter months are in the high 30s to low 40s on the eastern side of the Peninsula and in the low 40s on the coast.

Two important gaps in the Santa Cruz Mountains occur on the Peninsula. The larger of the two is the San Bruno Gap, extending from Fort Funston on the ocean to San Francisco International Airport. The other gap is the Crystal Springs Gap, between Half Moon Bay and San Carlos. As the sea breeze strengthens on summer afternoons, the Crystal Springs Gap permits maritime air to pass across the mountains, and its cooling effect is commonly experienced in San Mateo.

Annual average wind speeds range from 5 to 10 miles per hour throughout the Peninsula, with higher wind speeds usually found along the coast. Wind speeds on the eastern side of the climatological subregion are often high in certain areas, such as near the San Bruno Gap and the Crystal Springs Gap. The prevailing winds along the Peninsula's coast are from the west, although individual sites can show significant differences. For example, Fort Funston in western San Francisco shows a southwest wind pattern, while Pillar Point in San Mateo County shows a northwest wind pattern. On the east side of the mountains, winds are generally from the west, although wind patterns in this area are often influenced greatly by local topographic features.

The hills and mountains in the air basin contribute to the high pollution potential of some areas. An inversion is a layer of warmer air over a layer of cooler air. Inversions affect air quality conditions significantly because they influence the mixing depth, i.e., the vertical depth in the atmosphere available for diluting air contaminants near the ground. The highest air pollutant concentrations in the air basin, and therefore in San Mateo, generally occur during inversions.

Air pollution potential is highest along the southeastern portion of the subregion, as this is the area most protected from the high winds and fog of the marine layer. Pollutant transport from upwind sites is common. In the southeastern portion of the Peninsula climatological subregion, air pollutant emissions are relatively high due to motor vehicle traffic and stationary sources (BAAQMD 2011).

Pollution Potential Related to Emissions

Although air pollution potential is strongly influenced by climate and topography, the air pollution that occurs in a location also depends on the amount of air pollutant emissions in the surrounding area or those that have been transported from more distant places. Air pollutant emissions generally are highest in areas that have high population densities, high motor vehicle use, and/or industrialization. Contaminants created by photochemical processes in the atmosphere, such as ozone, may result in high concentrations many miles downwind from the sources of their precursor chemicals (BAAQMD 2011).

CRITERIA AIR POLLUTANTS

Air pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state law. These regulated air pollutants are known as criteria air pollutants and are categorized into primary and secondary pollutants. Primary air pollutants are those that are emitted directly from sources. Carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxide (NO_X), sulfur dioxide (SO_2), coarse particulate matter (PM_{10}) and fine particulate matter ($PM_{2.5}$) are primary air pollutants. Of these, CO, SO_2, PM_{10}, and $PM_{2.5}$ are criteria pollutants. ROG and NO_X are criteria pollutant precursors and go on to form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O_3) and nitrogen dioxide (NO_2) are the principal secondary pollutants. **Table 2-1** presents a description of each of the primary and secondary criteria air pollutants and their known health effects.

TABLE 2-1
CRITERIA AIR POLLUTANTS – SUMMARY OF COMMON SOURCES AND EFFECTS

Pollutant	Major Man-Made Sources	Human Health & Welfare Effects
Carbon Monoxide (CO)	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, effecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
Nitrogen Dioxide (NO_2)	A reddish-brown gas formed during fuel combustion for motor vehicles, energy utilities, and industrial sources.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Contributes to nutrient overloading which deteriorates water quality. Causes brown discoloration of the atmosphere.
Ozone (O_3)	Formed by a chemical reaction between reactive organic gases (ROGs) and nitrous oxides (NOx) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, solvents, paints, and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield.
Particulate Matter (PM_{10} & $PM_{2.5}$)	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
Sulfur Dioxide (SO_2)	A colorless, nonflammable gas formed when fuel containing sulfur is burned. Examples are refineries, cement manufacturing, metal processing facilities, locomotives, and ships.	Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, can damage marble, iron and steel; damage crops and natural vegetation. Impairs visibility.

Source: CAPCOA 2011

AMBIENT AIR QUALITY

Ambient air quality in San Mateo can be inferred from ambient air quality measurements conducted at nearby air quality monitoring stations. Existing levels of ambient air quality and historical trends and projections in the vicinity of San Mateo are documented by measurements made by the BAAQMD, the air pollution regulatory agency in the air basin that maintains air quality monitoring stations which process ambient air quality measurements.

O_3, PM_{10}, and $PM_{2.5}$ are the pollutants most intensely affecting the SFBAAB. The Redwood City air quality monitoring station, approximately 5 miles to the south of San Mateo, monitors ambient concentrations of O_3, PM_{10}, and $PM_{2.5}$. Ambient emission concentrations will vary due to localized variations in emission sources and climate and should be considered generally representative of ambient concentrations in San Mateo. The concentrations of pollutants monitored at this station are representative of San Mateo because it is the closest monitoring station to the city and is located in the same climatological subregion.

Table 2-2 summarizes the published data since 2012 from the Redwood City air quality monitoring station for each year that monitoring data is provided.

TABLE 2-2
SUMMARY OF AMBIENT AIR QUALITY DATA

Pollutant Standards	2012	2013	2014	2015
Ozone				
Max 1-hour concentration (ppm)	0.063	0.083	0.086	0.086
Max 8-hour concentration (ppm) (state/federal)	0.055 / 0.054	0.076 / 0.075	0.066 / 0.065	0.071 / 0.071
Number of days above state 1-hour standard	0	0	0	0
Number of days above state/federal 8-hour standard	0 / 0	0 / 0	0 / 0	1 / 0
Respirable Particulate Matter (PM_{10})				
Max 24-hour concentration ($\mu g/m^3$) (state/federal)	— / —	— / —	— / —	— / —
Number of days above state/federal standard	— / —	— / —	— / —	— / —
Fine Particulate Matter ($PM_{2.5}$)				
Max 24-hour concentration ($\mu g/m^3$) (state/federal)	34.3 / 33.3	39.0 / 39.0	35.0 / 35.0	34.6 / 34.6
Number of days above federal standard	0	3.2	0	0

Source: CARB 2016; EPA 2016d

Notes:

$\mu g/m^3$ = micrograms per cubic meter; ppm = parts per million

— = No data is currently available from CARB to determine the value.

As previously stated, O_3, PM_{10}, and $PM_{2.5}$ are the pollutants most intensely affecting the SFBAAB. The US Environmental Protection Agency (EPA) and the state of California have established health-based ambient air quality standards (CAAQS) for 11 air pollutants. As shown in **Table 2-3**, these pollutants are O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, sulfates, lead, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. Air quality standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. **Table 2-3** also shows the federal and state attainment status for the SFBAAB and thus for San Mateo. Areas with air quality that exceed adopted air quality standards are designated as nonattainment areas for the relevant air

pollutants, while areas that comply with air quality standards are designated as attainment areas for the relevant air pollutants. The SFBAAB's current attainment status with regard to federal and state ambient air quality standards is summarized in **Table 2-3**. The region is nonattainment for federal O_3 and $PM_{2.5}$ standards, as well as for state O_3, PM_{10}, and $PM_{2.5}$ standards (BAAQMD 2015a).

TABLE 2-3
FEDERAL AND STATE AMBIENT AIR QUALITY ATTAINMENT STATUS
FOR THE SAN FRANCISCO BAY AREA AIR BASIN

Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Concentration	Attainment Status
Ozone (O_3)	8 Hours	0.070 ppm (137$\mu g/m^3$)	N	0.075 ppm	N
	1 Hour	0.09 ppm (180 $\mu g/m^3$)	N	No standard	Not applicable
Carbon Monoxide (CO)	8 Hours	9.0 ppm (10 mg/m^3)	A	9 ppm (10 mg/m^3)	A
	1 Hour	20 ppm (23 mg/m^3)	A	35 ppm (40 mg/m^3)	A
Nitrogen Dioxide (NO_2)	1 Hour	0.18 ppm (339 $\mu g/m^3$)	A	0.100 ppm	U
	Annual Arithmetic Mean	0.030 ppm (57 $\mu g/m^3$)	U	0.053 ppm (100 $\mu g/m^3$)	A
Sulfur Dioxide (SO_2)	24 Hours	0.04 ppm (105 $\mu g/m^3$)	A	0.14 ppm (365/$\mu g/m^3$)	A
	1 Hour	0.25 ppm (665 $\mu g/m^3$)	A	0.075 ppm (196/$\mu g/m^3$)	A
	Annual Arithmetic Mean		U	0.030 ppm (80/$\mu g/m^3$)	A
Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 $\mu g/m^3$	N	No standard	Not applicable
	24 Hours	50 $\mu g/m^3$	N	150 $\mu g/m^3$	U
Particulate Matter – Fine ($PM_{2.5}$)	Annual Arithmetic Mean	12 $\mu g/m^3$	N	15 $\mu g/m^3$	A
	24 Hours		U	35 $\mu g/m^3$	N
Sulfates	24 Hours	25 $\mu g/m^3$	A	—	—
Lead	30-Day Average	1.5 $\mu g/m^3$		—	A
	Calendar Quarter	—	—	1.5 $\mu g/m^3$	A
	Rolling 3-Month Average	—	—	0.15 $\mu g/m^3$	—
Hydrogen Sulfide	1 Hour	0.03 ppm (42 $\mu g/m^3$)	U	—	—
Vinyl Chloride (chloroethene)	24 Hours	0.01 ppm (26 $\mu g/m^3$)	No information available	—	—
Visibility-Reducing Particles	8 Hours (10:00 to 18:00 PST)	—	—	—	—

Source: BAAQMD 2015a

Notes: A = Attainment; N = Nonattainment; U = Unclassified

mg/m3 = milligrams per cubic meter; ppm = parts per million; ppb = parts per billion; µg/m3 = micrograms per cubic meter

TOXIC AIR CONTAMINANTS

In addition to the criteria air pollutants listed above, another group of pollutants, commonly referred to as toxic air contaminants (TACs) or hazardous air pollutants, can result in health effects that can be quite severe. The California Air Resources Board (CARB) (1999) has designated 244 compounds as TACs. Many TACs are confirmed or suspected carcinogens, or are known or suspected to cause birth defects or neurological damage. Secondly, many TACs can be toxic at very low concentrations. For some chemicals, such as carcinogens, there are no thresholds below which exposure can be considered risk-free.

Industrial facilities and mobile sources are significant sources of TACs. However, common urban facilities also produce TAC emissions, such as gasoline stations (benzene), hospitals (ethylene oxide), and dry cleaners (perchloroethylene). Automobile exhaust also contains TACs such as benzene and 1,3-butadiene. In addition, diesel particulate matter (diesel PM) is a TAC. Diesel PM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. BAAQMD (2011) research indicates that mobile-source emissions of diesel PM, benzene, and 1,3-butadiene represent a substantial portion of the ambient background risk from TACs in the SFBAAB.

The health effects associated with TACs are diverse and generally are assessed locally rather than regionally. TACs can cause long-term health effects such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage, or short-term acute affects such as eye watering, respiratory irritation (a cough), runny nose, throat pain, and headaches. For evaluation purposes, TACs are separated into carcinogens and noncarcinogens based on the nature of the physiological effects associated with exposure to the pollutant. Carcinogens are assumed to have no safe threshold below which health impacts would not occur. Noncarcinogenic substances differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis (BAAQMD 2011).

Potential mobile sources of TACs in the vicinity of the project site include automobile traffic on El Camino Real as well as Caltrain trains. Potential stationary sources in the vicinity of the project site include a dry cleaning facility and several gas stations.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases.

Residential areas are considered to be sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Children are considered more susceptible to health effects of air pollution due to their immature immune systems and developing organs (OEHHA 2007). As such, schools are also considered sensitive receptors because children are present for extended durations and engage in regular outdoor activities. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation.

2.2 REGULATORY FRAMEWORK

FEDERAL

The EPA is the federal agency responsible for setting and enforcing the federal ambient air quality standards for atmospheric pollutants. The EPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. As part of its enforcement responsibilities, the EPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP) describing a strategy for the means to attain the federal standards for ozone and particulate matter. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs.

Clean Air Act

The federal Clean Air Act, as amended, establishes air quality standards for several pollutants. These standards are divided into primary standards and secondary standards. Primary standards are designed to protect public health, and secondary standards are intended to protect public welfare from effects such as visibility reduction, soiling, nuisance, and other forms of damage. The Clean Air Act requires that regional plans be prepared for nonattainment areas that illustrate how the federal air quality standards could be met.

Regulation of TACs is achieved through federal and state controls on individual sources. The 1990 Clean Air Act Amendments offered a comprehensive plan for achieving significant reduction in both mobile and stationary source emissions of certain designated hazardous air pollutants, with a goal of achieving the EPA's one in 1 million cancer risk from TACs.

STATE

CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs in California. In this capacity, CARB conducts research, sets state ambient air quality standards (CAAQS), compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

Air Quality Attainment Plans

The BAAQMD is responsible for preparing plans to attain ambient air quality standards in the SFBAAB. The BAAQMD prepares ozone attainment plans for the national ozone standard and clean air plans for the California standard, both in coordination with the Metropolitan Transportation Commission and the Association of Bay Area Governments.

With respect to applicable air quality plans, the BAAQMD prepared the Bay Area 2010 Clean Air Plan to address nonattainment of the national ozone standard in the air basin. The Clean Air Plan defines a control strategy that the BAAQMD and its partners will implement to (1) reduce emissions and decrease ambient concentrations of harmful pollutants; (2) safeguard public health by reducing exposure to air pollutants that pose the greatest health risk, with an emphasis on protecting the communities most heavily impacted by air pollution; and (3) reduce greenhouse gas (GHG) emissions to protect the climate. It is important to note that in addition to updating the previously prepared ozone plan, the newly adopted Clean Air Plan also serves as a multipollutant

plan to protect public health and the climate. This effort to develop its first-ever multipollutant air quality plan is a voluntary initiative by the BAAQMD. The district believes that an integrated and comprehensive approach to planning is critical to respond to air quality and climate protection challenges in the years ahead. In its dual role as an update to the state ozone plan and a multipollutant plan, the Bay Area 2010 Clean Air Plan addresses four categories of pollutants (BAAQMD 2010):

- Ground-level ozone and its key precursors, ROG and NO_X
- Particulate matter: primary $PM_{2.5}$, as well as precursors to secondary $PM_{2.5}$
- Air toxics
- Greenhouse gases

The Clean Air Plan provides local guidance for the SIP, which provides the framework for air quality basins to achieve attainment of the state and federal ambient air quality standards.

Toxic Air Contaminant Regulations

The California Health and Safety Code defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." The state of California regulates TACs primarily through Assembly Bill (AB) 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987).

The Tanner Air Toxics Act sets forth a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an "airborne toxics control measure" for sources that emit designated TACs. If there is a safe threshold for a substance (a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions. CARB has, to date, established formal control measures for 11 TACs (see **Table 2-3**), all of which are identified as having no safe threshold.

Air toxics from stationary sources are also regulated in California under the Air Toxics "Hot Spot" Information and Assessment Act of 1987. Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High-priority facilities are required to perform a health risk assessment and, if specific thresholds are exceeded, are required to communicate the results to the public in the form of notices and public meetings. Stationary sources of air toxics in San Mateo include gasoline fuel stations, diesel-powered backup generators, and dry cleaning facilities.

California Diesel Risk Reduction Plan

CARB (2010) prepared and adopted the Diesel Risk Reduction Plan (DRRP), which recommends many control measures to reduce the risks associated with diesel PM and achieve a reduction goal of 85 percent by 2020. The DRRP incorporates measures to reduce emissions from diesel-fueled vehicles and stationary diesel-fueled engines. CARB's ongoing efforts to reduce diesel-exhaust emissions from these sources include the development of specific statewide regulations, which are designed to further reduce diesel PM emissions. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce diesel PM emissions.

Since initial adoption of the DRRP in September 2000, CARB has adopted numerous rules related to the reduction of diesel PM from mobile sources, as well as the use of cleaner-burning fuels. Transportation sources addressed by these rules pertaining to San Mateo include public transit buses, school buses, on-road heavy-duty trucks, and off-road heavy-duty construction equipment.

REGIONAL

Bay Area Air Quality Management District

The BAAQMD attains and maintains air quality conditions in the SFBAAB through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The BAAQMD's clean air strategy includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollution. The BAAQMD also inspects stationary sources of air pollution, responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by the federal Clean Air Act, the Clean Air Act Amendments, and the California Clean Air Act.

Rules and Regulations

The BAAQMD develops regulations to improve air quality and protect the health and welfare of Bay Area residents and their environment. BAAQMD rules and regulations most applicable to the project area include, but are not limited to, the following:

- ***Regulation 2, Rule 2: New Source Review.*** Requires any new source resulting in an increase of any criteria pollutant to be evaluated for adherence to best available control technology. For compression internal combustion engines, best available control technology requires that the generator be fired on California diesel fuel (fuel oil with a sulfur content less than 0.05 percent by weight and less than 20 percent by volume of aromatic hydrocarbons). All stationary internal combustion engines larger than 50 horsepower must obtain a Permit to Operate. If the engine is diesel fueled, it must also comply with the BAAQMD-administered Statewide Air Toxics Control Measure for Stationary Diesel Engines.

- ***Regulation 7: Odorous Substances.*** Establishes general limitations on odorous substances and specific emission limitations on certain odorous compounds.

- ***Regulation 8, Rule 3: Architectural Coatings.*** Limits the quantity of volatile organic compounds in architectural coatings supplied, sold, offered for sale, applied, solicited for application, or manufactured for use within the district.

- ***Regulation 8, Rule 15: Emulsified and Liquid Asphalts.*** Limits the emissions of volatile organic compounds caused by the use of emulsified and liquid asphalt in paving materials and paving and maintenance operations.

- ***Regulation 14: Mobile Source Emissions Reduction Measures.*** Includes measures to reduce emissions of air pollutants from mobile sources by reducing motor vehicle use and/or promoting the use of clean fuels and low-emission vehicles.

The above list includes rules and regulations most applicable to the proposed development of the Hillsdale Terraces project. Additional rules and regulations may apply, depending on the sources proposed and the activities conducted.

BAAQMD Construction Mitigation Measures

The BAAQMD recommends quantifying a proposed project's construction-generated emissions by implementing the Basic Construction Mitigation Measures as mitigation for dust and exhaust construction impacts in California Environmental Quality Act (CEQA) compliance documentation. If additional construction measures are required to reduce construction-generated emissions, the Additional Construction Mitigation Measures should then be applied. **Table 2-4** identifies the Basic and Additional Construction Mitigation Measures. In addition, all projects must implement any applicable air toxic control measures. For example, projects that have the potential to disturb asbestos (from soil or building materials) must comply with all the requirements of CARB's air toxic control measures for construction, grading, quarrying, and surface mining operations.

TABLE 2-4
BAAQMD BASIC AND ADDITIONAL CONSTRUCTION MITIGATION MEASURES

BAAQMD Basic Construction Mitigation Measures
1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 mph.
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
8. Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The air district's phone number shall also be visible to ensure compliance with applicable regulations.
BAAQMD Additional Construction Mitigation Measures
1. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
2. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
3. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
4. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
5. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
6. All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
7. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6- to 12-inch compacted layer of wood chips, mulch, or gravel.
8. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
9. Minimizing the idling time of diesel-powered construction equipment to 2 minutes.
10. The project shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20 percent NOx reduction and 45 percent PM reduction compared to the most recent CARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.
11. Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings).
12. Requiring that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOx and PM.
13. Requiring all contractors use equipment that meets CARB's most recent certification standard for off-road heavy duty diesel engines.

Source: BAAQMD 2011

2.3 AIR QUALITY IMPACT ASSESSMENT

The impact analysis provided below is based on guidance from the BAAQMD.

THRESHOLDS OF SIGNIFICANCE

The BAAQMD publishes Air Quality Guidelines to assist local jurisdictions and lead agencies in complying with CEQA requirements regarding potentially adverse impacts to air quality. The district's guidelines were updated in June 2010 to include new thresholds of significance (2010 thresholds) adopted by the BAAQMD Governing Board on June 2, 2010. The 2010 thresholds included new thresholds of significance for construction emissions, cumulative TAC impacts, and fine particulate matter concentration increases. The BAAQMD's guidelines were further updated in May 2011.

On March 5, 2012, the Alameda County Superior Court issued a judgment in connection with a lawsuit filed by the Building Industry Association, finding that the BAAQMD had failed to comply with CEQA when it adopted the 2010 thresholds. The court did not determine whether the 2010 thresholds were valid on the merits, but found that adoption of the 2010 thresholds was a "project" under CEQA. The court issued a writ of mandate ordering the BAAQMD to set aside the 2010 thresholds and cease dissemination of them until the district had complied with CEQA. However, the court did not address the Building Industry Association's remaining arguments. The BAAQMD appealed the Alameda County Superior Court's decision and the case went to the Court of Appeal, First Appellate District.

After the Alameda County Superior Court's decision, the BAAQMD stopped recommending the 2010 thresholds be used as a generally applicable measure of a project's significant air quality impacts. The BAAQMD released a new version of its CEQA Air Quality Guidelines in May 2012 removing the 2010 thresholds. The BAAQMD, however, provided a recommendation that lead agencies determine appropriate air quality thresholds of significance based on substantial evidence in the record.

On August 13, 2013, the Court of Appeals reversed the Superior Court's decision, finding that the BAAQMD's thresholds were not a "project" under CEQA and, as such, did not require CEQA review. The Court of Appeals rejected the Building Industry Association's other arguments as well. On November 26, 2013, the California Supreme Court by unanimous vote granted review, but solely to address the legal issue of whether CEQA review is confined to an analysis of a proposed project's impacts on the existing environment or also requires analysis of the existing environment's impacts on the proposed project and its future occupants and users. On December 17, 2015, the Supreme Court of California issued its ruling, concluding that agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents. However, when a proposed project risks exacerbating those environmental hazards or conditions that already exist, an agency must analyze the potential impact of such hazards on future residents or users. In those specific instances, it is the *project's* impact on the environment—and not the *environment's* impact on the project. Given the recent date of the Supreme Court decision compared with the writing of this Report, the BAAQMD has yet to announce a recommendation regarding use of its 2010 thresholds. In the meantime, jurisdictions may exercise their discretion and utilize said thresholds based on a determination that they are supported by substantial evidence. For purposes of this analysis, the City of San Mateo has determined, in its discretion, to utilize the BAAQMD's thresholds, finding that the thresholds are supported by substantial evidence.

Using these criteria, an air quality impact is considered significant if the project would violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. The BAAQMD thresholds of significance for evaluating construction and operational air quality impacts are listed in **Table 2-5**.

TABLE 2-5
BAAQMD SIGNIFICANCE THRESHOLDS

Air Pollutant	Construction Activities	Operations	
Reactive Organic Gases (ROG)	54 pounds/day	54 pounds/day	10 tons/year
Nitrogen Oxides (NO_x)	54 pounds/day	54 pounds/day	10 tons/year
Coarse Particulates (PM_{10})	82 pounds/day	82 pounds/day	15 tons/year
Fine Particulates ($PM_{2.5}$)	54 pounds/day	54 pounds/day	10 tons/year
Carbon Monoxide (CO)	None	None	None
Sulfur Oxides (SO_x)	None	None	None

Source: BAAQMD 2011

Carbon Monoxide Hot-Spot Analysis

In addition to the significance thresholds listed above, the project would be subject to the ambient air quality standards. These are addressed though an analysis of localized CO impacts. The California 1-hour and 8-hour carbon monoxide standards are:

- 1-hour = 20 parts per million
- 8-hour = 9 parts per million

The significance of localized impacts depends on whether ambient CO levels in the vicinity of the project site are above state and federal carbon monoxide standards. CO concentrations in San Mateo no longer exceed the CAAQS or NAAQS criteria, and the air basin has been designated as attainment under the 1-hour and 8-hour standards.

Toxic Air Contaminant Thresholds

In addition to the above thresholds relating to criteria air pollutants and CO hot spots, this report evaluates the project's impacts with respect to TACs. The BAAQMD regulates levels of air toxics through a permitting process that covers both construction and operation. If emissions of TACs exceed an excess cancer risk level of more than 10 in one million or a noncancer hazard index greater than 1.0, the project would result in a significant impact.

METHODOLOGY

Air quality impacts were assessed in accordance with methodologies recommended by CARB and the BAAQMD, based on the maximum development potential assumptions provided by the project applicant. Criteria air pollutant emissions were modeled using the California Emissions Estimator Model (CalEEMod) (see **Appendix A**). CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operation from a variety of land use projects.

Project construction-generated emissions were calculated using the CalEEMod computer program accounting for a construction time frame of approximately seven months. The project would substantially modify the project site through a combination of building demolition and construction. Approximately 5,806 square feet of building space would be demolished and associated materials hauled from the site. Additionally, 20,700 square feet of pavement would be removed and hauled off-site. To accommodate the proposed underground parking structure, 40,938 cubic yards of soil will be excavated and hauled from the site.

At the completion of construction activities, the Hillsdale Terraces project would consist of 13,978 square feet of commercial space, 80,726 square feet of living space, 12,217 square feet of space for hallways, elevators, amenities, and mechanical room, and a 103,613-square-foot subterranean parking garage.

Operational emissions were based on the estimated traffic trip generation rates from the transportation impact analysis prepared for the project by Hexagon Transportation Consultants, Inc. (2016). For the purposes of this analysis, projected emissions associated with proposed operations are compared to the existing baseline, which includes two buildings and parking lots currently used for auto sales. The two buildings span approximately 2,246 square feet and 3,560 square feet of space and the parking lots take up approximately 20,700 square feet.

Construction-Generated Emissions

The project would generate short-term emissions from construction activities such as demolition, site grading, asphalt paving, building construction, and architectural coatings (e.g., painting). Common construction emissions include fugitive dust from soil disturbance; fuel combustion from mobile heavy-duty diesel- and gasoline-powered equipment and 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. 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. Worker commute trips and architectural coatings are dominant sources of ROG emissions.

Predicted maximum daily construction-generated emissions for the project are summarized in **Table 2-6**. Project construction activities are assumed to occur over a seven-month time frame.

TABLE 2-6
CONSTRUCTION-RELATED CRITERIA POLLUTANT AND PRECURSOR EMISSIONS – UNMITIGATED
(MAXIMUM POUNDS PER DAY)

Construction Activities	ROG	NO_X	Exhaust PM_{10}	Exhaust $PM_{2.5}$	Fugitive Dust PM_{10}	Fugitive Dust $PM_{2.5}$
Year 2017 maximum daily emissions	47.34	54.56	2.17	2.06	7.49	3.49
BAAQMD Potentially Significant Impact Threshold	54 pounds/day	54 pounds/day	82 pounds/day	54 pounds/day	Basic Construction Mitigation Measures	Basic Construction Mitigation Measures
Exceed BAAQMD Threshold?	**No**	**Yes**	**No**	**No**	**No**	**No**

*Source: CalEEMod version 2013.2.2. See **Appendix A** for emission model outputs.*

Notes: Project construction activities are assumed to occur over a seven-month period. Building construction, paving, and architectural coating assumed to occur simultaneously. All construction projects in San Mateo are required to implement the BAAQMD's Basic Construction Mitigation Measures as a condition of project approval. Emissions estimates account for the quantifiable components of the BAAQMD's Basic Construction Mitigation Measures, specifically watering unpaved portions of the construction site twice daily, limiting off-road equipment to speeds of 15 mph, and removing dirt track-out on adjacent public roads with a wet power vacuum once daily.

All construction projects in San Mateo are required to implement the BAAQMD's Basic Construction Mitigation Measures (see **Table 2-4**) as a condition of project approval; therefore, the proposed project would conform to BAAQMD recommendations related to fugitive dust emissions. As shown in **Table 2-6**, all criteria pollutant emissions would remain below their respective thresholds, with the exception of NO_X. Construction activities would surpass BAAQMD significance thresholds at least one day during construction. Therefore, mitigation is necessary to reduce these emissions to levels below the significance thresholds.

Since NO_X emissions are projected to surpass the significance threshold and NO_X is directly associated with the use of diesel-powered construction equipment, mitigation measure **MM 2-1** is required.

MM 2-1 During construction activities, the project applicant and/or its contractor shall ensure that all off-road diesel-fueled equipment (e.g., rubber-tired dozers, graders, scrapers, excavators, asphalt paving equipment, cranes, and tractors) is California Air Resources Board (CARB) Tier 3 Certified or better.[1]

Table 2-7 identifies the construction-generated emissions with implementation of mitigation measure **MM 2-1**.

[1] The Clean Air Act of 1990 directed the EPA to study, and regulate if warranted, the contribution of off-road internal combustion engines to urban air pollution. The first federal standards (Tier 1) for new off-road diesel engines were adopted in 1994 for engines over 50 horsepower and were phased in from 1996 to 2000. In 1996, a Statement of Principles pertaining to off-road diesel engines was signed between the EPA, CARB, and engine makers (including Caterpillar, Cummins, Deere, Detroit Diesel, Deutz, Isuzu, Komatsu, Kubota, Mitsubishi, Navistar, New Holland, Wis-Con, and Yanmar). On August 27, 1998, the EPA signed the final rule reflecting the provisions of the Statement of Principles. The 1998 regulation introduced Tier 1 standards for equipment under 50 horsepower and increasingly more stringent Tier 2 and Tier 3 standards for all equipment with phase-in schedules from 2000 to 2008. As a result, all off-road, diesel-fueled construction equipment manufactured in 2006 or later has been manufactured to Tier 3 standards.

TABLE 2-7
CONSTRUCTION-RELATED CRITERIA POLLUTANT AND PRECURSOR EMISSIONS – MITIGATED
(MAXIMUM POUNDS PER DAY)

Construction Activities	ROG	NO_X	Exhaust PM_{10}	Exhaust $PM_{2.5}$	Fugitive Dust PM_{10}	Fugitive Dust $PM_{2.5}$
Year 2017 maximum daily emissions	43.88	38.63	1.24	1.24	7.49	3.49
BAAQMD Potentially Significant Impact Threshold	54 pounds/day	54 pounds/day	82 pounds/day	54 pounds/day	Basic Construction Mitigation Measures	Basic Construction Mitigation Measures
Exceed BAAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

*Source: CalEEMod version 2013.2.2. See **Appendix A** for emission model outputs.*

Notes: Project construction activities are assumed to occur over a seven-month period. Building construction, paving, and architectural coating assumed to occur simultaneously.

Implementation of mitigation measure **MM 2-1** would reduce NO_X emissions to levels below the BAAQMD significance threshold.

Operational Emissions

The project would result in long-term operational emissions of criteria air pollutants and ozone precursors (i.e., ROG and NO_X). Project-generated increases in emissions would be predominantly associated with motor vehicle use.

A number of energy reduction measures, including site design, unbundling of residential parking, and Energy Star appliances throughout the residences, will be included in the proposed project. While some of these measures were quantified in the CalEEMod run, there were many features that could not be quantified using CalEEMod. The following features not quantified in CalEEMod will further reduce the operational emissions for the project:

- Rooftop – living roof planters at common open space roof deck.
- Energy-efficient insulated walls and window systems.
- Rooftop – Cool Roof / insulated – to reduce solar heat gain through exterior surfaces by using light/reflective exterior colors.
- Operable windows, with cross ventilation.
- Natural light management, with reflective balcony materials, clearstory windows, and skylights where possible.
- Stormwater management plan with ground-level water retention planters.
- Ground-level storefront recess overhangs, for passive solar shading.
- Clean air vehicle parking/electric vehicle charging stations.
- Bicycle parking.
- Residential transit passes.

Long-term operational emissions are summarized in **Table 2-8.** Projected emissions associated with proposed operations are compared to the existing baseline, which includes the current operation of an auto sales lot consisting of two buildings (2,246 square feet and 3,560 square feet) and a parking lot (approximately 20,700 square feet).

TABLE 2-8
LONG-TERM OPERATIONAL EMISSIONS

Source	Emissions					
	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Summer Emissions (Pounds per Day)						
Proposed Project	35.27	6.68	69.07	0.08	8.89	5.86
Existing Baseline	0.80	0.40	2.10	0	0.33	0.09
Difference	34.47	6.28	66.97	0.08	8.56	5.77
BAAQMD Potentially Significant Impact Threshold (Daily Emissions)	54 pounds/day	54 pounds/day	None	None	82 pounds/day	54 pounds/day
Exceed BAAQMD Daily Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Winter Emissions (Pounds per Day)						
Proposed Project	35.60	7.32	77.05	0.08	8.89	5.86
Existing Baseline	0.81	0.45	2.32	0	0.33	0.09
Difference	34.79	6.87	74.73	0.08	8.56	5.77
BAAQMD Potentially Significant Impact Threshold (Daily Emissions)	54 pounds/day	54 pounds/day	None	None	82 pounds/day	54 pounds/day
Exceed BAAQMD Daily Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Annual Emissions (Tons per Year)						
Proposed Project	1.70	1.22	6.95	0.01	0.76	0.23
Existing Baseline	0.14	0.06	0.30	0	0.04	0.01
Difference	1.56	1.16	6.65	0.01	0.72	0.22
BAAQMD Potentially Significant Impact Threshold (Annual Emissions)	10 tons/year	10 tons/year	None	None	15 tons/year	10 tons/year
Exceed BAAQMD Annual Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

*Source: CalEEMod version 2013.2. See **Appendix A** for emission model outputs.*

Notes:
Emissions projections account for the following: increased density, increased diversity, improved destination accessibility, increased transit accessibility, integrated below market rate housing, improved pedestrian network, unbundled parking costs, CalGreen, high efficiency lighting, on-site renewable energy production, high efficiency appliances in residences, and low flow toilets and showers.
Emissions projections account for a trip generation rate of 2,207 daily traffic trips as identified in the transportation impact analysis (Hexagon Transportation Consultants 2015).

Conformity with Air Quality Planning (2010 Bay Area Plan)

As part of its enforcement responsibilities, the EPA requires each state with nonattainment areas to prepare and submit a SIP that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific

measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. Similarly, under state law, the California Clean Air Act requires an air quality attainment plan to be prepared for areas designated as nonattainment with regard to the federal and state ambient air quality standards. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

As previously stated, the BAAQMD prepared the Bay Area 2010 Clean Air Plan as a multipollutant plan to address the air basin's nonattainment status related to the national ozone standard and the CAAQS, as well as particulate matter, air toxics, and greenhouse gases. The plan establishes a program of rules and regulations directed at reducing air pollutant emissions and achieving state (California) and national air quality standards. The Clean Air Plan's pollutant control strategies are based on the latest scientific and technical information and planning assumptions, updated emission inventory methodologies for various source categories, and the latest population growth projections and vehicle miles traveled (VMT) projections for the region.

Criteria for determining consistency with the Clean Air Plan are defined by the following indicators:

- Consistency Criterion No. 1: The project supports the primary goals of the Clean Air Plan.
- Consistency Criterion No. 2: The project conforms to applicable control measures from the Clean Air Plan and does not disrupt or hinder the implementation of any Clean Air Plan control measures.

The primary goals to which Consistency Criterion No. 1 refer are compliance with the CAAQS and the NAAQS. As evaluated above, the project would not exceed the short-term construction standards with the implementation of mitigation measures. Similarly, the project would not exceed the long-term operational standards and would not violate air quality standards during project operation. Thus, no impact would occur.

The applicable Bay Area 2010 Clean Air Plan control measures to which Consistency Criterion No. 2 refer include Transportation Control Measures (TCM) C-2 and D-3 as well as Energy and Climate Measures (ECM) 1 and 4. As previously stated, the BAAQMD's 2010 Clean Air Plan provides local guidance for the SIP, which provides the framework for air quality basins to achieve attainment of the state and federal ambient air quality standards (CAAQS and NAAQS). TCM C-2, Safe Routes to Schools and Safe Routes to Transit Programs, seeks to facilitate transit through implementation of safe access for pedestrians and cyclists, and TCM D-3, Local Land Use Strategies, promotes land use patterns and infrastructure investments that support mixed-use development to facilitate walking, bicycling, and transit use. ECM 1, Energy Efficiency, seeks to increase energy efficiency, and ECM 4, Shade Tree Planting, attempts to increase shading in urban and suburban communities. No other Clean Air Plan control measures are applicable to the project; even those listed above pertain more closely to plan-level actions, such as a general plan update, than to an individual development project.

In terms of conformance with Clean Air Plan Transportation Control Measures, the project would bring new commercial and residential uses to the area in a mixed-use building. The City of San Mateo General Plan Land Use Diagram designates the project site as Regional Community Commercial/High Density Multi-Family. The proposed project is consistent with this land use designation. The proposed project would provide mixed land uses in a built environment (infill development). These aspects of the project would result in the generation of a reduced amount of air pollutants. According to the EPA, redevelopments produce 32 to 57 percent less air pollutant emissions per capita relative to conventional developments; this is because the number of daily

vehicle trips and daily VMT associated with redevelopments tend to be lower compared with development on vacant land (EPA 2011). Therefore, the project would be consistent with both applicable Transportation Control Measures from the Clean Air Plan (TCM C-2 and TCM D-3).

Regarding conformance with the Energy and Climate Measures (ECM 1 and ECM 4), the project would be required to adhere to the City of San Mateo Climate Action Plan (CAP, 2015), which includes several policy provisions related to energy efficiency. For instance, the project would include a number of electric vehicle (EV) charging stations with designated parking spaces capable of meeting the California Green Building Code Voluntary Standards (CAP Measure AF 2), and implement transportation demand management (TDM) strategies in coordination with the City (CAP Measure AT 2). For these reasons, the proposed project would conform to the project-applicable control measures in the Clean Air Plan and would not disrupt or hinder the implementation of any other control measures.

Air Toxics (TACs) Generated during Construction

Sensitive land uses are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and day care centers.

The project site is located on South El Camino Real between 27th and 28th Avenues. Sensitive receptors near the project site include residential uses to the west, northwest, and south. The nearest residence is within approximately 150 feet. However, all vicinity residences are buffered from the proposed construction site by an existing structure. Sources of construction-related TACs potentially affecting the sensitive receptors include off-road diesel-powered equipment. Construction would result in the generation of diesel PM emissions from the use of off-road diesel equipment required for grading and excavation, paving, and other construction activities. The amount to which the receptors are exposed (a function of concentration and duration of exposure) is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). Health-related risks associated with diesel-exhaust emissions are primarily linked to long-term exposure and the associated risk of contracting cancer.

The use of diesel-powered construction equipment would be temporary and episodic and would occur over several locations isolated from one another. Additionally, construction activities would occur within an area less than 1 acre (see **Appendix A**). Construction projects contained in a site of such size are generally considered by CARB to represent less than significant health risk impacts due to (1) limitations on the off-road diesel equipment able to operate and thus a reduced amount of generated diesel PM, (2) the reduced amount of dust-generating ground disturbance possible compared to larger construction sites, and (3) the reduced duration of construction activities compared to the development of larger sites (CARB 2004). Additionally, mitigation measure **MM 2-1** reduces the amount of construction-generated diesel exhaust particulate matter and other pollutants by requiring the most efficient equipment. For instance, the Tier 3 standards, required by mitigation measure **MM 2-1**, reduce emissions of NOx by more than 29 percent, PM_{10} by 10 percent, and $PM_{2.5}$ by 15 percent. Furthermore, future development would be subject to and would comply with California regulations limiting the idling of vehicles to no more than five minutes, which would further reduce nearby sensitive receptors' exposure to temporary and variable diesel PM emissions.

According to the BAAQMD (2011), construction-generated diesel PM emissions contribute to negative health impacts when construction is extended over lengthy periods of time. As previously stated, project construction would take approximately seven months.

For these reasons and because diesel fumes disperse rapidly over relatively short distances, diesel PM generated by construction activities, in and of itself, would not be expected to expose sensitive receptors to substantial amounts of air toxics.

Air Toxics (TACs) Generated during Project Operations

As discussed above, sensitive land uses are defined as facilities or land uses that include members of the population who are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and day care centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The proposed project is considered a sensitive land use.

There is a potential that future residents could be exposed to TAC emissions from stationary and/or mobile sources. Per BAAQMD guidance, all TAC sources within 1,000 feet of a proposed sensitive receptor need to be identified and analyzed. If emissions of TAC concentrations at a new sensitive receptor generated from all TAC sources in a 1,000-foot radius result in the exceedance of an excess cancer risk level of more than 100 in one million, or a noncancer hazard index[2] greater than 10, the project would result in a significant impact. The BAAQMD CEQA Guidelines also consider exposure from all TAC sources in a 1,000-foot radius to annual $PM_{2.5}$ concentrations that exceed 0.8 micrograms per cubic meter ($\mu g/m^3$) to be significant. According to the BAAQMD's (2012a) Stationary Source Screening Analysis Tool, stationary sources of TACs within 1,000 feet include three backup diesel-powered generators: one located on the project site, one approximately 28 feet to the west, and one approximately 138 feet to the north. Two dry cleaners are located to the west of the project, at 647 and 817 feet away. Two gas stations are within 1,000 feet of the project site, with one directly adjacent to the project site and the other 748 feet northwest of the project site. In terms of mobile TAC sources, the project site is located 87 feet to the west of South El Camino Real and 702 feet to the west of the Caltrain railway corridor.

Table 2-9 identifies the $PM_{2.5}$ concentration, cancer risk, and hazard index exposure at the proposed project site from the three diesel-powered generators, two dry cleaners, two gas stations, one major road, and Caltrain railway corridor and compares them with BAAQMD significance thresholds.

[2] The Hazard Index is the ratio of the computed receptor exposure level to the level known to cause acute or chronic adverse health impacts, as identified by the BAAQMD.

TABLE 2-9
TOXIC AIR CONTAMINANT CONCENTRATIONS

Thresholds	Combined TAC Concentration at Project Site (*Sources include three diesel-powered generators, two dry cleaners, two gas stations, one major road, and a railway corridor.*)
Cancer Risk (BAAQMD Threshold = 100)	53.55
Hazard Index (BAAQMD Threshold = 10)	0.07
$PM_{2.5}$ Concentration (BAAQMD Threshold = 0.8)	0.13
Exceed Thresholds?	**No**

Source: BAAQMD 2012a, 2012b, 2015b

Notes:

The BAAQMD thresholds are cumulative thresholds. This table accounts for the health risk from all local sources (i.e., stationary and mobile sources in a 1,000 foot radius) affecting the project site. Identified TAC concentrations were refined to account for specific distance between the project site and TAC sources with the BAAQMD Distance Adjustment Multiplier Tool.

As shown in **Table 2-9**, the combined $PM_{2.5}$ concentration, combined cancer risk, and combined hazard index at the project site would all be below BAAQMD thresholds.

It is noted that the backup generators would not typically be operational and would only operate during a power outage. It is also noted that diesel-powered generators are regulated by BAAQMD Regulation 2, Rule 5, which provides for the review of TAC emissions in order to evaluate potential public exposure and health risk, to mitigate potentially significant health risks resulting from these exposures, and to provide net health risk benefits by improving the level of control when existing sources are modified or replaced. Pursuant to BAAQMD Regulation 2, Rule 5, all stationary sources having the potential to emit TACs, including diesel-powered generators, are required to obtain permits from the BAAQMD. Permits may be granted to these operations provided they are operated in accordance with applicable BAAQMD rules and regulations. As part of the permitting process, the BAAQMD estimates the risk and hazard impacts of the particular source based on Health Risk Screening Assessments developed on conservative modeling parameters for the particular source.

For the purpose of deliveries for the commercial uses, the proposed project could involve heavy-duty truck trips on-site and thus diesel PM emissions. Development projects that involve numerous heavy-duty truck trips on-site create substantial quantities of diesel PM emissions, described as a TAC above, and therefore can negatively affect sensitive land uses. According to the California Air Pollution Control Officers Association's (CAPCOA) Health Risk Assessments for Proposed Land Use Projects (2009), operations that require fewer than 100 delivery trucks daily are not considered a potential health risk. The proposed project would not require the need for 100 delivery trucks daily as the commercial use takes up only 13,978 square feet and a review of the site plan shows only two loading zones. In order for two loading zones to accommodate 100 delivery trucks, the arrival, unloading, and departure of delivery trucks would result in a rate of two deliveries every half hour over the course of 24 hours each day, which is infeasible and anticipated.

Carbon Monoxide Hot Spots

The primary mobile-source criteria pollutant of local concern is CO. Concentrations of CO are a direct function of the number of vehicles, length of delay, and traffic flow conditions. Transport of this criteria pollutant is extremely limited; CO disperses rapidly with distance from the source under normal meteorological conditions. Under certain meteorological conditions, however, CO concentrations close to congested intersections that experience high levels of traffic and elevated background concentrations may reach unhealthy levels, affecting nearby sensitive receptors. Areas of high CO concentrations, or "hot spots," are typically associated with intersections that are projected to operate at unacceptable levels of service during the peak commute hours.[3]

Based on BAAQMD guidance, projects meeting all of the following screening criteria would be considered to have a less than significant impact on localized CO concentrations if:

1. The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plans, and local congestion management agency plans.

2. The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.

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

According to the transportation impact analysis (Hexagon Transportation Consultants 2016) prepared for the project, there would be 2,207 average daily trips. The highest peak-hour volumes would be 184 trips. Therefore, the project would not increase traffic volumes to more than 44,000 vehicles per hour or 24,000 vehicles per hour where vertical and/or horizontal mixing of pollutants and atmosphere is substantially limited (i.e., an enclosed parking structure).

Odors

The BAAQMD does not have a recommended odor threshold for construction activities. For purposes of this analysis, it is recognized that heavy-duty construction equipment would emit odors. However, construction activities would be short term and finite in nature. Furthermore, equipment exhaust odors would dissipate quickly and are common in an urban environment. For these reasons, the project is not anticipated to create objectionable odors affecting a substantial number of people.

With respect to operational impacts, the BAAQMD recommends screening criteria based on the distance between the receptor and the types of sources known to generate odor. The land uses identified by the BAAQMD as sources of odors include wastewater treatment plants, wastewater pumping facilities, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing and fiberglass manufacturing facilities, painting/coating operations, rendering plants, coffee roasters, food processing facilities, confined

[3] Level of service (LOS) is a measure used by traffic engineers to determine the effectiveness of transportation infrastructure. Level of service is most commonly used to analyze intersections by categorizing traffic flow with corresponding safe driving conditions. LOS A is considered the most efficient level of service and LOS F the least efficient.

animal facilities, feedlots, dairies, green waste and recycling operations, and metal smelting plants. If a source of odors is proposed to be located near existing or planned sensitive receptors, this could have the potential to cause operational-related odor impacts. The project would not include any of the land uses that have been identified by the BAAQMD as odor sources.

3.1 GREENHOUSE GAS EMISSIONS SETTING

Certain gases in the earth's atmosphere, classified as greenhouse gases (GHG), play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. Because the earth has a much lower temperature than the sun, it emits lower-frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth. Without the greenhouse effect, the earth would not be able to support life as we know it.

Prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Fluorinated gases include chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride; however it is noted that these gases are not associated with typical land use development. Human-caused emissions of these GHGs in excess of natural ambient concentrations are believed to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. It is "extremely likely" that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic factors together (IPCC 2014).

Table 3-1 provides descriptions of the primary GHGs attributed to global climate change, including a description of their physical properties, primary sources, and contribution to the greenhouse effect.

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH_4 traps over 25 times more heat per molecule than CO_2, and N_2O absorbs 298 times more heat per molecule than CO_2 (IPCC 2014). Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO_2e), which weigh each gas by its global warming potential (GWP). Expressing GHG emissions in CO_2e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and TACs, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule is dependent on multiple variables and cannot be pinpointed, it is understood that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms. Of the total annual human-caused CO_2 emissions, approximately 55 percent is sequestered through ocean and land uptakes every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO_2 emissions remains stored in the atmosphere (IPCC 2013).

TABLE 3-1
GREENHOUSE GASES

Greenhouse Gas	Description
Carbon Dioxide (CO_2)	Carbon dioxide is a colorless, odorless gas. CO_2 is emitted in a number of ways, both naturally and through human activities. The largest source of CO_2 emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities, and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production, and the use of petroleum-based products can also lead to CO_2 emissions. The atmospheric lifetime of CO_2 is variable because it is so readily exchanged in the atmosphere.[1]
Methane (CH_4)	Methane is a colorless, odorless gas and is the major component of natural gas, about 87 percent by volume. It is also formed and released to the atmosphere by biological processes occurring in anaerobic environments. Methane is emitted from a variety of both human-related and natural sources. Human-related sources include fossil fuel production, animal husbandry (intestinal fermentation in livestock and manure management), rice cultivation, biomass burning, and waste management. These activities release significant quantities of CH_4 to the atmosphere. Natural sources of CH_4 include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. The atmospheric lifetime of CH_4 is about12 years.[2]
Nitrous Oxide (N_2O)	Nitrous oxide is a clear, colorless gas with a slightly sweet odor. Nitrous oxide is produced by both natural and human-related sources. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. Nitrous oxide is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N_2O is approximately 120 years.[3]

Sources: [1] EPA 2016a, [2] EPA 2016b, [3] EPA 2016c

The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; suffice it to say the quantity is enormous, and no single project alone would measurably contribute to a noticeable incremental change in the global average temperature or to global, local, or microclimates. From the standpoint of CEQA, GHG impacts to global climate change are inherently cumulative.

GREENHOUSE GAS EMISSION SOURCES

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the transportation, industrial/manufacturing, utility, residential, commercial, and agricultural emissions sectors (CARB 2014). California is a significant emitter of CO_2e in the world and produced 459 million gross metric tons of CO_2e in 2012; in the state, the transportation sector is the largest emitter of GHGs, followed by electricity generation (CARB 2014). Emissions of CO_2 are byproducts of fossil fuel combustion. CH_4, a highly potent GHG, primarily results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices and landfills. N_2O is also largely attributable to agricultural practices and soil management. CO_2 sinks, or reservoirs, include soil, vegetation and the ocean, each of which absorb CO_2 through sequestration and dissolution (CO_2 dissolving into the water), respectively, two of the most common processes for removing carbon dioxide from the atmosphere.

EFFECTS OF CLIMATE CHANGE ON THE ENVIRONMENT

The Intergovernmental Panel on Climate Change (IPCC) was established in 1988 by the World Meteorological Organization and the United Nations Environment Programme to provide the world with a scientific view on climate change and its potential effects. According to the IPCC, global average temperature is expected to increase relative to the 1986–2005 period by 0.5–8.6 degrees Fahrenheit (°F) (0.3 to 4.8 degrees Celsius [°C]) by the end of the twenty-first century (2081–2100), depending on future GHG emission scenarios (IPCC 2014). According to the California Natural Resources Agency (CNRA 2012), temperatures in California are projected to increase 2.7°F above 2000 averages by 2050 and, depending on emission levels, 4.1–8.6°F by 2100.

Physical conditions beyond average temperatures could be indirectly affected by the accumulation of GHG emissions. For example, changes in weather patterns resulting from increases in global average temperature are expected to result in a decreased volume of precipitation falling as snow in California and an overall reduction in snowpack in the Sierra Nevada. Based on historical data and modeling, the California Department of Water Resources projects that the Sierra snowpack will experience a 25 to 40 percent reduction from its historic average by 2050 (DWR 2008). An increase in precipitation falling as rain rather than snow also could lead to increased potential for floods because water that would normally be held in the Sierra Nevada until spring could flow into the Central Valley concurrently with winter storm events (CNRA 2012). This scenario would place more pressure on California's levee/flood control system.

Another outcome of global climate change is sea level rise. The sea level rose approximately 7 inches during the last century and, assuming that sea level changes along the California coast continue to track global trends, the sea level along the state's coastline in 2050 could be 10–18 inches higher than in 2000 and 31–55 inches higher by the end of this century (CNRA 2012).

As California's existing climate changes over time, the ranges of various plant and wildlife species could shift or be reduced, depending on the favored temperature and moisture regimes of each species. In the worst cases, some species would become extinct or be extirpated from the state if suitable conditions are no longer available (CNRA 2012).

Changes in precipitation patterns and increased temperatures are expected to alter the distribution and character of natural vegetation and the associated moisture content of plants and soils. An increase in the frequency of extreme heat events and drought is also expected. These changes are expected to lead to increased frequency and intensity of large wildfires (CNRA 2012).

Cal-Adapt is a climate change scenario planning tool developed by the California Energy Commission that downscales global climate model data to local and regional resolution under two emissions scenarios: the A-2 scenario represents a business-as-usual future emissions scenario, and the B-1 scenario represents a lower GHG emissions future. According to Cal-Adapt, annual average temperatures in the project area are projected to rise by 3.0–5.3°F by 2100, with the range based on low and high emissions scenarios (Cal-Adapt 2016).

3.2 REGULATORY FRAMEWORK

California has adopted various administrative initiatives and legislation relating to climate change, much of which set aggressive goals for GHG emissions reductions statewide. Although lead agencies must evaluate climate change and greenhouse gas emissions of projects subject to CEQA, the CEQA Guidelines do not require or suggest specific methodologies for performing an assessment or specific thresholds of significance and do not specify GHG reduction mitigation measures. Instead, the guidelines allow lead agencies to choose methodologies and make significance determinations based on substantial evidence, as discussed in further detail below. No state agency has promulgated binding regulations for analyzing GHG emissions, determining their significance, or mitigating significant effects in CEQA documents. Thus, lead agencies exercise their discretion in determining how to analyze GHGs.

CALIFORNIA GLOBAL WARMING SOLUTIONS ACT (ASSEMBLY BILL 32)

The primary acts that have driven GHG regulation and analysis in California include the California Global Warming Solutions Act of 2006 (AB 32) (Health and Safety Code Sections 38500, 38501, 28510, 38530, 38550, 38560, 38561–38565, 38570, 38571, 38574, 38580, 38590, 38592–38599), which instructs CARB to develop and enforce regulations for the reporting and verifying of statewide GHG emissions. The act directed CARB to set a GHG emissions limit based on 1990 levels, to be achieved by 2020. The bill set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner. The heart of the bill is the requirement that statewide GHG emissions be reduced to 1990 levels by 2020.

AB 32 Scoping Plan

CARB adopted the Scoping Plan to achieve the goals of AB 32. The Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. CARB determined that achieving the 1990 emissions level would require a reduction of GHG emissions of approximately 29 percent below what would otherwise occur in 2020 in the absence of new laws and regulations (referred to as "business as usual"). The Scoping Plan evaluates opportunities for sector-specific reductions; integrates early actions by CARB and the state's Climate Action Team[4] and additional GHG reduction measures by both entities; identifies additional measures to be pursued as regulations; and outlines the adopted role of a cap-and-trade program. Additional development of these measures and adoption of the appropriate regulations occurred through the end of year 2013. Key elements of the Scoping Plan include:

- Expanding and strengthening existing energy efficiency programs, as well as building and appliance standards.
- Achieving a statewide renewables energy mix of 33 percent by 2020.
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85 percent of California's GHG emissions.

[4] The Climate Action Team, led by the secretary of the California Environmental Protection Agency, is a group of state agency secretaries and heads of agency, boards, and departments. The team members work to coordinate statewide efforts to implement global warming emissions reduction programs and the state's Climate Adaptation Strategy.

- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets.

- Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, heavy-duty truck measures, and the Low Carbon Fuel Standard.

- Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the state of California's long-term commitment to AB 32 implementation. (CARB 2008)

In 2012, CARB released revised estimates of the expected 2020 emissions reductions. The revised analysis relies on emissions projections updated in light of current economic forecasts that account for the economic downturn since 2008, reduction measures already approved and put in place relating to future fuel and energy demand, and other factors. This reduced the projected 2020 emissions from 596 million metric tons of CO_2e to 545 million metric tons of CO_2e. The reduction in projected 2020 emissions means that the revised business-as-usual reduction necessary to achieve AB 32's goal of reaching 1990 levels by 2020 is now 21.7 percent, down from 29 percent. CARB also provided a lower 2020 inventory forecast that incorporated state-led GHG emissions reduction measures already in place. When this lower forecast is considered, the necessary reduction from business-as-usual needed to achieve the goals of AB 32 is approximately 16 percent.

AB 32 requires CARB to update the Scoping Plan at least once every five years. CARB adopted the first major update to the Scoping Plan on May 22, 2014. The updated Scoping Plan summarizes the most recent science related to climate change, including anticipated impacts to California and the levels of GHG reduction necessary to likely avoid risking irreparable damage. It identifies the actions California has already taken to reduce GHG emissions and focuses on areas where further reductions could be achieved to help meet the 2020 target established by AB 32. The Scoping Plan update also looks beyond 2020 toward the 2050 goal established in Executive Order S-3-05, though not yet adopted as state law, and observes that "a mid-term statewide emission limit will ensure that the State stays on course to meet our long-term goal." The Scoping Plan update does not establish or propose any specific post-2020 goals, but identifies such goals adopted by other governments or recommended by various scientific and policy organizations. Executive Order B-30-15 (signed April 29, 2015) endorses the effort to set interim GHG reduction targets for year 2030 (40 percent below 1990 levels).

Table 3-2 provides a brief overview of other California legislation relating to climate change that may affect emissions associated with the proposed project.

TABLE 3-2
CALIFORNIA STATE CLIMATE CHANGE LEGISLATION

Legislation	Description
Assembly Bill 1493 and Advanced Clean Cars Program	Assembly Bill 1493 ("the Pavley Standard") (Health and Safety Code Sections 42823 and 43018.5) aims to reduce GHG emissions from noncommercial passenger vehicles and light-duty trucks of model years 2009–2016. By 2025, when all rules will be fully implemented, new automobiles will emit 34 percent fewer CO_2e emissions and 75 percent fewer smog-forming emissions.
Low Carbon Fuel Standard	Executive Order S-01-07 (2007) requires a 10 percent or greater reduction in the average fuel carbon intensity for transportation fuels in California. The regulation took effect in 2010 and is codified at Title 17, California Code of Regulations, Sections 95480–95490. The Low Carbon Fuel Standard will reduce GHG emissions by reducing the carbon intensity of transportation fuels used in California by at least 10 percent by 2020.
Renewables Portfolio Standard (Senate Bill X1-2 & Senate Bill 350)	California's Renewables Portfolio Standard (RPS) requires retail sellers of electric services to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020. The 33 percent standard is consistent with the RPS goal established in the Scoping Plan. The passage of Senate Bill 350 in 2015 updates the RPS to require the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources to be increased to 50 percent by December 31, 2030. The bill will make other revisions to the RPS program and to certain other requirements on public utilities and publicly owned electric utilities.
Senate Bill 375*	SB 375 took effect in 2008 and provides a new planning process to coordinate land use planning, regional transportation plans, and funding priorities in order to help California meet the GHG reduction goals established in AB 32. SB 375 requires metropolitan planning organizations to incorporate a sustainable communities strategy in their regional transportation plans that will achieve GHG emissions reduction targets by reducing vehicle miles traveled from light-duty vehicles through the development of more compact, complete, and efficient communities.
California Building Energy Efficiency Standards	In general, the California Building Energy Efficiency Standards require the design of building shells and building components to conserve energy. The California Energy Commission adopted changes to the 2013 Building Energy Efficiency Standards contained in the California Code of Regulations, Title 24, Part 6 (also known as the California Energy Code) and associated administrative regulations in Part 1. The amended standards took effect in the summer of 2014. The 2013 Building Energy Efficiency Standards are 25 percent more efficient than previous standards for residential construction and 30 percent better for nonresidential construction. The standards offer builders better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in homes and businesses. Energy-efficient buildings require less electricity, and increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions.
California Green Building Standards	The California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, is a statewide mandatory construction code developed and adopted by the California Building Standards Commission and the Department of Housing and Community Development. The CALGreen standards require new residential and commercial buildings to comply with mandatory measures under the topics of planning and design, energy efficiency, water efficiency/conservation, material conservation and resource efficiency, and environmental quality. CALGreen also provides voluntary tiers and measures that local governments may adopt that encourage or require additional measures in the five green building topics. The most recent update to the CALGreen Code went into effect July 1, 2014.

** Senate Bill 375 is codified at Government Code Sections 65080, 65400, 65583, 65584.01, 65584.02, 65584.04, 65587, 65588, 14522.1, 14522.2, and 65080.01, as well as at Public Resources Code Sections 21061.3 and 21159.28 and Chapter 4.2.*

California Executive Orders

In addition to the legislation identified in **Table 3-2**, two executive orders—California Executive Order S-03-05 (2005) and California Executive Order B-30-15 (2015)—present GHG emissions reduction goals for the state, though such targets have not been adopted by the state and remain only a goal of the executive orders. Specifically, Executive Order S-03-05 seeks to achieve a reduction of GHG emissions of 80 percent below 1990 levels by 2050 and Executive Order B-30-15 seeks to achieve a reduction of GHG emissions of 40 percent below 1990 levels by 2030. Technically, a governor's executive order does not have the effect of a law or regulation and is not a mandate for local governments though the implementation of actions by state agencies in support of the executive goals could affect local governments.

SAN MATEO CLIMATE ACTION PLAN

The City of San Mateo adopted a community-wide climate action plan (CAP) on April 6, 2015, that updates and consolidates the City's existing GHG Emissions Reduction Plan, Climate Action Plan for Municipal Operations and Facilities, and Sustainable Initiatives Plan based on the vision of San Mateo residents, businesses, and local government. The goal was to prepare a CAP that serves as an updated and Qualified GHG Reduction Strategy consistent with BAAQMD GHG Plan Level Guidance and CEQA Guidelines, Section 15183.5. The CAP was developed through a robust public process that engaged the San Mateo Sustainability Commission, staff, and the community.

A CAP is a comprehensive strategy for a community to reduce emissions of GHGs, which are responsible for causing climate change according to scientific consensus. The San Mateo CAP includes five key pieces:

1. An inventory of the annual GHG emissions attributable to San Mateo based on the types of activities occurring within the community and guidance from various protocols and agencies. The City has inventories of emissions for 2005 and 2010.

2. A forecast of what GHG emissions are likely to look like in 2020 and 2030, based on expected population and economic growth adopted in the General Plan.

3. A reduction target, which identifies a goal for reducing GHG emissions by 2020 and 2030.

4. Reduction strategies, which describe the actions the community intends to take to achieve the reduction target. Each strategy identifies the amount of GHGs that will be reduced once the strategy is implemented. The CAP also estimate benefits of existing programs.

5. An implementation and monitoring program to track progress toward the reduction target and the status of the reduction strategies. A CAP consistency checklist for future development projects is included in the implementation program.

3.3 GREENHOUSE GAS EMISSIONS IMPACT ASSESSMENT

Similar to the air quality impact analysis, the assessment of GHG emissions provided below is based on guidance from the BAAQMD. The BAAQMD CEQA Guidelines include guidance on assessing GHG and climate change impacts as required under CEQA Section 15183.5(b) and establish thresholds of significance for impacts related to GHG emissions. Even though the BAAQMD is not currently recommending the use of these guidelines, the City of San Mateo has determined, in its discretion, that the guidelines are based on substantial evidence to "attribute an appropriate

share of greenhouse gas emission reductions necessary to reach AB 32 goals to new land use development projects in the BAAQMD's jurisdiction that are evaluated pursuant to CEQA" (BAAQMD 2011). Therefore, the City is using the BAAQMD CEQA Guidelines to determine the level of impact from the project's contribution of GHG emissions.

The BAAQMD does not have an adopted threshold of significance for construction-related GHG emissions; however, the air district recommends the quantification and disclosure of construction-generated GHG emissions.

The BAAQMD project-level threshold of significance for GHG emissions is the project generation of 1,100 metric tons of CO_2e per year during operations; **or** the project generation of 4.6 metric tons of CO_2e per service population (residents + employees) per year during operations; **or** compliance with a Qualified GHG Reduction Strategy. For the purposes of this assessment, the project is evaluated for compliance with the City of San Mateo CAP and the CO_2e per service population per year threshold during operations.

METHODOLOGY

GHG emissions were modeled using CalEEMod (see **Appendix A**). Project construction-generated emissions were calculated using the CalEEMod computer program accounting for a construction time frame of approximately seven months. The project would substantially modify the project site through a combination of building demolition and construction. As previously stated, approximately 5,806 square feet of building space would be demolished and associated materials hauled from the site. Additionally, 20,700 square feet of pavement and 40,938 cubic yards of soil would be removed and hauled off-site. At the completion of construction activities, the Hillsdale Terraces project would consist of 13,978 square feet of commercial space, 80,726 square feet of living space, 12,217 square feet of space for hallways, elevators, amenities, and mechanical room, and a 103,613-square-foot subterranean parking garage. Operational emissions were based on the estimated traffic trip generation rates from the transportation impact analysis prepared for the project (Hexagon Transportation Consultants 2016).

COMPLIANCE WITH SAN MATEO CLIMATE ACTION PLAN

The San Mateo CAP is a strategic planning document that identifies sources of GHG emissions within the city's boundaries, presents current and future emissions estimates, identifies a GHG reduction target for future years, and presents strategic programs, policies, and projects to reduce emissions from the energy, transportation, land use, water use, and waste sectors. The GHG reduction programs, policies, projects, and strategies are referred to as "reduction measures" in the CAP. The emissions reduction program developed by the City follows the BAAQMD's CEQA Guidelines (2011) and the corresponding criteria for a Qualified Greenhouse Gas Emissions Reduction Program as defined by the BAAQMD, which in turn were developed to comply with the requirements of AB 32 and achieve the goals of the AB 32 Scoping Plan. A Qualified Greenhouse Gas Emissions Reduction Program adopted by a local jurisdiction should include the elements below, as described in CEQA Guidelines Section 15183.5. The BAAQMD's CEQA Guidelines provide the methodology to determine whether a GHG reduction program meets these requirements.

- Quantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area.

- Establish a level, based on substantial evidence, below which the contribution to greenhouse gas emissions from activities covered by the plan would not be cumulatively considerable.

- Identify and analyze the greenhouse gas emissions resulting from specific actions or categories of actions anticipated within the geographic area.

- Specify measures or a group of measures, including performance standards, which substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level.

- Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels.

- Be adopted in a public process following environmental review.

The City's Climate Action Plan meets BAAQMD guidelines as follows:

- The CAP quantifies citywide GHG emissions, both existing and projected over the specified time period, resulting from activities within the city as defined by the City's General Plan.

- The CAP establishes a level, based on substantial evidence, below which the contribution of emissions from activities covered by the plan would not be cumulatively considerable.

- CAP policy provisions reduce emissions to 15 percent below 2005 levels by 2020.

- CAP policy provisions reduce emissions to 35 percent below 2005 levels by 2030.

- CAP policy provisions provide a foundation for the City to reach the goal of reducing emissions to 80 percent below 1990 levels by 2050.

- The CAP identifies and analyzes the emissions resulting from specific actions or categories of actions anticipated within the city.

- The CAP specifies measures or a group of measures, including performance standards.

- The CAP establishes a mechanism to monitor its progress toward achieving the level and to require amendment if the plan is not achieving specific levels.

The reduction measures proposed in the CAP build on inventory results and key opportunities prioritized by City staff, members of the San Mateo Sustainability Commission, and members of the public. The strategies in the CAP consist of measures and actions that identify the steps the City will take to support reductions in GHG emissions. The City of San Mateo will achieve these reductions in GHG emissions through a mix of voluntary programs and new strategic standards. All standards presented in the CAP respond to the needs of development, avoiding unnecessary regulation, streamlining new development, and achieving more efficient use of resources.

The project is consistent with the GHG inventory and forecast contained in the CAP. Both the existing and projected GHG inventory in the CAP were derived based on the land use designations and associated densities defined in the City's General Plan. The City of San Mateo General Plan Land Use Diagram designates the project site as Regional Community Commercial/High Density Multi-Family. The proposed project is consistent with this land use

designation. Therefore, since the project is consistent with the City's General Plan and does not propose an amendment to modify the type, intensity, or density of use, it is also consistent with the GHG inventory and forecast in the CAP.

In addition, a specific project proposal is considered consistent with the San Mateo CAP if it complies with the "required" GHG reduction measures contained in the adopted CAP. The required GHG reduction measures applicable to the proposed project include the following:

- Reduction Measure AF 2: Provide EV charging stations with designated parking spaces capable of meeting the California Green Building Code Voluntary Standards.
- Reduction Measure AT 2: Implement TDM strategies to comply with the appropriate trip reduction target identified by the City of San Mateo.
- Reduction Measure SW 1: Provide an area of sufficient space to store and allow access to a compost bin.

The proposed project would not make any changes to current City standards. All development in the City of San Mateo, including the project, is required to adhere to all City-adopted policy provisions, including those contained in the adopted CAP. The project applicant has completed a checklist to confirm consistency with CAP (see **Appendix B**). The City ensures all provisions of the San Mateo CAP are incorporated into projects and their permits through development review and applications of conditions of approval as applicable.

GENERATION OF GREENHOUSE GAS EMISSIONS

The project's GHG emissions would be generated over the short term from construction activities, consisting primarily of emissions from equipment exhaust. There would also be long-term regional emissions associated with new vehicular trips and indirect source emissions, such as electricity usage for lighting.

Construction GHG Emissions

The approximate quantity of annual GHG emissions generated by construction equipment is shown in **Table 3-3.**

TABLE 3-3
CONSTRUCTION-RELATED GREENHOUSE GAS EMISSIONS (METRIC TONS PER YEAR)

Construction Activities	CO_2e
2017	449
BAAQMD Potentially Significant Impact Threshold	None
Exceed BAAQMD Threshold?	**No**

*Source: CalEEMod version 2013.2.2. See **Appendix A** for emission model outputs.*

Notes: Project construction activities are assumed to occur over a seven-month period.

As shown, construction would generate approximately 449 metric tons of CO_2e. Once construction is complete, generation of GHG emissions would cease. As previously stated, the BAAQMD does not have an adopted threshold of significance for construction-related GHG emissions.

Operational GHG Emissions

The project's long-term operational emissions are summarized in **Table 3-4**.

TABLE 3-4
GREENHOUSE GAS EMISSIONS – PROJECT OPERATIONS (METRIC TONS PER YEAR OF CO_2E)

Emissions Source	CO_2e
Proposed Project	
Area Source (landscaping, hearth)	4
Energy	384
Mobile	748
Waste	91
Water	19
Total	**1,246**
Existing Baseline	
Area Source (landscaping, hearth)	0
Energy	35
Mobile	45
Waste	2
Water	4
Total	**86**
Difference	
Area Source (landscaping, hearth)	4
Energy	349
Mobile	703
Waste	89
Water	15
Total	**1,160**

*Source: CalEEMod version 2013.2.2 See **Appendix A** for emission model outputs*

Notes:

Proposed project emissions account for the daily rates for Hillsdale Terraces identified in the transportation impact analysis (Hexagon 2016) and the energy-efficiency features provided by the applicant.

As shown in **Table 3-4**, the operational GHG emissions would be 1,160 metric tons of CO_2e per year.

As previously described, the BAAQMD-recommended threshold is 4.6 metric tons of CO_2e per service population (employees + residents) per year in 2020. The BAAQMD's approach is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions. The project is expected to generate 140 employees and 195 residents, totaling 335 people. Therefore, the project service population is 335.

As shown in **Table 3-5**, dividing the GHG emissions for each time period yields a metric ton per service population ratio of 3.5 for year 2020 conditions.

TABLE 3-5
GREENHOUSE GAS EMISSIONS PER SERVICE POPULATION

Per Capita Emissions	Emissions	Jobs	Population	Service Population Increase	$MTCO_2e$/ SP/Year	BAAQMD Threshold
Hillsdale Terraces (Year 2020)	1,160	140	195	335	**3.5**	4.6

As shown in **Table 3-5**, the proposed project would not surpass the year 2020 significance threshold. BAAQMD thresholds were developed based on substantial evidence that such thresholds represent quantitative levels of GHG emissions, compliance with which means that the environmental impact of the GHG emissions will normally not be cumulatively considerable under CEQA (BAAQMD 2011). Compliance with such thresholds will be part of the solution to the cumulative GHG emissions problem, rather than hinder the state's ability to meet its goals of reduced statewide GHG emissions under AB 32.

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APPENDICES

APPENDIX A:
CALEEMOD OUTPUT FILES

Hillsdale Terraces

San Mateo County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	171.00	Space	0.00	68,400.00	0
High Turnover (Sit Down Restaurant)	13.98	1000sqft	0.00	13,980.00	0
Condo/Townhouse High Rise	74.00	Dwelling Unit	1.00	74,000.00	212

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	368.08	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 2020 PG&E CO2 intensity factor used.

Land Use - glitch

Construction Phase - building construction, paving, and architectural coating assumed to occur simultaneously.

Trips and VMT -

Demolition -

Grading - 40,938 cubic yards for excavation divided into site prep and grading.

Vehicle Trips - Rates adjusted per Traffic Report.

Energy Use - glitch

Construction Off-road Equipment Mitigation - glitch

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation - Assumed PV solar on 1/4 of acre and 8 watts per square foot.

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	250.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	250.00
tblArchitecturalCoating	EF_Residential_Exterior	150.00	250.00
tblArchitecturalCoating	EF_Residential_Interior	100.00	250.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	5.00	100.00
tblConstructionPhase	NumDays	2.00	21.00
tblConstructionPhase	NumDays	5.00	100.00
tblConstructionPhase	NumDays	1.00	22.00
tblConstructionPhase	PhaseEndDate	12/20/2017	8/2/2017
tblConstructionPhase	PhaseEndDate	12/20/2017	8/2/2017
tblConstructionPhase	PhaseStartDate	8/3/2017	3/16/2017
tblConstructionPhase	PhaseStartDate	8/3/2017	3/16/2017
tblGrading	AcresOfGrading	7.88	0.75
tblGrading	AcresOfGrading	11.00	0.50
tblGrading	MaterialExported	0.00	20,469.00

tblGrading	MaterialExported	0.00	20,469.00
tblLandUse	LotAcreage	1.54	0.00
tblLandUse	LotAcreage	0.32	0.00
tblLandUse	LotAcreage	1.16	1.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	368.08
tblProjectCharacteristics	OperationalYear	2014	2018
tblVehicleTrips	ST_TR	7.16	5.81
tblVehicleTrips	ST_TR	158.37	127.20
tblVehicleTrips	SU_TR	6.07	5.81
tblVehicleTrips	SU_TR	131.84	127.20
tblVehicleTrips	WD_TR	6.59	5.81
tblVehicleTrips	WD_TR	127.15	127.20

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	47.3372	54.5558	50.4401	0.1038	7.4886	2.1667	9.1763	3.4859	2.0628	5.0385	0.0000	10,298.8911	10,298.8911	0.9190	0.0000	10,318.1909
Total	**47.3372**	**54.5558**	**50.4401**	**0.1038**	**7.4886**	**2.1667**	**9.1763**	**3.4859**	**2.0628**	**5.0385**	**0.0000**	**10,298.8911**	**10,298.8911**	**0.9190**	**0.0000**	**10,318.1909**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	43.8772	38.6324	45.6003	0.1038	7.4886	1.2412	8.2706	3.4859	1.2385	4.2372	0.0000	10,298.8911	10,298.8911	0.9190	0.0000	10,318.1909
Total	**43.8772**	**38.6324**	**45.6003**	**0.1038**	**7.4886**	**1.2412**	**8.2706**	**3.4859**	**1.2385**	**4.2372**	**0.0000**	**10,298.8911**	**10,298.8911**	**0.9190**	**0.0000**	**10,318.1909**

	ROG	NOx	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	**7.31**	**29.19**	**9.60**	**0.00**	**0.00**	**42.71**	**9.87**	**0.00**	**39.96**	**15.90**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	lb/day										lb/day					
Area	30.1410	0.4269	38.3578	0.0134		4.6106	4.6106		4.6099	4.6099	475.7190	1,016.5628	1,492.2818	0.4809	0.0519	1,518.4704
Energy	0.1233	1.0922	0.7294	6.7300e-003		0.0852	0.0852		0.0852	0.0852		1,345.4129	1,345.4129	0.0258	0.0247	1,353.6009
Mobile	5.3787	7.0686	39.6133	0.0876	6.3997	0.1014	6.5011	1.7106	0.0935	1.8041		7,129.2083	7,129.2083	0.3020		7,135.5498
Total	**35.6430**	**8.5878**	**78.7005**	**0.1077**	**6.3997**	**4.7972**	**11.1969**	**1.7106**	**4.7886**	**6.4992**	**475.7190**	**9,491.1840**	**9,966.9030**	**0.8086**	**0.0766**	**10,007.6210**

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	lb/day										lb/day					
Area	30.1410	0.4269	38.3578	0.0134		4.6106	4.6106		4.6099	4.6099	475.7190	1,016.5628	1,492.2818	0.4809	0.0519	1,518.4704
Energy	0.1137	1.0088	0.6841	6.2000e-003		0.0786	0.0786		0.0786	0.0786		1,240.6885	1,240.6885	0.0238	0.0228	1,248.2391
Mobile	5.0103	5.2428	30.0264	0.0584	4.1331	0.0713	4.2044	1.1047	0.0658	1.1705		4,745.2908	4,745.2908	0.2153		4,749.8115
Total	**35.2651**	**6.6785**	**69.0682**	**0.0779**	**4.1331**	**4.7605**	**8.8936**	**1.1047**	**4.7543**	**5.8590**	**475.7190**	**7,002.5421**	**7,478.2611**	**0.7199**	**0.0747**	**7,516.5209**

	ROG	NOx	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	1.06	22.23	12.24	27.66	35.42	0.77	20.57	35.42	0.72	9.85	0.00	26.22	24.97	10.97	2.51	24.89

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2017	1/13/2017	5	10	
2	Site Preparation	Site Preparation	1/14/2017	2/14/2017	5	22	
3	Grading	Grading	2/15/2017	3/15/2017	5	21	
4	Building Construction	Building Construction	3/16/2017	8/2/2017	5	100	
5	Paving	Paving	3/16/2017	8/2/2017	5	100	
6	Architectural Coating	Architectural Coating	3/16/2017	8/2/2017	5	100	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0.75

Acres of Paving: 0

Residential Indoor: 149,850; Residential Outdoor: 49,950; Non-Residential Indoor: 123,570; Non-Residential Outdoor: 41,190 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	174	0.41
Grading	Rubber Tired Dozers	1	6.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	226	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	39.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	2,559.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	2,559.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	88.00	21.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Clean Paved Roads

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8423	0.0000	0.8423	0.1275	0.0000	0.1275			0.0000			0.0000
Off-Road	2.7216	26.5855	20.8712	0.0245		1.6062	1.6062		1.5022	1.5022		2,457.4682	2,457.4682	0.6235		2,470.5620
Total	**2.7216**	**26.5855**	**20.8712**	**0.0245**	**0.8423**	**1.6062**	**2.4485**	**0.1275**	**1.5022**	**1.6298**		**2,457.4682**	**2,457.4682**	**0.6235**		**2,470.5620**

3.2 Demolition - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0874	1.0157	1.1439	2.8400e-003	0.0675	0.0128	0.0803	0.0185	0.0117	0.0302		281.2039	281.2039	2.0100e-003		281.2460
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0428	0.0571	0.6405	1.4600e-003	0.1226	9.0000e-004	0.1235	0.0325	8.3000e-004	0.0334		119.2236	119.2236	5.8500e-003		119.3465
Total	**0.1303**	**1.0728**	**1.7844**	**4.3000e-003**	**0.1901**	**0.0137**	**0.2038**	**0.0510**	**0.0126**	**0.0636**		**400.4275**	**400.4275**	**7.8600e-003**		**400.5925**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8423	0.0000	0.8423	0.1275	0.0000	0.1275			0.0000			0.0000
Off-Road	0.5689	12.2343	15.5622	0.0245		0.7231	0.7231		0.7231	0.7231	0.0000	2,457.4682	2,457.4682	0.6235		2,470.5620
Total	**0.5689**	**12.2343**	**15.5622**	**0.0245**	**0.8423**	**0.7231**	**1.5654**	**0.1275**	**0.7231**	**0.8507**	**0.0000**	**2,457.4682**	**2,457.4682**	**0.6235**		**2,470.5620**

3.2 Demolition - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0874	1.0157	1.1439	2.8400e-003	0.0675	0.0128	0.0803	0.0185	0.0117	0.0302		281.2039	281.2039	2.0100e-003		281.2460
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0428	0.0571	0.6405	1.4600e-003	0.1226	9.0000e-004	0.1235	0.0325	8.3000e-004	0.0334		119.2236	119.2236	5.8500e-003		119.3465
Total	**0.1303**	**1.0728**	**1.7844**	**4.3000e-003**	**0.1901**	**0.0137**	**0.2038**	**0.0510**	**0.0126**	**0.0636**		**400.4275**	**400.4275**	**7.8600e-003**		**400.5925**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.3987	0.0000	5.3987	2.9150	0.0000	2.9150			0.0000			0.0000
Off-Road	2.3109	24.2288	15.9299	0.0171		1.3067	1.3067		1.2022	1.2022		1,752.1239	1,752.1239	0.5369		1,763.3977
Total	**2.3109**	**24.2288**	**15.9299**	**0.0171**	**5.3987**	**1.3067**	**6.7054**	**2.9150**	**1.2022**	**4.1172**		**1,752.1239**	**1,752.1239**	**0.5369**		**1,763.3977**

3.3 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.6074	30.2919	34.1160	0.0848	2.0145	0.3805	2.3950	0.5509	0.3499	0.9008		8,386.9545	8,386.9545	0.0598		8,388.2108
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0264	0.0351	0.3941	9.0000e-004	0.0754	5.6000e-004	0.0760	0.0200	5.1000e-004	0.0205		73.3684	73.3684	3.6000e-003		73.4440
Total	**2.6338**	**30.3270**	**34.5102**	**0.0857**	**2.0899**	**0.3811**	**2.4710**	**0.5709**	**0.3504**	**0.9213**		**8,460.3229**	**8,460.3229**	**0.0634**		**8,461.6548**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.3987	0.0000	5.3987	2.9150	0.0000	2.9150			0.0000			0.0000
Off-Road	0.4158	8.3054	11.0902	0.0171		0.4010	0.4010		0.4010	0.4010	0.0000	1,752.1239	1,752.1239	0.5369		1,763.3977
Total	**0.4158**	**8.3054**	**11.0902**	**0.0171**	**5.3987**	**0.4010**	**5.7996**	**2.9150**	**0.4010**	**3.3160**	**0.0000**	**1,752.1239**	**1,752.1239**	**0.5369**		**1,763.3977**

3.3 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.6074	30.2919	34.1160	0.0848	2.0145	0.3805	2.3950	0.5509	0.3499	0.9008		8,386.9545	8,386.9545	0.0598		8,388.2108
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0264	0.0351	0.3941	9.0000e-004	0.0754	5.6000e-004	0.0760	0.0200	5.1000e-004	0.0205		73.3684	73.3684	3.6000e-003		73.4440
Total	**2.6338**	**30.3270**	**34.5102**	**0.0857**	**2.0899**	**0.3811**	**2.4710**	**0.5709**	**0.3504**	**0.9213**		**8,460.3229**	**8,460.3229**	**0.0634**		**8,461.6548**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.6647	0.0000	4.6647	2.5035	0.0000	2.5035			0.0000			0.0000
Off-Road	1.8844	19.7889	13.1786	0.0141		1.0661	1.0661		0.9808	0.9808		1,439.1894	1,439.1894	0.4410		1,448.4496
Total	**1.8844**	**19.7889**	**13.1786**	**0.0141**	**4.6647**	**1.0661**	**5.7308**	**2.5035**	**0.9808**	**3.4843**		**1,439.1894**	**1,439.1894**	**0.4410**		**1,448.4496**

3.4 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.7316	31.7344	35.7406	0.0888	2.1104	0.3986	2.5090	0.5771	0.3666	0.9437		8,786.3333	8,786.3333	0.0627		8,787.6494
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0264	0.0351	0.3941	9.0000e-004	0.0754	5.6000e-004	0.0760	0.0200	5.1000e-004	0.0205		73.3684	73.3684	3.6000e-003		73.4440
Total	**2.7579**	**31.7695**	**36.1348**	**0.0897**	**2.1858**	**0.3992**	**2.5850**	**0.5971**	**0.3671**	**0.9642**		**8,859.7017**	**8,859.7017**	**0.0663**		**8,861.0935**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.6647	0.0000	4.6647	2.5035	0.0000	2.5035			0.0000			0.0000
Off-Road	0.3416	6.8371	9.0489	0.0141		0.3308	0.3308		0.3308	0.3308	0.0000	1,439.1894	1,439.1894	0.4410		1,448.4496
Total	**0.3416**	**6.8371**	**9.0489**	**0.0141**	**4.6647**	**0.3308**	**4.9954**	**2.5035**	**0.3308**	**2.8342**	**0.0000**	**1,439.1894**	**1,439.1894**	**0.4410**		**1,448.4496**

3.4 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.7316	31.7344	35.7406	0.0888	2.1104	0.3986	2.5090	0.5771	0.3666	0.9437		8,786.3333	8,786.3333	0.0627		8,787.6494
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0264	0.0351	0.3941	9.0000e-004	0.0754	5.6000e-004	0.0760	0.0200	5.1000e-004	0.0205		73.3684	73.3684	3.6000e-003		73.4440
Total	**2.7579**	**31.7695**	**36.1348**	**0.0897**	**2.1858**	**0.3992**	**2.5850**	**0.5971**	**0.3671**	**0.9642**		**8,859.7017**	**8,859.7017**	**0.0663**		**8,861.0935**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.9546	19.1088	14.3110	0.0220		1.2257	1.2257		1.1823	1.1823		2,034.2860	2,034.2860	0.4268		2,043.2497
Total	**2.9546**	**19.1088**	**14.3110**	**0.0220**		**1.2257**	**1.2257**		**1.1823**	**1.1823**		**2,034.2860**	**2,034.2860**	**0.4268**		**2,043.2497**

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2293	1.8458	2.7580	4.9100e-003	0.1390	0.0262	0.1652	0.0396	0.0241	0.0637		483.7996	483.7996	3.6700e-003		483.8766
Worker	0.2899	0.3865	4.3356	9.8700e-003	0.8299	6.1100e-003	0.8360	0.2201	5.6200e-003	0.2257		807.0522	807.0522	0.0396		807.8841
Total	**0.5192**	**2.2324**	**7.0936**	**0.0148**	**0.9689**	**0.0323**	**1.0012**	**0.2597**	**0.0297**	**0.2895**		**1,290.8518**	**1,290.8518**	**0.0433**		**1,291.7608**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6384	12.0322	13.4287	0.0220		0.7298	0.7298		0.7298	0.7298	0.0000	2,034.2860	2,034.2860	0.4268		2,043.2497
Total	**0.6384**	**12.0322**	**13.4287**	**0.0220**		**0.7298**	**0.7298**		**0.7298**	**0.7298**	**0.0000**	**2,034.2860**	**2,034.2860**	**0.4268**		**2,043.2497**

3.5 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2293	1.8458	2.7580	4.9100e-003	0.1390	0.0262	0.1652	0.0396	0.0241	0.0637		483.7996	483.7996	3.6700e-003		483.8766
Worker	0.2899	0.3865	4.3356	9.8700e-003	0.8299	6.1100e-003	0.8360	0.2201	5.6200e-003	0.2257		807.0522	807.0522	0.0396		807.8841
Total	**0.5192**	**2.2324**	**7.0936**	**0.0148**	**0.9689**	**0.0323**	**1.0012**	**0.2597**	**0.0297**	**0.2895**		**1,290.8518**	**1,290.8518**	**0.0433**		**1,291.7608**

3.6 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1857	12.0981	9.0308	0.0133		0.7333	0.7333		0.6755	0.6755		1,347.6575	1,347.6575	0.4052		1,356.1677
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1857**	**12.0981**	**9.0308**	**0.0133**		**0.7333**	**0.7333**		**0.6755**	**0.6755**		**1,347.6575**	**1,347.6575**	**0.4052**		**1,356.1677**

3.6 Paving - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0428	0.0571	0.6405	1.4600e-003	0.1226	9.0000e-004	0.1235	0.0325	8.3000e-004	0.0334		119.2236	119.2236	5.8500e-003		119.3465
Total	**0.0428**	**0.0571**	**0.6405**	**1.4600e-003**	**0.1226**	**9.0000e-004**	**0.1235**	**0.0325**	**8.3000e-004**	**0.0334**		**119.2236**	**119.2236**	**5.8500e-003**		**119.3465**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3146	6.5459	9.7014	0.0133		0.3818	0.3818		0.3818	0.3818	0.0000	1,347.6575	1,347.6575	0.4052		1,356.1677
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3146**	**6.5459**	**9.7014**	**0.0133**		**0.3818**	**0.3818**		**0.3818**	**0.3818**	**0.0000**	**1,347.6575**	**1,347.6575**	**0.4052**		**1,356.1677**

3.6 Paving - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0428	0.0571	0.6405	1.4600e-003	0.1226	9.0000e-004	0.1235	0.0325	8.3000e-004	0.0334		119.2236	119.2236	5.8500e-003		119.3465
Total	**0.0428**	**0.0571**	**0.6405**	**1.4600e-003**	**0.1226**	**9.0000e-004**	**0.1235**	**0.0325**	**8.3000e-004**	**0.0334**		**119.2236**	**119.2236**	**5.8500e-003**		**119.3465**

3.7 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	42.2434					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733		281.4481	281.4481	0.0297		282.0721
Total	**42.5757**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**		**281.4481**	**281.4481**	**0.0297**		**282.0721**

3.7 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0593	0.0791	0.8868	2.0200e-003	0.1698	1.2500e-003	0.1710	0.0450	1.1500e-003	0.0462		165.0789	165.0789	8.1000e-003		165.2490
Total	**0.0593**	**0.0791**	**0.8868**	**2.0200e-003**	**0.1698**	**1.2500e-003**	**0.1710**	**0.0450**	**1.1500e-003**	**0.0462**		**165.0789**	**165.0789**	**8.1000e-003**		**165.2490**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	42.2434					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0297		282.0721
Total	**42.3028**	**1.3570**	**1.8324**	**2.9700e-003**		**0.0951**	**0.0951**		**0.0951**	**0.0951**	**0.0000**	**281.4481**	**281.4481**	**0.0297**		**282.0721**

3.7 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0593	0.0791	0.8868	2.0200e-003	0.1698	1.2500e-003	0.1710	0.0450	1.1500e-003	0.0462		165.0789	165.0789	8.1000e-003		165.2490
Total	**0.0593**	**0.0791**	**0.8868**	**2.0200e-003**	**0.1698**	**1.2500e-003**	**0.1710**	**0.0450**	**1.1500e-003**	**0.0462**		**165.0789**	**165.0789**	**8.1000e-003**		**165.2490**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Destination Accessibility

Increase Transit Accessibility

Integrate Below Market Rate Housing

Improve Pedestrian Network

Unbundle Parking Cost

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.0103	5.2428	30.0264	0.0584	4.1331	0.0713	4.2044	1.1047	0.0658	1.1705		4,745.2908	4,745.2908	0.2153		4,749.8115
Unmitigated	5.3787	7.0686	39.6133	0.0876	6.3997	0.1014	6.5011	1.7106	0.0935	1.8041		7,129.2083	7,129.2083	0.3020		7,135.5498

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse High Rise	429.94	429.94	429.94	959,783	619,852
Enclosed Parking with Elevator	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	1,778.26	1,778.26	1778.26	2,063,247	1,332,496
Total	2,208.20	2,208.20	2,208.20	3,023,031	1,952,347

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
Condo/Townhouse High Rise	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
High Turnover (Sit Down	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.579415	0.062669	0.176431	0.113724	0.029579	0.004153	0.015740	0.004138	0.002638	0.003681	0.006622	0.000227	0.000983

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Kilowatt Hours of Renewable Electricity Generated

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1137	1.0088	0.6841	6.2000e-003		0.0786	0.0786		0.0786	0.0786		1,240.6885	1,240.6885	0.0238	0.0228	1,248.2391
NaturalGas Unmitigated	0.1233	1.0922	0.7294	6.7300e-003		0.0852	0.0852		0.0852	0.0852		1,345.4129	1,345.4129	0.0258	0.0247	1,353.6009

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	lb/day										lb/day					
High Turnover (Sit Down Restaurant)	6511.62	0.0702	0.6384	0.5363	3.8300e-003		0.0485	0.0485		0.0485	0.0485		766.0725	766.0725	0.0147	0.0140	770.7347
Condo/Townhouse High Rise	4924.39	0.0531	0.4538	0.1931	2.9000e-003		0.0367	0.0367		0.0367	0.0367		579.3405	579.3405	0.0111	0.0106	582.8662
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1233**	**1.0922**	**0.7294**	**6.7300e-003**		**0.0852**	**0.0852**		**0.0852**	**0.0852**		**1,345.4129**	**1,345.4129**	**0.0258**	**0.0247**	**1,353.6009**

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	lb/day										lb/day					
High Turnover (Sit Down Restaurant)	6.27037	0.0676	0.6147	0.5164	3.6900e-003		0.0467	0.0467		0.0467	0.0467		737.6911	737.6911	0.0141	0.0135	742.1806
Condo/Townhouse High Rise	4.27548	0.0461	0.3940	0.1677	2.5100e-003		0.0319	0.0319		0.0319	0.0319		502.9974	502.9974	9.6400e-003	9.2200e-003	506.0585
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1137**	**1.0088**	**0.6841**	**6.2000e-003**		**0.0786**	**0.0786**		**0.0786**	**0.0786**		**1,240.6885**	**1,240.6885**	**0.0238**	**0.0227**	**1,248.2391**

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	lb/day										lb/day					
Mitigated	30.1410	0.4269	38.3578	0.0134		4.6106	4.6106		4.6099	4.6099	475.7190	1,016.5628	1,492.2818	0.4809	0.0519	1,518.4704
Unmitigated	30.1410	0.4269	38.3578	0.0134		4.6106	4.6106		4.6099	4.6099	475.7190	1,016.5628	1,492.2818	0.4809	0.0519	1,518.4704

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	lb/day										lb/day					
Architectural Coating	0.5208					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.3465					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	26.0823	0.3554	32.1903	0.0131		4.5770	4.5770		4.5763	4.5763	475.7190	1,005.5294	1,481.2484	0.4699	0.0519	1,507.2059
Landscaping	0.1914	0.0715	6.1674	3.2000e-004		0.0336	0.0336		0.0336	0.0336		11.0334	11.0334	0.0110		11.2645
Total	**30.1410**	**0.4269**	**38.3578**	**0.0134**		**4.6106**	**4.6106**		**4.6099**	**4.6099**	**475.7190**	**1,016.5628**	**1,492.2818**	**0.4809**	**0.0519**	**1,518.4704**

6.2 Area by SubCategory

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	lb/day										lb/day					
Architectural Coating	0.5208					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.3465					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	26.0823	0.3554	32.1903	0.0131		4.5770	4.5770		4.5763	4.5763	475.7190	1,005.5294	1,481.2484	0.4699	0.0519	1,507.2059
Landscaping	0.1914	0.0715	6.1674	3.2000e-004		0.0336	0.0336		0.0336	0.0336		11.0334	11.0334	0.0110		11.2645
Total	**30.1410**	**0.4269**	**38.3578**	**0.0134**		**4.6106**	**4.6106**		**4.6099**	**4.6099**	**475.7190**	**1,016.5628**	**1,492.2818**	**0.4809**	**0.0519**	**1,518.4704**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Toilet

Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Vegetation

Hillsdale Terraces

San Mateo County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	171.00	Space	0.00	68,400.00	0
High Turnover (Sit Down Restaurant)	13.98	1000sqft	0.00	13,980.00	0
Condo/Townhouse High Rise	74.00	Dwelling Unit	1.00	74,000.00	212

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	368.08	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 2020 PG&E CO2 intensity factor used.

Land Use - glitch

Construction Phase - building construction, paving, and architectural coating assumed to occur simultaneously.

Trips and VMT -

Demolition -

Grading - 40,938 cubic yards for excavation divided into site prep and grading.

Vehicle Trips - Rates adjusted per Traffic Report.

Energy Use - glitch

Construction Off-road Equipment Mitigation - glitch

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation - Assumed PV solar on 1/4 of acre and 8 watts per square foot.

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	250.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	250.00
tblArchitecturalCoating	EF_Residential_Exterior	150.00	250.00
tblArchitecturalCoating	EF_Residential_Interior	100.00	250.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	5.00	100.00
tblConstructionPhase	NumDays	2.00	21.00
tblConstructionPhase	NumDays	5.00	100.00
tblConstructionPhase	NumDays	1.00	22.00
tblConstructionPhase	PhaseEndDate	12/20/2017	8/2/2017
tblConstructionPhase	PhaseEndDate	12/20/2017	8/2/2017
tblConstructionPhase	PhaseStartDate	8/3/2017	3/16/2017
tblConstructionPhase	PhaseStartDate	8/3/2017	3/16/2017
tblGrading	AcresOfGrading	7.88	0.75
tblGrading	AcresOfGrading	11.00	0.50
tblGrading	MaterialExported	0.00	20,469.00

tblGrading	MaterialExported	0.00	20,469.00
tblLandUse	LotAcreage	1.54	0.00
tblLandUse	LotAcreage	0.32	0.00
tblLandUse	LotAcreage	1.16	1.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	368.08
tblProjectCharacteristics	OperationalYear	2014	2018
tblVehicleTrips	ST_TR	7.16	5.81
tblVehicleTrips	ST_TR	158.37	127.20
tblVehicleTrips	SU_TR	6.07	5.81
tblVehicleTrips	SU_TR	131.84	127.20
tblVehicleTrips	WD_TR	6.59	5.81
tblVehicleTrips	WD_TR	127.15	127.20

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	47.4080	56.3724	61.1008	0.1037	7.4886	2.1670	9.1774	3.4859	2.0631	5.0395	0.0000	10,273.2810	10,273.2810	0.9191	0.0000	10,292.5829
Total	**47.4080**	**56.3724**	**61.1008**	**0.1037**	**7.4886**	**2.1670**	**9.1774**	**3.4859**	**2.0631**	**5.0395**	**0.0000**	**10,273.2810**	**10,273.2810**	**0.9191**	**0.0000**	**10,292.5829**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	43.9480	40.5093	56.3520	0.1037	7.4886	1.2415	8.2717	3.4859	1.2387	4.2382	0.0000	10,273.2810	10,273.2810	0.9191	0.0000	10,292.5829
Total	**43.9480**	**40.5093**	**56.3520**	**0.1037**	**7.4886**	**1.2415**	**8.2717**	**3.4859**	**1.2387**	**4.2382**	**0.0000**	**10,273.2810**	**10,273.2810**	**0.9191**	**0.0000**	**10,292.5829**

	ROG	NOx	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	**7.30**	**28.14**	**7.77**	**0.00**	**0.00**	**42.71**	**9.87**	**0.00**	**39.96**	**15.90**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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	lb/day										lb/day					
Area	30.1410	0.4269	38.3578	0.0134		4.6106	4.6106		4.6099	4.6099	475.7190	1,016.5628	1,492.2818	0.4809	0.0519	1,518.4704
Energy	0.1233	1.0922	0.7294	6.7300e-003		0.0852	0.0852		0.0852	0.0852		1,345.4129	1,345.4129	0.0258	0.0247	1,353.6009
Mobile	5.7133	7.9650	46.9758	0.0833	6.3997	0.1021	6.5017	1.7106	0.0941	1.8047		6,775.4725	6,775.4725	0.3022		6,781.8178
Total	**35.9776**	**9.4842**	**86.0629**	**0.1034**	**6.3997**	**4.7979**	**11.1976**	**1.7106**	**4.7892**	**6.4998**	**475.7190**	**9,137.4482**	**9,613.1672**	**0.8088**	**0.0766**	**9,653.8890**

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	lb/day										lb/day					
Area	30.1410	0.4269	38.3578	0.0134		4.6106	4.6106		4.6099	4.6099	475.7190	1,016.5628	1,492.2818	0.4809	0.0519	1,518.4704
Energy	0.1137	1.0088	0.6841	6.2000e-003		0.0786	0.0786		0.0786	0.0786		1,240.6885	1,240.6885	0.0238	0.0228	1,248.2391
Mobile	5.3471	5.8839	38.0063	0.0556	4.1331	0.0720	4.2050	1.1047	0.0664	1.1711		4,513.6296	4,513.6296	0.2155		4,518.1541
Total	**35.6019**	**7.3196**	**77.0481**	**0.0752**	**4.1331**	**4.7612**	**8.8942**	**1.1047**	**4.7549**	**5.8596**	**475.7190**	**6,770.8809**	**7,246.5999**	**0.7201**	**0.0747**	**7,284.8636**

	ROG	NOx	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	1.04	22.82	10.47	27.31	35.42	0.77	20.57	35.42	0.72	9.85	0.00	25.90	24.62	10.97	2.51	24.54

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2017	1/13/2017	5	10	
2	Site Preparation	Site Preparation	1/14/2017	2/14/2017	5	22	
3	Grading	Grading	2/15/2017	3/15/2017	5	21	
4	Building Construction	Building Construction	3/16/2017	8/2/2017	5	100	
5	Paving	Paving	3/16/2017	8/2/2017	5	100	
6	Architectural Coating	Architectural Coating	3/16/2017	8/2/2017	5	100	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0.75

Acres of Paving: 0

Residential Indoor: 149,850; Residential Outdoor: 49,950; Non-Residential Indoor: 123,570; Non-Residential Outdoor: 41,190 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	174	0.41
Grading	Rubber Tired Dozers	1	6.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	226	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	39.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	2,559.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	2,559.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	88.00	21.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Clean Paved Roads

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8423	0.0000	0.8423	0.1275	0.0000	0.1275			0.0000			0.0000
Off-Road	2.7216	26.5855	20.8712	0.0245		1.6062	1.6062		1.5022	1.5022		2,457.4682	2,457.4682	0.6235		2,470.5620
Total	**2.7216**	**26.5855**	**20.8712**	**0.0245**	**0.8423**	**1.6062**	**2.4485**	**0.1275**	**1.5022**	**1.6298**		**2,457.4682**	**2,457.4682**	**0.6235**		**2,470.5620**

3.2 Demolition - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1021	1.0763	1.5014	2.8400e-003	0.0675	0.0128	0.0803	0.0185	0.0118	0.0302		280.5253	280.5253	2.0300e-003		280.5680
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0445	0.0706	0.6376	1.3700e-003	0.1226	9.0000e-004	0.1235	0.0325	8.3000e-004	0.0334		112.0600	112.0600	5.8500e-003		112.1829
Total	**0.1466**	**1.1469**	**2.1389**	**4.2100e-003**	**0.1901**	**0.0137**	**0.2038**	**0.0510**	**0.0126**	**0.0636**		**392.5853**	**392.5853**	**7.8800e-003**		**392.7509**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8423	0.0000	0.8423	0.1275	0.0000	0.1275			0.0000			0.0000
Off-Road	0.5689	12.2343	15.5622	0.0245		0.7231	0.7231		0.7231	0.7231	0.0000	2,457.4682	2,457.4682	0.6235		2,470.5620
Total	**0.5689**	**12.2343**	**15.5622**	**0.0245**	**0.8423**	**0.7231**	**1.5654**	**0.1275**	**0.7231**	**0.8507**	**0.0000**	**2,457.4682**	**2,457.4682**	**0.6235**		**2,470.5620**

3.2 Demolition - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1021	1.0763	1.5014	2.8400e-003	0.0675	0.0128	0.0803	0.0185	0.0118	0.0302		280.5253	280.5253	2.0300e-003		280.5680
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0445	0.0706	0.6376	1.3700e-003	0.1226	9.0000e-004	0.1235	0.0325	8.3000e-004	0.0334		112.0600	112.0600	5.8500e-003		112.1829
Total	**0.1466**	**1.1469**	**2.1389**	**4.2100e-003**	**0.1901**	**0.0137**	**0.2038**	**0.0510**	**0.0126**	**0.0636**		**392.5853**	**392.5853**	**7.8800e-003**		**392.7509**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.3987	0.0000	5.3987	2.9150	0.0000	2.9150			0.0000			0.0000
Off-Road	2.3109	24.2288	15.9299	0.0171		1.3067	1.3067		1.2022	1.2022		1,752.1239	1,752.1239	0.5369		1,763.3977
Total	**2.3109**	**24.2288**	**15.9299**	**0.0171**	**5.3987**	**1.3067**	**6.7054**	**2.9150**	**1.2022**	**4.1172**		**1,752.1239**	**1,752.1239**	**0.5369**		**1,763.3977**

3.3 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.0441	32.1002	44.7785	0.0848	2.0145	0.3816	2.3960	0.5509	0.3509	0.9018		8,366.7166	8,366.7166	0.0607		8,367.9904
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0274	0.0435	0.3923	8.4000e-004	0.0754	5.6000e-004	0.0760	0.0200	5.1000e-004	0.0205		68.9600	68.9600	3.6000e-003		69.0356
Total	**3.0715**	**32.1436**	**45.1709**	**0.0856**	**2.0899**	**0.3821**	**2.4720**	**0.5709**	**0.3514**	**0.9223**		**8,435.6766**	**8,435.6766**	**0.0643**		**8,437.0260**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.3987	0.0000	5.3987	2.9150	0.0000	2.9150			0.0000			0.0000
Off-Road	0.4158	8.3054	11.0902	0.0171		0.4010	0.4010		0.4010	0.4010	0.0000	1,752.1239	1,752.1239	0.5369		1,763.3977
Total	**0.4158**	**8.3054**	**11.0902**	**0.0171**	**5.3987**	**0.4010**	**5.7996**	**2.9150**	**0.4010**	**3.3160**	**0.0000**	**1,752.1239**	**1,752.1239**	**0.5369**		**1,763.3977**

3.3 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.0441	32.1002	44.7785	0.0848	2.0145	0.3816	2.3960	0.5509	0.3509	0.9018		8,366.7166	8,366.7166	0.0607		8,367.9904
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0274	0.0435	0.3923	8.4000e-004	0.0754	5.6000e-004	0.0760	0.0200	5.1000e-004	0.0205		68.9600	68.9600	3.6000e-003		69.0356
Total	**3.0715**	**32.1436**	**45.1709**	**0.0856**	**2.0899**	**0.3821**	**2.4720**	**0.5709**	**0.3514**	**0.9223**		**8,435.6766**	**8,435.6766**	**0.0643**		**8,437.0260**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.6647	0.0000	4.6647	2.5035	0.0000	2.5035			0.0000			0.0000
Off-Road	1.8844	19.7889	13.1786	0.0141		1.0661	1.0661		0.9808	0.9808		1,439.1894	1,439.1894	0.4410		1,448.4496
Total	**1.8844**	**19.7889**	**13.1786**	**0.0141**	**4.6647**	**1.0661**	**5.7308**	**2.5035**	**0.9808**	**3.4843**		**1,439.1894**	**1,439.1894**	**0.4410**		**1,448.4496**

3.4 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.1891	33.6287	46.9108	0.0888	2.1104	0.3998	2.5101	0.5771	0.3676	0.9447		8,765.1317	8,765.1317	0.0636		8,766.4661
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0274	0.0435	0.3923	8.4000e-004	0.0754	5.6000e-004	0.0760	0.0200	5.1000e-004	0.0205		68.9600	68.9600	3.6000e-003		69.0356
Total	**3.2165**	**33.6722**	**47.3032**	**0.0896**	**2.1858**	**0.4003**	**2.5861**	**0.5971**	**0.3681**	**0.9652**		**8,834.0917**	**8,834.0917**	**0.0672**		**8,835.5018**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.6647	0.0000	4.6647	2.5035	0.0000	2.5035			0.0000			0.0000
Off-Road	0.3416	6.8371	9.0489	0.0141		0.3308	0.3308		0.3308	0.3308	0.0000	1,439.1894	1,439.1894	0.4410		1,448.4496
Total	**0.3416**	**6.8371**	**9.0489**	**0.0141**	**4.6647**	**0.3308**	**4.9954**	**2.5035**	**0.3308**	**2.8342**	**0.0000**	**1,439.1894**	**1,439.1894**	**0.4410**		**1,448.4496**

3.4 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.1891	33.6287	46.9108	0.0888	2.1104	0.3998	2.5101	0.5771	0.3676	0.9447		8,765.1317	8,765.1317	0.0636		8,766.4661
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0274	0.0435	0.3923	8.4000e-004	0.0754	5.6000e-004	0.0760	0.0200	5.1000e-004	0.0205		68.9600	68.9600	3.6000e-003		69.0356
Total	**3.2165**	**33.6722**	**47.3032**	**0.0896**	**2.1858**	**0.4003**	**2.5861**	**0.5971**	**0.3681**	**0.9652**		**8,834.0917**	**8,834.0917**	**0.0672**		**8,835.5018**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.9546	19.1088	14.3110	0.0220		1.2257	1.2257		1.1823	1.1823		2,034.2860	2,034.2860	0.4268		2,043.2497
Total	**2.9546**	**19.1088**	**14.3110**	**0.0220**		**1.2257**	**1.2257**		**1.1823**	**1.1823**		**2,034.2860**	**2,034.2860**	**0.4268**		**2,043.2497**

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2847	1.9384	4.0918	4.9000e-003	0.1390	0.0265	0.1655	0.0396	0.0244	0.0640		480.0120	480.0120	3.7700e-003		480.0911
Worker	0.3013	0.4781	4.3158	9.2800e-003	0.8299	6.1100e-003	0.8360	0.2201	5.6200e-003	0.2257		758.5600	758.5600	0.0396		759.3919
Total	**0.5859**	**2.4165**	**8.4075**	**0.0142**	**0.9689**	**0.0326**	**1.0015**	**0.2597**	**0.0300**	**0.2897**		**1,238.5720**	**1,238.5720**	**0.0434**		**1,239.4830**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6384	12.0322	13.4287	0.0220		0.7298	0.7298		0.7298	0.7298	0.0000	2,034.2860	2,034.2860	0.4268		2,043.2497
Total	**0.6384**	**12.0322**	**13.4287**	**0.0220**		**0.7298**	**0.7298**		**0.7298**	**0.7298**	**0.0000**	**2,034.2860**	**2,034.2860**	**0.4268**		**2,043.2497**

3.5 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2847	1.9384	4.0918	4.9000e-003	0.1390	0.0265	0.1655	0.0396	0.0244	0.0640		480.0120	480.0120	3.7700e-003		480.0911
Worker	0.3013	0.4781	4.3158	9.2800e-003	0.8299	6.1100e-003	0.8360	0.2201	5.6200e-003	0.2257		758.5600	758.5600	0.0396		759.3919
Total	**0.5859**	**2.4165**	**8.4075**	**0.0142**	**0.9689**	**0.0326**	**1.0015**	**0.2597**	**0.0300**	**0.2897**		**1,238.5720**	**1,238.5720**	**0.0434**		**1,239.4830**

3.6 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1857	12.0981	9.0308	0.0133		0.7333	0.7333		0.6755	0.6755		1,347.6575	1,347.6575	0.4052		1,356.1677
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1857**	**12.0981**	**9.0308**	**0.0133**		**0.7333**	**0.7333**		**0.6755**	**0.6755**		**1,347.6575**	**1,347.6575**	**0.4052**		**1,356.1677**

3.6 Paving - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0445	0.0706	0.6376	1.3700e-003	0.1226	9.0000e-004	0.1235	0.0325	8.3000e-004	0.0334		112.0600	112.0600	5.8500e-003		112.1829
Total	**0.0445**	**0.0706**	**0.6376**	**1.3700e-003**	**0.1226**	**9.0000e-004**	**0.1235**	**0.0325**	**8.3000e-004**	**0.0334**		**112.0600**	**112.0600**	**5.8500e-003**		**112.1829**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3146	6.5459	9.7014	0.0133		0.3818	0.3818		0.3818	0.3818	0.0000	1,347.6575	1,347.6575	0.4052		1,356.1677
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.3146**	**6.5459**	**9.7014**	**0.0133**		**0.3818**	**0.3818**		**0.3818**	**0.3818**	**0.0000**	**1,347.6575**	**1,347.6575**	**0.4052**		**1,356.1677**

3.6 Paving - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0445	0.0706	0.6376	1.3700e-003	0.1226	9.0000e-004	0.1235	0.0325	8.3000e-004	0.0334		112.0600	112.0600	5.8500e-003		112.1829
Total	**0.0445**	**0.0706**	**0.6376**	**1.3700e-003**	**0.1226**	**9.0000e-004**	**0.1235**	**0.0325**	**8.3000e-004**	**0.0334**		**112.0600**	**112.0600**	**5.8500e-003**		**112.1829**

3.7 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	42.2434					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733		281.4481	281.4481	0.0297		282.0721
Total	**42.5757**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**		**281.4481**	**281.4481**	**0.0297**		**282.0721**

3.7 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0616	0.0978	0.8828	1.9000e-003	0.1698	1.2500e-003	0.1710	0.0450	1.1500e-003	0.0462		155.1600	155.1600	8.1000e-003		155.3302
Total	**0.0616**	**0.0978**	**0.8828**	**1.9000e-003**	**0.1698**	**1.2500e-003**	**0.1710**	**0.0450**	**1.1500e-003**	**0.0462**		**155.1600**	**155.1600**	**8.1000e-003**		**155.3302**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	42.2434					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0297		282.0721
Total	**42.3028**	**1.3570**	**1.8324**	**2.9700e-003**		**0.0951**	**0.0951**		**0.0951**	**0.0951**	**0.0000**	**281.4481**	**281.4481**	**0.0297**		**282.0721**

3.7 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0616	0.0978	0.8828	1.9000e-003	0.1698	1.2500e-003	0.1710	0.0450	1.1500e-003	0.0462		155.1600	155.1600	8.1000e-003		155.3302
Total	**0.0616**	**0.0978**	**0.8828**	**1.9000e-003**	**0.1698**	**1.2500e-003**	**0.1710**	**0.0450**	**1.1500e-003**	**0.0462**		**155.1600**	**155.1600**	**8.1000e-003**		**155.3302**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Destination Accessibility

Increase Transit Accessibility

Integrate Below Market Rate Housing

Improve Pedestrian Network

Unbundle Parking Cost

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.3471	5.8839	38.0063	0.0556	4.1331	0.0720	4.2050	1.1047	0.0664	1.1711		4,513.6296	4,513.6296	0.2155		4,518.1541
Unmitigated	5.7133	7.9650	46.9758	0.0833	6.3997	0.1021	6.5017	1.7106	0.0941	1.8047		6,775.4725	6,775.4725	0.3022		6,781.8178

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse High Rise	429.94	429.94	429.94	959,783	619,852
Enclosed Parking with Elevator	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	1,778.26	1,778.26	1778.26	2,063,247	1,332,496
Total	2,208.20	2,208.20	2,208.20	3,023,031	1,952,347

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
Condo/Townhouse High Rise	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
High Turnover (Sit Down	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.579415	0.062669	0.176431	0.113724	0.029579	0.004153	0.015740	0.004138	0.002638	0.003681	0.006622	0.000227	0.000983

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Kilowatt Hours of Renewable Electricity Generated

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1137	1.0088	0.6841	6.2000e-003		0.0786	0.0786		0.0786	0.0786		1,240.6885	1,240.6885	0.0238	0.0228	1,248.2391
NaturalGas Unmitigated	0.1233	1.0922	0.7294	6.7300e-003		0.0852	0.0852		0.0852	0.0852		1,345.4129	1,345.4129	0.0258	0.0247	1,353.6009

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	lb/day										lb/day					
High Turnover (Sit Down Restaurant)	6511.62	0.0702	0.6384	0.5363	3.8300e-003		0.0485	0.0485		0.0485	0.0485		766.0725	766.0725	0.0147	0.0140	770.7347
Condo/Townhouse High Rise	4924.39	0.0531	0.4538	0.1931	2.9000e-003		0.0367	0.0367		0.0367	0.0367		579.3405	579.3405	0.0111	0.0106	582.8662
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1233**	**1.0922**	**0.7294**	**6.7300e-003**		**0.0852**	**0.0852**		**0.0852**	**0.0852**		**1,345.4129**	**1,345.4129**	**0.0258**	**0.0247**	**1,353.6009**

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	lb/day										lb/day					
High Turnover (Sit Down Restaurant)	6.27037	0.0676	0.6147	0.5164	3.6900e-003		0.0467	0.0467		0.0467	0.0467		737.6911	737.6911	0.0141	0.0135	742.1806
Condo/Townhouse High Rise	4.27548	0.0461	0.3940	0.1677	2.5100e-003		0.0319	0.0319		0.0319	0.0319		502.9974	502.9974	9.6400e-003	9.2200e-003	506.0585
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1137**	**1.0088**	**0.6841**	**6.2000e-003**		**0.0786**	**0.0786**		**0.0786**	**0.0786**		**1,240.6885**	**1,240.6885**	**0.0238**	**0.0227**	**1,248.2391**

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	lb/day										lb/day					
Mitigated	30.1410	0.4269	38.3578	0.0134		4.6106	4.6106		4.6099	4.6099	475.7190	1,016.5628	1,492.2818	0.4809	0.0519	1,518.4704
Unmitigated	30.1410	0.4269	38.3578	0.0134		4.6106	4.6106		4.6099	4.6099	475.7190	1,016.5628	1,492.2818	0.4809	0.0519	1,518.4704

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	lb/day										lb/day					
Architectural Coating	0.5208					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.3465					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	26.0823	0.3554	32.1903	0.0131		4.5770	4.5770		4.5763	4.5763	475.7190	1,005.5294	1,481.2484	0.4699	0.0519	1,507.2059
Landscaping	0.1914	0.0715	6.1674	3.2000e-004		0.0336	0.0336		0.0336	0.0336		11.0334	11.0334	0.0110		11.2645
Total	**30.1410**	**0.4269**	**38.3578**	**0.0134**		**4.6106**	**4.6106**		**4.6099**	**4.6099**	**475.7190**	**1,016.5628**	**1,492.2818**	**0.4809**	**0.0519**	**1,518.4704**

6.2 Area by SubCategory

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	lb/day										lb/day					
Architectural Coating	0.5208					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.3465					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	26.0823	0.3554	32.1903	0.0131		4.5770	4.5770		4.5763	4.5763	475.7190	1,005.5294	1,481.2484	0.4699	0.0519	1,507.2059
Landscaping	0.1914	0.0715	6.1674	3.2000e-004		0.0336	0.0336		0.0336	0.0336		11.0334	11.0334	0.0110		11.2645
Total	**30.1410**	**0.4269**	**38.3578**	**0.0134**		**4.6106**	**4.6106**		**4.6099**	**4.6099**	**475.7190**	**1,016.5628**	**1,492.2818**	**0.4809**	**0.0519**	**1,518.4704**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Toilet

Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Vegetation

Hillsdale Terraces

San Mateo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	171.00	Space	0.00	68,400.00	0
High Turnover (Sit Down Restaurant)	13.98	1000sqft	0.00	13,980.00	0
Condo/Townhouse High Rise	74.00	Dwelling Unit	1.00	74,000.00	212

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	368.08	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 2020 PG&E CO2 intensity factor used.

Land Use - glitch

Construction Phase - building construction, paving, and architectural coating assumed to occur simultaneously.

Trips and VMT -

Demolition -

Grading - 40,938 cubic yards for excavation divided into site prep and grading.

Vehicle Trips - Rates adjusted per Traffic Report.

Energy Use - glitch

Construction Off-road Equipment Mitigation - glitch

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation - Assumed PV solar on 1/4 of acre and 8 watts per square foot.

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	150.00	250.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	250.00
tblArchitecturalCoating	EF_Residential_Exterior	150.00	250.00
tblArchitecturalCoating	EF_Residential_Interior	100.00	250.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	5.00	100.00
tblConstructionPhase	NumDays	2.00	21.00
tblConstructionPhase	NumDays	5.00	100.00
tblConstructionPhase	NumDays	1.00	22.00
tblConstructionPhase	PhaseEndDate	12/20/2017	8/2/2017
tblConstructionPhase	PhaseEndDate	12/20/2017	8/2/2017
tblConstructionPhase	PhaseStartDate	8/3/2017	3/16/2017
tblConstructionPhase	PhaseStartDate	8/3/2017	3/16/2017
tblGrading	AcresOfGrading	7.88	0.75
tblGrading	AcresOfGrading	11.00	0.50
tblGrading	MaterialExported	0.00	20,469.00

tblGrading	MaterialExported	0.00	20,469.00
tblLandUse	LotAcreage	1.54	0.00
tblLandUse	LotAcreage	0.32	0.00
tblLandUse	LotAcreage	1.16	1.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	368.08
tblProjectCharacteristics	OperationalYear	2014	2018
tblVehicleTrips	ST_TR	7.16	5.81
tblVehicleTrips	ST_TR	158.37	127.20
tblVehicleTrips	SU_TR	6.07	5.81
tblVehicleTrips	SU_TR	131.84	127.20
tblVehicleTrips	WD_TR	6.59	5.81
tblVehicleTrips	WD_TR	127.15	127.20

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	2.4898	3.1028	3.0274	5.1500e-003	0.2182	0.1504	0.3686	0.0876	0.1420	0.2296	0.0000	447.4345	447.4345	0.0554	0.0000	448.5975
Total	**2.4898**	**3.1028**	**3.0274**	**5.1500e-003**	**0.2182**	**0.1504**	**0.3686**	**0.0876**	**0.1420**	**0.2296**	**0.0000**	**447.4345**	**447.4345**	**0.0554**	**0.0000**	**448.5975**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	2.2690	2.0471	2.8919	5.1500e-003	0.2182	0.0820	0.3002	0.0876	0.0812	0.1688	0.0000	447.4342	447.4342	0.0554	0.0000	448.5973
Total	**2.2690**	**2.0471**	**2.8919**	**5.1500e-003**	**0.2182**	**0.0820**	**0.3002**	**0.0876**	**0.0812**	**0.1688**	**0.0000**	**447.4342**	**447.4342**	**0.0554**	**0.0000**	**448.5973**

	ROG	NOx	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	**8.87**	**34.03**	**4.48**	**0.00**	**0.00**	**45.46**	**18.55**	**0.00**	**42.79**	**26.46**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7804	7.4100e-003	0.6372	1.0000e-004		0.0150	0.0150		0.0150	0.0150	1.2112	2.8575	4.0687	3.1500e-003	1.0000e-004	4.1661
Energy	0.0225	0.1993	0.1331	1.2300e-003		0.0156	0.0156		0.0156	0.0156	0.0000	422.9663	422.9663	0.0200	7.3500e-003	425.6649
Mobile	0.9611	1.3864	7.7937	0.0152	1.1168	0.0185	1.1353	0.2996	0.0170	0.3166	0.0000	1,121.5085	1,121.5085	0.0498	0.0000	1,122.5546
Waste						0.0000	0.0000		0.0000	0.0000	40.6794	0.0000	40.6794	2.4041	0.0000	91.1651
Water						0.0000	0.0000		0.0000	0.0000	2.8758	10.1237	12.9996	0.2962	7.1400e-003	21.4325
Total	**1.7640**	**1.5932**	**8.5640**	**0.0165**	**1.1168**	**0.0490**	**1.1659**	**0.2996**	**0.0476**	**0.3471**	**44.7664**	**1,557.4560**	**1,602.2224**	**2.7733**	**0.0146**	**1,664.9832**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7804	7.4100e-003	0.6372	1.0000e-004		0.0150	0.0150		0.0150	0.0150	1.2112	2.8575	4.0687	3.1500e-003	1.0000e-004	4.1661
Energy	0.0208	0.1841	0.1248	1.1300e-003		0.0143	0.0143		0.0143	0.0143	0.0000	381.5993	381.5993	0.0178	6.6400e-003	384.0312
Mobile	0.8952	1.0261	6.1870	0.0101	0.7213	0.0130	0.7343	0.1935	0.0120	0.2055	0.0000	747.3399	747.3399	0.0355	0.0000	748.0857
Waste						0.0000	0.0000		0.0000	0.0000	40.6794	0.0000	40.6794	2.4041	0.0000	91.1651
Water						0.0000	0.0000		0.0000	0.0000	2.5595	9.2229	11.7824	0.2636	6.3500e-003	19.2850
Total	**1.6964**	**1.2176**	**6.9490**	**0.0114**	**0.7213**	**0.0423**	**0.7636**	**0.1935**	**0.0413**	**0.2348**	**44.4501**	**1,141.0196**	**1,185.4697**	**2.7241**	**0.0131**	**1,246.7331**

	ROG	NOx	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	**3.84**	**23.57**	**18.86**	**31.19**	**35.42**	**13.63**	**34.50**	**35.42**	**13.14**	**32.36**	**0.71**	**26.74**	**26.01**	**1.77**	**10.28**	**25.12**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2017	1/13/2017	5	10	
2	Site Preparation	Site Preparation	1/14/2017	2/14/2017	5	22	
3	Grading	Grading	2/15/2017	3/15/2017	5	21	
4	Building Construction	Building Construction	3/16/2017	8/2/2017	5	100	
5	Paving	Paving	3/16/2017	8/2/2017	5	100	
6	Architectural Coating	Architectural Coating	3/16/2017	8/2/2017	5	100	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0.75

Acres of Paving: 0

Residential Indoor: 149,850; Residential Outdoor: 49,950; Non-Residential Indoor: 123,570; Non-Residential Outdoor: 41,190 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	255	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	174	0.41
Grading	Rubber Tired Dozers	1	6.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	226	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	39.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	2,559.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	2,559.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	88.00	21.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	18.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Clean Paved Roads

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.2100e-003	0.0000	4.2100e-003	6.4000e-004	0.0000	6.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0136	0.1329	0.1044	1.2000e-004		8.0300e-003	8.0300e-003		7.5100e-003	7.5100e-003	0.0000	11.1469	11.1469	2.8300e-003	0.0000	11.2063
Total	**0.0136**	**0.1329**	**0.1044**	**1.2000e-004**	**4.2100e-003**	**8.0300e-003**	**0.0122**	**6.4000e-004**	**7.5100e-003**	**8.1500e-003**	**0.0000**	**11.1469**	**11.1469**	**2.8300e-003**	**0.0000**	**11.2063**

3.2 Demolition - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.7000e-004	5.2900e-003	6.6800e-003	1.0000e-005	3.3000e-004	6.0000e-005	3.9000e-004	9.0000e-005	6.0000e-005	1.5000e-004	0.0000	1.2742	1.2742	1.0000e-005	0.0000	1.2744
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	3.3000e-004	3.0700e-003	1.0000e-005	5.9000e-004	0.0000	5.9000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5102	0.5102	3.0000e-005	0.0000	0.5107
Total	**6.8000e-004**	**5.6200e-003**	**9.7500e-003**	**2.0000e-005**	**9.2000e-004**	**6.0000e-005**	**9.8000e-004**	**2.5000e-004**	**6.0000e-005**	**3.1000e-004**	**0.0000**	**1.7844**	**1.7844**	**4.0000e-005**	**0.0000**	**1.7852**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.2100e-003	0.0000	4.2100e-003	6.4000e-004	0.0000	6.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8400e-003	0.0612	0.0778	1.2000e-004		3.6200e-003	3.6200e-003		3.6200e-003	3.6200e-003	0.0000	11.1469	11.1469	2.8300e-003	0.0000	11.2063
Total	**2.8400e-003**	**0.0612**	**0.0778**	**1.2000e-004**	**4.2100e-003**	**3.6200e-003**	**7.8300e-003**	**6.4000e-004**	**3.6200e-003**	**4.2600e-003**	**0.0000**	**11.1469**	**11.1469**	**2.8300e-003**	**0.0000**	**11.2063**

3.2 Demolition - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.7000e-004	5.2900e-003	6.6800e-003	1.0000e-005	3.3000e-004	6.0000e-005	3.9000e-004	9.0000e-005	6.0000e-005	1.5000e-004	0.0000	1.2742	1.2742	1.0000e-005	0.0000	1.2744
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	3.3000e-004	3.0700e-003	1.0000e-005	5.9000e-004	0.0000	5.9000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5102	0.5102	3.0000e-005	0.0000	0.5107
Total	**6.8000e-004**	**5.6200e-003**	**9.7500e-003**	**2.0000e-005**	**9.2000e-004**	**6.0000e-005**	**9.8000e-004**	**2.5000e-004**	**6.0000e-005**	**3.1000e-004**	**0.0000**	**1.7844**	**1.7844**	**4.0000e-005**	**0.0000**	**1.7852**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0594	0.0000	0.0594	0.0321	0.0000	0.0321	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0254	0.2665	0.1752	1.9000e-004		0.0144	0.0144		0.0132	0.0132	0.0000	17.4845	17.4845	5.3600e-003	0.0000	17.5970
Total	**0.0254**	**0.2665**	**0.1752**	**1.9000e-004**	**0.0594**	**0.0144**	**0.0738**	**0.0321**	**0.0132**	**0.0453**	**0.0000**	**17.4845**	**17.4845**	**5.3600e-003**	**0.0000**	**17.5970**

3.3 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0311	0.3471	0.4381	9.3000e-004	0.0214	4.1900e-003	0.0255	5.8600e-003	3.8500e-003	9.7100e-003	0.0000	83.6089	83.6089	6.0000e-004	0.0000	83.6215
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	4.4000e-004	4.1500e-003	1.0000e-005	8.0000e-004	1.0000e-005	8.0000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6907	0.6907	4.0000e-005	0.0000	0.6915
Total	**0.0314**	**0.3475**	**0.4423**	**9.4000e-004**	**0.0222**	**4.2000e-003**	**0.0263**	**6.0700e-003**	**3.8600e-003**	**9.9300e-003**	**0.0000**	**84.2996**	**84.2996**	**6.4000e-004**	**0.0000**	**84.3129**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0594	0.0000	0.0594	0.0321	0.0000	0.0321	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.5700e-003	0.0914	0.1220	1.9000e-004		4.4100e-003	4.4100e-003		4.4100e-003	4.4100e-003	0.0000	17.4845	17.4845	5.3600e-003	0.0000	17.5970
Total	**4.5700e-003**	**0.0914**	**0.1220**	**1.9000e-004**	**0.0594**	**4.4100e-003**	**0.0638**	**0.0321**	**4.4100e-003**	**0.0365**	**0.0000**	**17.4845**	**17.4845**	**5.3600e-003**	**0.0000**	**17.5970**

3.3 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0311	0.3471	0.4381	9.3000e-004	0.0214	4.1900e-003	0.0255	5.8600e-003	3.8500e-003	9.7100e-003	0.0000	83.6089	83.6089	6.0000e-004	0.0000	83.6215
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	4.4000e-004	4.1500e-003	1.0000e-005	8.0000e-004	1.0000e-005	8.0000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6907	0.6907	4.0000e-005	0.0000	0.6915
Total	**0.0314**	**0.3475**	**0.4423**	**9.4000e-004**	**0.0222**	**4.2000e-003**	**0.0263**	**6.0700e-003**	**3.8600e-003**	**9.9300e-003**	**0.0000**	**84.2996**	**84.2996**	**6.4000e-004**	**0.0000**	**84.3129**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0490	0.0000	0.0490	0.0263	0.0000	0.0263	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0198	0.2078	0.1384	1.5000e-004		0.0112	0.0112		0.0103	0.0103	0.0000	13.7089	13.7089	4.2000e-003	0.0000	13.7971
Total	**0.0198**	**0.2078**	**0.1384**	**1.5000e-004**	**0.0490**	**0.0112**	**0.0602**	**0.0263**	**0.0103**	**0.0366**	**0.0000**	**13.7089**	**13.7089**	**4.2000e-003**	**0.0000**	**13.7971**

3.4 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0311	0.3471	0.4381	9.3000e-004	0.0214	4.1900e-003	0.0255	5.8600e-003	3.8500e-003	9.7100e-003	0.0000	83.6089	83.6089	6.0000e-004	0.0000	83.6215
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	4.2000e-004	3.9700e-003	1.0000e-005	7.6000e-004	1.0000e-005	7.6000e-004	2.0000e-004	1.0000e-005	2.1000e-004	0.0000	0.6593	0.6593	3.0000e-005	0.0000	0.6600
Total	**0.0314**	**0.3475**	**0.4421**	**9.4000e-004**	**0.0221**	**4.2000e-003**	**0.0263**	**6.0600e-003**	**3.8600e-003**	**9.9200e-003**	**0.0000**	**84.2682**	**84.2682**	**6.3000e-004**	**0.0000**	**84.2815**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0490	0.0000	0.0490	0.0263	0.0000	0.0263	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.5900e-003	0.0718	0.0950	1.5000e-004		3.4700e-003	3.4700e-003		3.4700e-003	3.4700e-003	0.0000	13.7089	13.7089	4.2000e-003	0.0000	13.7971
Total	**3.5900e-003**	**0.0718**	**0.0950**	**1.5000e-004**	**0.0490**	**3.4700e-003**	**0.0525**	**0.0263**	**3.4700e-003**	**0.0298**	**0.0000**	**13.7089**	**13.7089**	**4.2000e-003**	**0.0000**	**13.7971**

3.4 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0311	0.3471	0.4381	9.3000e-004	0.0214	4.1900e-003	0.0255	5.8600e-003	3.8500e-003	9.7100e-003	0.0000	83.6089	83.6089	6.0000e-004	0.0000	83.6215
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	4.2000e-004	3.9700e-003	1.0000e-005	7.6000e-004	1.0000e-005	7.6000e-004	2.0000e-004	1.0000e-005	2.1000e-004	0.0000	0.6593	0.6593	3.0000e-005	0.0000	0.6600
Total	**0.0314**	**0.3475**	**0.4421**	**9.4000e-004**	**0.0221**	**4.2000e-003**	**0.0263**	**6.0600e-003**	**3.8600e-003**	**9.9200e-003**	**0.0000**	**84.2682**	**84.2682**	**6.3000e-004**	**0.0000**	**84.2815**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1477	0.9554	0.7156	1.1000e-003		0.0613	0.0613		0.0591	0.0591	0.0000	92.2737	92.2737	0.0194	0.0000	92.6803
Total	**0.1477**	**0.9554**	**0.7156**	**1.1000e-003**		**0.0613**	**0.0613**		**0.0591**	**0.0591**	**0.0000**	**92.2737**	**92.2737**	**0.0194**	**0.0000**	**92.6803**

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0129	0.0957	0.1739	2.5000e-004	6.7100e-003	1.3200e-003	8.0200e-003	1.9200e-003	1.2100e-003	3.1300e-003	0.0000	21.8726	21.8726	1.7000e-004	0.0000	21.8762
Worker	0.0140	0.0220	0.2078	4.7000e-004	0.0398	3.1000e-004	0.0401	0.0106	2.8000e-004	0.0109	0.0000	34.5350	34.5350	1.8000e-003	0.0000	34.5728
Total	**0.0268**	**0.1177**	**0.3816**	**7.2000e-004**	**0.0465**	**1.6300e-003**	**0.0481**	**0.0125**	**1.4900e-003**	**0.0140**	**0.0000**	**56.4077**	**56.4077**	**1.9700e-003**	**0.0000**	**56.4489**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0319	0.6016	0.6714	1.1000e-003		0.0365	0.0365		0.0365	0.0365	0.0000	92.2736	92.2736	0.0194	0.0000	92.6801
Total	**0.0319**	**0.6016**	**0.6714**	**1.1000e-003**		**0.0365**	**0.0365**		**0.0365**	**0.0365**	**0.0000**	**92.2736**	**92.2736**	**0.0194**	**0.0000**	**92.6801**

3.5 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0129	0.0957	0.1739	2.5000e-004	6.7100e-003	1.3200e-003	8.0200e-003	1.9200e-003	1.2100e-003	3.1300e-003	0.0000	21.8726	21.8726	1.7000e-004	0.0000	21.8762
Worker	0.0140	0.0220	0.2078	4.7000e-004	0.0398	3.1000e-004	0.0401	0.0106	2.8000e-004	0.0109	0.0000	34.5350	34.5350	1.8000e-003	0.0000	34.5728
Total	**0.0268**	**0.1177**	**0.3816**	**7.2000e-004**	**0.0465**	**1.6300e-003**	**0.0481**	**0.0125**	**1.4900e-003**	**0.0140**	**0.0000**	**56.4077**	**56.4077**	**1.9700e-003**	**0.0000**	**56.4489**

3.6 Paving - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0593	0.6049	0.4515	6.7000e-004		0.0367	0.0367		0.0338	0.0338	0.0000	61.1287	61.1287	0.0184	0.0000	61.5147
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0593**	**0.6049**	**0.4515**	**6.7000e-004**		**0.0367**	**0.0367**		**0.0338**	**0.0338**	**0.0000**	**61.1287**	**61.1287**	**0.0184**	**0.0000**	**61.5147**

3.6 Paving - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0600e-003	3.2500e-003	0.0307	7.0000e-005	5.8700e-003	5.0000e-005	5.9200e-003	1.5600e-003	4.0000e-005	1.6000e-003	0.0000	5.1018	5.1018	2.7000e-004	0.0000	5.1073
Total	**2.0600e-003**	**3.2500e-003**	**0.0307**	**7.0000e-005**	**5.8700e-003**	**5.0000e-005**	**5.9200e-003**	**1.5600e-003**	**4.0000e-005**	**1.6000e-003**	**0.0000**	**5.1018**	**5.1018**	**2.7000e-004**	**0.0000**	**5.1073**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0157	0.3273	0.4851	6.7000e-004		0.0191	0.0191		0.0191	0.0191	0.0000	61.1286	61.1286	0.0184	0.0000	61.5147
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0157**	**0.3273**	**0.4851**	**6.7000e-004**		**0.0191**	**0.0191**		**0.0191**	**0.0191**	**0.0000**	**61.1286**	**61.1286**	**0.0184**	**0.0000**	**61.5147**

3.6 Paving - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0600e-003	3.2500e-003	0.0307	7.0000e-005	5.8700e-003	5.0000e-005	5.9200e-003	1.5600e-003	4.0000e-005	1.6000e-003	0.0000	5.1018	5.1018	2.7000e-004	0.0000	5.1073
Total	**2.0600e-003**	**3.2500e-003**	**0.0307**	**7.0000e-005**	**5.8700e-003**	**5.0000e-005**	**5.9200e-003**	**1.5600e-003**	**4.0000e-005**	**1.6000e-003**	**0.0000**	**5.1018**	**5.1018**	**2.7000e-004**	**0.0000**	**5.1073**

3.7 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.1122					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0166	0.1093	0.0934	1.5000e-004		8.6700e-003	8.6700e-003		8.6700e-003	8.6700e-003	0.0000	12.7663	12.7663	1.3500e-003	0.0000	12.7946
Total	**2.1288**	**0.1093**	**0.0934**	**1.5000e-004**		**8.6700e-003**	**8.6700e-003**		**8.6700e-003**	**8.6700e-003**	**0.0000**	**12.7663**	**12.7663**	**1.3500e-003**	**0.0000**	**12.7946**

3.7 Architectural Coating - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8600e-003	4.5000e-003	0.0425	1.0000e-004	8.1300e-003	6.0000e-005	8.2000e-003	2.1600e-003	6.0000e-005	2.2200e-003	0.0000	7.0640	7.0640	3.7000e-004	0.0000	7.0717
Total	**2.8600e-003**	**4.5000e-003**	**0.0425**	**1.0000e-004**	**8.1300e-003**	**6.0000e-005**	**8.2000e-003**	**2.1600e-003**	**6.0000e-005**	**2.2200e-003**	**0.0000**	**7.0640**	**7.0640**	**3.7000e-004**	**0.0000**	**7.0717**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.1122					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9700e-003	0.0679	0.0916	1.5000e-004		4.7500e-003	4.7500e-003		4.7500e-003	4.7500e-003	0.0000	12.7663	12.7663	1.3500e-003	0.0000	12.7946
Total	**2.1151**	**0.0679**	**0.0916**	**1.5000e-004**		**4.7500e-003**	**4.7500e-003**		**4.7500e-003**	**4.7500e-003**	**0.0000**	**12.7663**	**12.7663**	**1.3500e-003**	**0.0000**	**12.7946**

3.7 Architectural Coating - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8600e-003	4.5000e-003	0.0425	1.0000e-004	8.1300e-003	6.0000e-005	8.2000e-003	2.1600e-003	6.0000e-005	2.2200e-003	0.0000	7.0640	7.0640	3.7000e-004	0.0000	7.0717
Total	**2.8600e-003**	**4.5000e-003**	**0.0425**	**1.0000e-004**	**8.1300e-003**	**6.0000e-005**	**8.2000e-003**	**2.1600e-003**	**6.0000e-005**	**2.2200e-003**	**0.0000**	**7.0640**	**7.0640**	**3.7000e-004**	**0.0000**	**7.0717**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Destination Accessibility

Increase Transit Accessibility

Integrate Below Market Rate Housing

Improve Pedestrian Network

Unbundle Parking Cost

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.8952	1.0261	6.1870	0.0101	0.7213	0.0130	0.7343	0.1935	0.0120	0.2055	0.0000	747.3399	747.3399	0.0355	0.0000	748.0857
Unmitigated	0.9611	1.3864	7.7937	0.0152	1.1168	0.0185	1.1353	0.2996	0.0170	0.3166	0.0000	1,121.5085	1,121.5085	0.0498	0.0000	1,122.5546

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse High Rise	429.94	429.94	429.94	959,783	619,852
Enclosed Parking with Elevator	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	1,778.26	1,778.26	1778.26	2,063,247	1,332,496
Total	2,208.20	2,208.20	2,208.20	3,023,031	1,952,347

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
Condo/Townhouse High Rise	12.40	4.30	5.40	26.10	29.10	44.80	86	11	3
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
High Turnover (Sit Down	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.579415	0.062669	0.176431	0.113724	0.029579	0.004153	0.015740	0.004138	0.002638	0.003681	0.006622	0.000227	0.000983

4.4 Fleet Mix

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

Kilowatt Hours of Renewable Electricity Generated

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	176.1894	176.1894	0.0139	2.8700e-003	177.3712
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	200.2181	200.2181	0.0158	3.2600e-003	201.5611
NaturalGas Mitigated	0.0208	0.1841	0.1248	1.1300e-003		0.0143	0.0143		0.0143	0.0143	0.0000	205.4099	205.4099	3.9400e-003	3.7700e-003	206.6600
NaturalGas Unmitigated	0.0225	0.1993	0.1331	1.2300e-003		0.0156	0.0156		0.0156	0.0156	0.0000	222.7482	222.7482	4.2700e-003	4.0800e-003	224.1038

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					
High Turnover (Sit Down Restaurant)	2.37674e+006	0.0128	0.1165	0.0979	7.0000e-004		8.8500e-003	8.8500e-003		8.8500e-003	8.8500e-003	0.0000	126.8319	126.8319	2.4300e-003	2.3300e-003	127.6038
Condo/Townhouse High Rise	1.7974e+006	9.6900e-003	0.0828	0.0352	5.3000e-004		6.7000e-003	6.7000e-003		6.7000e-003	6.7000e-003	0.0000	95.9163	95.9163	1.8400e-003	1.7600e-003	96.5000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0225**	**0.1993**	**0.1331**	**1.2300e-003**		**0.0156**	**0.0156**		**0.0156**	**0.0156**	**0.0000**	**222.7482**	**222.7482**	**4.2700e-003**	**4.0900e-003**	**224.1038**

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					
High Turnover (Sit Down Restaurant)	2.28869e+006	0.0123	0.1122	0.0942	6.7000e-004		8.5300e-003	8.5300e-003		8.5300e-003	8.5300e-003	0.0000	122.1330	122.1330	2.3400e-003	2.2400e-003	122.8763
Condo/Townhouse High Rise	1.56055e+006	8.4100e-003	0.0719	0.0306	4.6000e-004		5.8100e-003	5.8100e-003		5.8100e-003	5.8100e-003	0.0000	83.2769	83.2769	1.6000e-003	1.5300e-003	83.7837
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0208**	**0.1841**	**0.1248**	**1.1300e-003**		**0.0143**	**0.0143**		**0.0143**	**0.0143**	**0.0000**	**205.4099**	**205.4099**	**3.9400e-003**	**3.7700e-003**	**206.6600**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse High Rise	315439	52.6652	4.1500e-003	8.6000e-004	53.0184
Enclosed Parking with Elevator	461016	76.9704	6.0600e-003	1.2500e-003	77.4867
High Turnover (Sit Down Restaurant)	422755	70.5825	5.5600e-003	1.1500e-003	71.0559
Total		**200.2181**	**0.0158**	**3.2600e-003**	**201.5611**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse High Rise	284610	47.5180	3.7400e-003	7.7000e-004	47.8367
Enclosed Parking with Elevator	375795	62.7421	4.9400e-003	1.0200e-003	63.1629
High Turnover (Sit Down Restaurant)	394885	65.9293	5.1900e-003	1.0700e-003	66.3716
Total		**176.1894**	**0.0139**	**2.8600e-003**	**177.3712**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7804	7.4100e-003	0.6372	1.0000e-004		0.0150	0.0150		0.0150	0.0150	1.2112	2.8575	4.0687	3.1500e-003	1.0000e-004	4.1661
Unmitigated	0.7804	7.4100e-003	0.6372	1.0000e-004		0.0150	0.0150		0.0150	0.0150	1.2112	2.8575	4.0687	3.1500e-003	1.0000e-004	4.1661

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0951					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6107					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0574	9.8000e-004	0.0821	7.0000e-005		0.0120	0.0120		0.0120	0.0120	1.2112	1.9567	3.1679	2.2500e-003	1.0000e-004	3.2464
Landscaping	0.0172	6.4400e-003	0.5551	3.0000e-005		3.0300e-003	3.0300e-003		3.0300e-003	3.0300e-003	0.0000	0.9008	0.9008	9.0000e-004	0.0000	0.9197
Total	**0.7804**	**7.4200e-003**	**0.6372**	**1.0000e-004**		**0.0150**	**0.0150**		**0.0150**	**0.0150**	**1.2112**	**2.8575**	**4.0687**	**3.1500e-003**	**1.0000e-004**	**4.1661**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0951					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6107					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0574	9.8000e-004	0.0821	7.0000e-005		0.0120	0.0120		0.0120	0.0120	1.2112	1.9567	3.1679	2.2500e-003	1.0000e-004	3.2464
Landscaping	0.0172	6.4400e-003	0.5551	3.0000e-005		3.0300e-003	3.0300e-003		3.0300e-003	3.0300e-003	0.0000	0.9008	0.9008	9.0000e-004	0.0000	0.9197
Total	**0.7804**	**7.4200e-003**	**0.6372**	**1.0000e-004**		**0.0150**	**0.0150**		**0.0150**	**0.0150**	**1.2112**	**2.8575**	**4.0687**	**3.1500e-003**	**1.0000e-004**	**4.1661**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Toilet

Install Low Flow Shower

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	11.7824	0.2636	6.3500e-003	19.2850
Unmitigated	12.9996	0.2962	7.1400e-003	21.4325

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse High Rise	4.8214 / 3.03958	7.6615	0.1576	3.8100e-003	12.1518
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	4.2434 / 0.270855	5.3381	0.1386	3.3300e-003	9.2806
Total		**12.9996**	**0.2962**	**7.1400e-003**	**21.4325**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse High Rise	4.29104 / 3.03958	7.0141	0.1402	3.3900e-003	11.0096
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	3.77663 / 0.270855	4.7683	0.1233	2.9600e-003	8.2754
Total		**11.7824**	**0.2636**	**6.3500e-003**	**19.2850**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	40.6794	2.4041	0.0000	91.1651
Unmitigated	40.6794	2.4041	0.0000	91.1651

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse High Rise	34.04	6.9098	0.4084	0.0000	15.4853
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	166.36	33.7696	1.9957	0.0000	75.6798
Total		**40.6794**	**2.4041**	**0.0000**	**91.1651**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse High Rise	34.04	6.9098	0.4084	0.0000	15.4853
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	166.36	33.7696	1.9957	0.0000	75.6798
Total		**40.6794**	**2.4041**	**0.0000**	**91.1651**

9.0 Operational Offroad

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

10.0 Vegetation

Hillsdale Terraces- existing

San Mateo County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	20.70	1000sqft	0.48	20,700.00	0
General Office Building	5.80	1000sqft	0.13	5,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2016
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Energy Use - historical data

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	4.34	4.07
tblEnergyUse	T24E	5.42	5.01
tblEnergyUse	T24NG	22.58	19.28
tblProjectCharacteristics	OperationalYear	2014	2016

2.0 Emissions Summary

2.1 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	lb/day										lb/day					
Area	0.5857	3.0000e-005	2.7800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.8000e-003	5.8000e-003	2.0000e-005		6.1400e-003
Energy	3.4800e-003	0.0316	0.0266	1.9000e-004		2.4000e-003	2.4000e-003		2.4000e-003	2.4000e-003		37.9314	37.9314	7.3000e-004	7.0000e-004	38.1622
Mobile	0.2087	0.3722	2.0744	4.3200e-003	0.3231	5.3700e-003	0.3284	0.0864	4.9300e-003	0.0913		375.5905	375.5905	0.0165		375.9371
Total	**0.7979**	**0.4039**	**2.1038**	**4.5100e-003**	**0.3231**	**7.7800e-003**	**0.3308**	**0.0864**	**7.3400e-003**	**0.0937**		**413.5276**	**413.5276**	**0.0173**	**7.0000e-004**	**414.1055**

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	lb/day										lb/day					
Area	0.5857	3.0000e-005	2.7800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.8000e-003	5.8000e-003	2.0000e-005		6.1400e-003
Energy	3.4800e-003	0.0316	0.0266	1.9000e-004		2.4000e-003	2.4000e-003		2.4000e-003	2.4000e-003		37.9314	37.9314	7.3000e-004	7.0000e-004	38.1622
Mobile	0.2087	0.3722	2.0744	4.3200e-003	0.3231	5.3700e-003	0.3284	0.0864	4.9300e-003	0.0913		375.5905	375.5905	0.0165		375.9371
Total	**0.7979**	**0.4039**	**2.1038**	**4.5100e-003**	**0.3231**	**7.7800e-003**	**0.3308**	**0.0864**	**7.3400e-003**	**0.0937**		**413.5276**	**413.5276**	**0.0173**	**7.0000e-004**	**414.1055**

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

3.0 Operational Detail - Mobile

3.1 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	lb/day										lb/day					
Mitigated	0.2087	0.3722	2.0744	4.3200e-003	0.3231	5.3700e-003	0.3284	0.0864	4.9300e-003	0.0913		375.5905	375.5905	0.0165		375.9371
Unmitigated	0.2087	0.3722	2.0744	4.3200e-003	0.3231	5.3700e-003	0.3284	0.0864	4.9300e-003	0.0913		375.5905	375.5905	0.0165		375.9371

3.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	63.86	13.75	5.68	115,637	115,637
Parking Lot	0.00	0.00	0.00		
Total	63.86	13.75	5.68	115,637	115,637

3.3 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
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.579021	0.062765	0.176333	0.114336	0.029695	0.004181	0.015593	0.003984	0.002598	0.003702	0.006580	0.000230	0.000982

4.0 Energy Detail

Historical Energy Use: Y

4.1 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	lb/day										lb/day					
NaturalGas Mitigated	3.4800e-003	0.0316	0.0266	1.9000e-004		2.4000e-003	2.4000e-003		2.4000e-003	2.4000e-003		37.9314	37.9314	7.3000e-004	7.0000e-004	38.1622
NaturalGas Unmitigated	3.4800e-003	0.0316	0.0266	1.9000e-004		2.4000e-003	2.4000e-003		2.4000e-003	2.4000e-003		37.9314	37.9314	7.3000e-004	7.0000e-004	38.1622

4.2 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	lb/day										lb/day					
General Office Building	322.416	3.4800e-003	0.0316	0.0266	1.9000e-004		2.4000e-003	2.4000e-003		2.4000e-003	2.4000e-003		37.9314	37.9314	7.3000e-004	7.0000e-004	38.1622
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.4800e-003**	**0.0316**	**0.0266**	**1.9000e-004**		**2.4000e-003**	**2.4000e-003**		**2.4000e-003**	**2.4000e-003**		**37.9314**	**37.9314**	**7.3000e-004**	**7.0000e-004**	**38.1622**

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	lb/day										lb/day					
General Office Building	0.322416	3.4800e-003	0.0316	0.0266	1.9000e-004		2.4000e-003	2.4000e-003		2.4000e-003	2.4000e-003		37.9314	37.9314	7.3000e-004	7.0000e-004	38.1622
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.4800e-003**	**0.0316**	**0.0266**	**1.9000e-004**		**2.4000e-003**	**2.4000e-003**		**2.4000e-003**	**2.4000e-003**		**37.9314**	**37.9314**	**7.3000e-004**	**7.0000e-004**	**38.1622**

5.0 Area Detail

5.1 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	lb/day										lb/day					
Mitigated	0.5857	3.0000e-005	2.7800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.8000e-003	5.8000e-003	2.0000e-005		6.1400e-003
Unmitigated	0.5857	3.0000e-005	2.7800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.8000e-003	5.8000e-003	2.0000e-005		6.1400e-003

5.2 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	lb/day										lb/day					
Architectural Coating	0.0184					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5671					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.7000e-004	3.0000e-005	2.7800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.8000e-003	5.8000e-003	2.0000e-005		6.1400e-003
Total	**0.5857**	**3.0000e-005**	**2.7800e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**5.8000e-003**	**5.8000e-003**	**2.0000e-005**		**6.1400e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0184					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5671					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.7000e-004	3.0000e-005	2.7800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.8000e-003	5.8000e-003	2.0000e-005		6.1400e-003
Total	**0.5857**	**3.0000e-005**	**2.7800e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**5.8000e-003**	**5.8000e-003**	**2.0000e-005**		**6.1400e-003**

Hillsdale Terraces- existing

San Mateo County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	20.70	1000sqft	0.48	20,700.00	0
General Office Building	5.80	1000sqft	0.13	5,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2016
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Energy Use - historical data

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	4.34	4.07
tblEnergyUse	T24E	5.42	5.01
tblEnergyUse	T24NG	22.58	19.28
tblProjectCharacteristics	OperationalYear	2014	2016

2.0 Emissions Summary

2.1 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	lb/day										lb/day					
Area	0.5857	3.0000e-005	2.7800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.8000e-003	5.8000e-003	2.0000e-005		6.1400e-003
Energy	3.4800e-003	0.0316	0.0266	1.9000e-004		2.4000e-003	2.4000e-003		2.4000e-003	2.4000e-003		37.9314	37.9314	7.3000e-004	7.0000e-004	38.1622
Mobile	0.2219	0.4219	2.2934	4.1000e-003	0.3231	5.4000e-003	0.3285	0.0864	4.9600e-003	0.0913		356.6000	356.6000	0.0165		356.9468
Total	**0.8111**	**0.4535**	**2.3228**	**4.2900e-003**	**0.3231**	**7.8100e-003**	**0.3309**	**0.0864**	**7.3700e-003**	**0.0937**		**394.5371**	**394.5371**	**0.0173**	**7.0000e-004**	**395.1151**

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	lb/day										lb/day					
Area	0.5857	3.0000e-005	2.7800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.8000e-003	5.8000e-003	2.0000e-005		6.1400e-003
Energy	3.4800e-003	0.0316	0.0266	1.9000e-004		2.4000e-003	2.4000e-003		2.4000e-003	2.4000e-003		37.9314	37.9314	7.3000e-004	7.0000e-004	38.1622
Mobile	0.2219	0.4219	2.2934	4.1000e-003	0.3231	5.4000e-003	0.3285	0.0864	4.9600e-003	0.0913		356.6000	356.6000	0.0165		356.9468
Total	**0.8111**	**0.4535**	**2.3228**	**4.2900e-003**	**0.3231**	**7.8100e-003**	**0.3309**	**0.0864**	**7.3700e-003**	**0.0937**		**394.5371**	**394.5371**	**0.0173**	**7.0000e-004**	**395.1151**

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

3.0 Operational Detail - Mobile

3.1 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	lb/day										lb/day					
Mitigated	0.2219	0.4219	2.2934	4.1000e-003	0.3231	5.4000e-003	0.3285	0.0864	4.9600e-003	0.0913		356.6000	356.6000	0.0165		356.9468
Unmitigated	0.2219	0.4219	2.2934	4.1000e-003	0.3231	5.4000e-003	0.3285	0.0864	4.9600e-003	0.0913		356.6000	356.6000	0.0165		356.9468

3.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	63.86	13.75	5.68	115,637	115,637
Parking Lot	0.00	0.00	0.00		
Total	63.86	13.75	5.68	115,637	115,637

3.3 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-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.579021	0.062765	0.176333	0.114336	0.029695	0.004181	0.015593	0.003984	0.002598	0.003702	0.006580	0.000230	0.000982

4.0 Energy Detail

Historical Energy Use: Y

4.1 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	lb/day										lb/day					
NaturalGas Mitigated	3.4800e-003	0.0316	0.0266	1.9000e-004		2.4000e-003	2.4000e-003		2.4000e-003	2.4000e-003		37.9314	37.9314	7.3000e-004	7.0000e-004	38.1622
NaturalGas Unmitigated	3.4800e-003	0.0316	0.0266	1.9000e-004		2.4000e-003	2.4000e-003		2.4000e-003	2.4000e-003		37.9314	37.9314	7.3000e-004	7.0000e-004	38.1622

4.2 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	lb/day										lb/day					
General Office Building	322.416	3.4800e-003	0.0316	0.0266	1.9000e-004		2.4000e-003	2.4000e-003		2.4000e-003	2.4000e-003		37.9314	37.9314	7.3000e-004	7.0000e-004	38.1622
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.4800e-003**	**0.0316**	**0.0266**	**1.9000e-004**		**2.4000e-003**	**2.4000e-003**		**2.4000e-003**	**2.4000e-003**		**37.9314**	**37.9314**	**7.3000e-004**	**7.0000e-004**	**38.1622**

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	lb/day										lb/day					
General Office Building	0.322416	3.4800e-003	0.0316	0.0266	1.9000e-004		2.4000e-003	2.4000e-003		2.4000e-003	2.4000e-003		37.9314	37.9314	7.3000e-004	7.0000e-004	38.1622
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**3.4800e-003**	**0.0316**	**0.0266**	**1.9000e-004**		**2.4000e-003**	**2.4000e-003**		**2.4000e-003**	**2.4000e-003**		**37.9314**	**37.9314**	**7.3000e-004**	**7.0000e-004**	**38.1622**

5.0 Area Detail

5.1 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	lb/day										lb/day					
Mitigated	0.5857	3.0000e-005	2.7800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.8000e-003	5.8000e-003	2.0000e-005		6.1400e-003
Unmitigated	0.5857	3.0000e-005	2.7800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.8000e-003	5.8000e-003	2.0000e-005		6.1400e-003

5.2 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	lb/day										lb/day					
Architectural Coating	0.0184					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5671					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.7000e-004	3.0000e-005	2.7800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.8000e-003	5.8000e-003	2.0000e-005		6.1400e-003
Total	**0.5857**	**3.0000e-005**	**2.7800e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**5.8000e-003**	**5.8000e-003**	**2.0000e-005**		**6.1400e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0184					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5671					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.7000e-004	3.0000e-005	2.7800e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.8000e-003	5.8000e-003	2.0000e-005		6.1400e-003
Total	**0.5857**	**3.0000e-005**	**2.7800e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**5.8000e-003**	**5.8000e-003**	**2.0000e-005**		**6.1400e-003**

Hillsdale Terraces- existing

San Mateo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	20.70	1000sqft	0.48	20,700.00	0
General Office Building	5.80	1000sqft	0.13	5,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2016
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Energy Use - historical data

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	4.34	4.07
tblEnergyUse	T24E	5.42	5.01
tblEnergyUse	T24NG	22.58	19.28
tblProjectCharacteristics	OperationalYear	2014	2016

2.0 Emissions Summary

2.1 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1069	0.0000	2.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.7000e-004	4.7000e-004	0.0000	0.0000	5.0000e-004
Energy	6.3000e-004	5.7700e-003	4.8500e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004	0.0000	34.9987	34.9987	1.4200e-003	3.8000e-004	35.1475
Mobile	0.0284	0.0555	0.2945	5.7000e-004	0.0427	7.4000e-004	0.0435	0.0115	6.8000e-004	0.0121	0.0000	44.7161	44.7161	2.0600e-003	0.0000	44.7594
Waste						0.0000	0.0000		0.0000	0.0000	1.0941	0.0000	1.0941	0.0647	0.0000	2.4520
Water						0.0000	0.0000		0.0000	0.0000	0.3270	2.2660	2.5930	0.0337	8.1000e-004	3.5530
Total	**0.1359**	**0.0613**	**0.2996**	**6.0000e-004**	**0.0427**	**1.1800e-003**	**0.0439**	**0.0115**	**1.1200e-003**	**0.0126**	**1.4212**	**81.9813**	**83.4025**	**0.1018**	**1.1900e-003**	**85.9125**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1069	0.0000	2.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.7000e-004	4.7000e-004	0.0000	0.0000	5.0000e-004
Energy	6.3000e-004	5.7700e-003	4.8500e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004	0.0000	34.9987	34.9987	1.4200e-003	3.8000e-004	35.1475
Mobile	0.0284	0.0555	0.2945	5.7000e-004	0.0427	7.4000e-004	0.0435	0.0115	6.8000e-004	0.0121	0.0000	44.7161	44.7161	2.0600e-003	0.0000	44.7594
Waste						0.0000	0.0000		0.0000	0.0000	1.0941	0.0000	1.0941	0.0647	0.0000	2.4520
Water						0.0000	0.0000		0.0000	0.0000	0.3270	2.2660	2.5930	0.0337	8.1000e-004	3.5525
Total	**0.1359**	**0.0613**	**0.2996**	**6.0000e-004**	**0.0427**	**1.1800e-003**	**0.0439**	**0.0115**	**1.1200e-003**	**0.0126**	**1.4212**	**81.9813**	**83.4025**	**0.1018**	**1.1900e-003**	**85.9120**

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

3.0 Operational Detail - Mobile

3.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0284	0.0555	0.2945	5.7000e-004	0.0427	7.4000e-004	0.0435	0.0115	6.8000e-004	0.0121	0.0000	44.7161	44.7161	2.0600e-003	0.0000	44.7594
Unmitigated	0.0284	0.0555	0.2945	5.7000e-004	0.0427	7.4000e-004	0.0435	0.0115	6.8000e-004	0.0121	0.0000	44.7161	44.7161	2.0600e-003	0.0000	44.7594

3.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	63.86	13.75	5.68	115,637	115,637
Parking Lot	0.00	0.00	0.00		
Total	63.86	13.75	5.68	115,637	115,637

3.3 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-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.579021	0.062765	0.176333	0.114336	0.029695	0.004181	0.015593	0.003984	0.002598	0.003702	0.006580	0.000230	0.000982

4.0 Energy Detail

Historical Energy Use: Y

4.1 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	28.7188	28.7188	1.3000e-003	2.7000e-004	28.8293
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	28.7188	28.7188	1.3000e-003	2.7000e-004	28.8293
NaturalGas Mitigated	6.3000e-004	5.7700e-003	4.8500e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004	0.0000	6.2800	6.2800	1.2000e-004	1.2000e-004	6.3182
NaturalGas Unmitigated	6.3000e-004	5.7700e-003	4.8500e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004	0.0000	6.2800	6.2800	1.2000e-004	1.2000e-004	6.3182

4.2 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					
General Office Building	117682	6.3000e-004	5.7700e-003	4.8500e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004	0.0000	6.2800	6.2800	1.2000e-004	1.2000e-004	6.3182
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**6.3000e-004**	**5.7700e-003**	**4.8500e-003**	**3.0000e-005**		**4.4000e-004**	**4.4000e-004**		**4.4000e-004**	**4.4000e-004**	**0.0000**	**6.2800**	**6.2800**	**1.2000e-004**	**1.2000e-004**	**6.3182**

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					
General Office Building	117682	6.3000e-004	5.7700e-003	4.8500e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004	0.0000	6.2800	6.2800	1.2000e-004	1.2000e-004	6.3182
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**6.3000e-004**	**5.7700e-003**	**4.8500e-003**	**3.0000e-005**		**4.4000e-004**	**4.4000e-004**		**4.4000e-004**	**4.4000e-004**	**0.0000**	**6.2800**	**6.2800**	**1.2000e-004**	**1.2000e-004**	**6.3182**

4.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	80504	23.4195	1.0600e-003	2.2000e-004	23.5097
Parking Lot	18216	5.2992	2.4000e-004	5.0000e-005	5.3196
Total		**28.7188**	**1.3000e-003**	**2.7000e-004**	**28.8293**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	80504	23.4195	1.0600e-003	2.2000e-004	23.5097
Parking Lot	18216	5.2992	2.4000e-004	5.0000e-005	5.3196
Total		**28.7188**	**1.3000e-003**	**2.7000e-004**	**28.8293**

5.0 Area Detail

5.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1069	0.0000	2.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.7000e-004	4.7000e-004	0.0000	0.0000	5.0000e-004
Unmitigated	0.1069	0.0000	2.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.7000e-004	4.7000e-004	0.0000	0.0000	5.0000e-004

5.2 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	3.3500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1035					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	2.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.7000e-004	4.7000e-004	0.0000	0.0000	5.0000e-004
Total	**0.1069**	**0.0000**	**2.5000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**4.7000e-004**	**4.7000e-004**	**0.0000**	**0.0000**	**5.0000e-004**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	3.3500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1035					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	2.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	4.7000e-004	4.7000e-004	0.0000	0.0000	5.0000e-004
Total	**0.1069**	**0.0000**	**2.5000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**4.7000e-004**	**4.7000e-004**	**0.0000**	**0.0000**	**5.0000e-004**

6.0 Water Detail

6.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2.5930	0.0337	8.1000e-004	3.5525
Unmitigated	2.5930	0.0337	8.1000e-004	3.5530

6.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	1.03086 / 0.631815	2.5930	0.0337	8.1000e-004	3.5530
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**2.5930**	**0.0337**	**8.1000e-004**	**3.5530**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	1.03086 / 0.631815	2.5930	0.0337	8.1000e-004	3.5525
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**2.5930**	**0.0337**	**8.1000e-004**	**3.5525**

7.0 Waste Detail

7.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	1.0941	0.0647	0.0000	2.4520
Mitigated	1.0941	0.0647	0.0000	2.4520

7.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	5.39	1.0941	0.0647	0.0000	2.4520
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**1.0941**	**0.0647**	**0.0000**	**2.4520**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	5.39	1.0941	0.0647	0.0000	2.4520
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**1.0941**	**0.0647**	**0.0000**	**2.4520**

Appendix B:
City of San Mateo Climate Action Plan Consistency Checklist

CAP Consistency Checklist

Development Checklist

Project Description Characteristics

Please identify the applicable land uses included in the proposed project and provide a brief description of the proposed project (or the project description to be used for the associated environmental document).

1) What is the size of the project (in acres)?

1 Acre

2) Identify the applicable land uses:

- ☑ Residential
- ☑ Commercial
- ☐ Industrial
- ☐ Manufacturing
- ☐ Other

3) If there is a residential component to the project, how many units are being proposed?

Single-family residences:	:
Multi-family residences:	: 74

4) Please provide a brief project description:

A NEW MIXED-USE PROJECT WITH COMMERICIAL RETAIL ON GROUND FLOOR AND 74 RESIDENTIAL CONDOMINIUMS BETWEEN FLOORS 2 -5.

5) Does the project require any amendments to the General Plan or specific plans?

- ☐ Ye ☑ No

If yes, please explain:

6) Is the project located in a specific plan area?

☑ Yes ☐ No

If so, which one? El Camino Real Master Plan, Rail Corridor TOD Plan, Hillsdale Station Area Plan

7) Please complete the following table to identify project compliance with any applicable CAP measures.

Standards for CAP Consistency – New Development

Reduction Measure and Applicable Standard	Does the Project Comply?	Notes & Comments
RE 3. New single family houses and multifamily residential buildings: Meet the standards to be solar ready as defined by the California Building Standards Code	☑ Yes ☐ No ☐ N/A	If yes, what is the square footage of the solar zone? 7000 SF Additional notes:
RE 5. New nonresidential buildings: Meet the standards to be solar ready as defined by the California Building Standards Code	☐ Yes ☐ No ☑ N/A	If yes, what is the square footage of the solar zone? Additional notes:
AF 2. If off-street parking is provided, projects of at least six multi-family residential units and/or 10,000 square feet of nonresidential square footage at time of new construction or addition or alteration (as defined in San Mateo Municipal Code Section 23.06.012): Provide EV charging stations with designated parking spaces capable of meeting the California Green Building Code Voluntary Standards.	☑ Yes ☐ No ☐ N/A	If yes, how many EV charging stations are provided? 15 EV Charging Stations Additional notes:
AF 2. New single-family houses and multi-family units with private attached garages or carports: Provide pre-wired for an EV charging station inside the garage or carport.	☐ Yes ☐ No ☑ N/A	If yes, how many spaces are prewired? Additional notes:

CAP Consistency Checklist

Reduction Measure and Applicable Standard	Does the Project Comply?	Notes & Comments
AT 2. New developments of at least six multi-family units and/or 10,000 square feet of nonresidential space: Implement TDM strategies to comply with the appropriate trip reduction target identified in applicable area plans and San Mateo Citywide TDM Plan.	☑ Yes ☐ No ☐ N/A	If yes, what is the trip reduction target for the project? % short-term commute trip reduction % long-term commute trip reduction What strategies will the project use to achieve these trip reduction targets? Compliance, strategies to be implemented, and percentage of commute trip reduction to be included in a separate Trip Reduction and Parking Management Plan document provided by Hexagon Transportation Consultants, INC as a part of their Traffic Study.
AT 2. Projects of at least 20 multi-family units and/or 50,000 square feet of nonresidential space undergoing additions or alterations (as defined in San Mateo Municipal Code Section 23.06.012): Implement TDM strategies consistent with the targets in relevant area plans and the San Mateo Citywide TDM Plan.	☑ Yes ☐ No ☐ N/A	If yes, what is the trip reduction target for the project? % short-term commute trip reduction % long-term commute trip reduction What strategies will the project use to achieve these trip reduction targets? Compliance, strategies to be implemented, and percentage of commute trip reduction to be included in a separate Trip Reduction and Parking Management Plan document provided by Hexagon Transportation Consultants, INC as a part of their Traffic Study.
SW 1. Commercial properties over 10,000 square feet and multi-family buildings of at least four units at time of construction or additions/alterations (as defined in San Mateo Municipal Code Section 23.06.012): Provide an area of sufficient space to store and allow access to a compost bin. There are currently two proposed compost bins proposed on the ground floor of the project, as seen on Sheet A-1.3 on the Ground Floor Plan. One 3-cubic yard bin will be provided within each Trash Room and will be serviced 5x/week unless otherwise arranged at a later date.	☑ Yes ☐ No ☐ N/A	Does the project participate in any composting programs? The project will compost with Recology San Mateo. Does the project compost on-site? There are currently two proposed compost bins proposed on the ground floor of the project, as seen on Sheet A-1.3 on the Ground Floor Plan. One 3-cubic yard bin will be provided within each Trash Room and will be serviced 5x/week unless otherwise arranged at a later date.