

38° NORTH PHASE 2 AIR QUALITY & GREENHOUSE GAS ASSESSMENT

Santa Rosa, CA

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Project #: 19-092

Introduction

The purpose of this report is to address air quality impacts, community risks, and greenhouse gas (GHG) impacts associated with the proposed multi-family residential units and the future community shopping center 2660 Petaluma Hill Road in Santa Rosa, California. The air quality and GHG impacts would be associated with the site preparation, construction of the new buildings and infrastructure, and operation of the project. In addition, the potential construction health risk impact to nearby sensitive receptors and the impact of existing toxic air contaminant (TAC) sources affecting the proposed residences were evaluated. This analysis addresses those issues following the guidance provided by the Bay Area Air Quality Management District (BAAQMD).

Project Description

The Project includes the development of 172 multi-family residential units contained within eight three-story buildings, a 2.54-acre Open Space Preserve, and a 1.04-acre site for the future development of a 21,000 square foot community shopping center. Amenities to be provided as part of the Project include an outdoor community area, a pool, deck and spa area, and a club house containing a fitness center.

The residential buildings are comprised of five 20-plex structures and three 24-plex structures. As proposed, each 20-plex structure contains 10 one-bedroom units, eight 2-bedroom units, and two 3-bedrooms units. Each 24-plex structure contains 10 one-bedroom units and fourteen 2-bedroom units. In total, the proposed project would introduce 80 one-bedroom/one-bath units, 82 two-bedroom/two-bath units, and 10-three bedroom/three-bath units. The proposed club house is a two-story building containing approximately 4,354 square feet (sf) and includes an outdoor community space with pool, deck and spa area, restroom facilities, a fitness room, and leasing offices. There would be 277 parking spaces provided for the residential buildings in a parking lot.

The project site is bisected by an open drainage swale containing an ephemeral creek and isolated and seasonal wetlands. These features are located within a 2.46-acre area that will be designated Open Space Preserve and will be protected and preserved as part of the Project.

The Project includes a 1.04-acre future development site in the southwest-most portion of the site, near the intersection of Petaluma Hills Road and Farmer's Lane, that will be set aside for the future development of a 21,000 square foot Community Shopping Center.¹ The preliminary concept plan identifies a 33,400 sf subterranean parking area with 60 parking spaces, and a 22,900 sf surface parking lot with 33 spaces. Although the Community Shopping Center is not being developed at this time, the future development site provides the opportunity for overall site development to be completed consistent with the General Plan Land Use Diagram and zoning designation for the parcel.

¹ Zoning Code Section 20-70.020 defines Large Grocery Store as "20,000 square feet in size or greater. Also includes a grocery store use located within a larger format retail store where an area 20,000 square feet in size or greater is primarily devoted to the sale of food." Community Shopping Center is a "retail complex anchored by a large grocery store." The 21,000 sf future Community Shopping Center includes a 20,000 sf grocery store + 1,000 sf of commercial retail space.

Setting

The project is located in Santa Rosa, which is in the San Francisco Bay Area Air Basin. Ambient air quality standards have been established at both the State and federal level. The Bay Area meets all ambient air quality standards with the exception of ground-level ozone, respirable particulate matter (PM₁₀), and fine particulate matter (PM_{2.5}).

Air Pollutants of Concern

High ozone levels are caused by the cumulative emissions of reactive organic gases (ROG) and nitrogen oxides (NO_x). These precursor pollutants react under certain meteorological conditions to form high ozone levels. Controlling the emissions of these precursor pollutants is the focus of the Bay Area's attempts to reduce ozone levels. The highest ozone levels in the Bay Area occur in the eastern and southern inland valleys that are downwind of air pollutant sources. High ozone levels aggravate respiratory and cardiovascular diseases, reduced lung function, and increase coughing and chest discomfort.

Particulate matter is another problematic air pollutant of the Bay Area. Particulate matter is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less (PM₁₀) and fine particulate matter where particles have a diameter of 2.5 micrometers or less (PM_{2.5}). Elevated concentrations of PM₁₀ and PM_{2.5} are the result of both region-wide (or cumulative) emissions and localized emissions. High particulate matter levels aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

Toxic Air Contaminants

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

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs (based on the Bay Area average). According to the California Air Resources Board (CARB), diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the State's Proposition 65 or under the Federal Hazardous Air Pollutants programs.

Regulatory Agencies

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

The BAAQMD is the regional agency tasked with managing air quality in the region. At the State level, the CARB (a part of the California Environmental Protection Agency [EPA]) oversees regional air district activities and regulates air quality at the State level. The BAAQMD has published California Environmental Quality Act (CEQA) Air Quality Guidelines that are used in this assessment to evaluate air quality impacts of projects.³ The detailed community risk modeling methodology used in this assessment is contained in *Attachment 1*.

Santa Rosa 2035 General Plan

The Santa Rosa 2035 General Plan includes goals, policies, and actions to help Santa Rosa achieve and maintain ambient air quality standards. The following goals, policies, and actions are applicable to the proposed project:

Air Quality

- OSC-J Take appropriate actions to help Santa Rosa and the larger Bay Area region achieve and maintain all ambient air quality standards
- OSC-J-1 Review all new construction projects and require dust abatement actions as contained in the CEQA Handbook of the Bay Area Air Quality Management District

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 14, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, and parks. The project would introduce new sensitive receptors. In addition, the closest sensitive receptors to the project site are residences of the Kawana Springs

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

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

Apartment Homes (38° North Phase 1), and Kawana Meadows (Residences at Taylor Mountain), which are currently under construction.

Significance Thresholds

In June 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under CEQA and these significance thresholds were contained in the District's 2011 *CEQA Air Quality Guidelines*. These thresholds were designed to establish the level at which BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA. The thresholds were challenged through a series of court challenges and were mostly upheld. BAAQMD updated the *CEQA Air Quality Guidelines* in 2017 to include the latest significance thresholds that were used in this analysis are summarized in Table 1.

Table 1. Air Quality Significance Thresholds

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

AIR QUALITY IMPACTS AND MITIGATION MEASURES

Impact: Emissions of Criteria Air Pollutants from Project Construction & Operation

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

Construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM₁₀ and PM_{2.5}. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD *CEQA Air Quality Guidelines* consider these impacts to be less-than-significant if best management practices are implemented to reduce these emissions. *Mitigation Measure AQ-1 would implement BAAQMD-recommended best management practices.*

The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to estimate emissions from construction and operation of the project assuming full build-out conditions. The project land use types and size, and anticipated construction schedule were input to CalEEMod. The model output from CalEEMod is included as *Attachment 2*.

Construction Period Emissions

CalEEMod provided annual emissions for construction. CalEEMod provides emission estimates for both on-site and off-site construction activities. On-site activities are primarily made up of construction equipment emissions, while off-site activity includes worker, hauling, and vendor traffic. A construction build-out scenario, including equipment list and schedule, was based a construction data sheet provided by the project applicant. The construction modeling took a conservative approach by assuming that the residential and commercial land uses would be constructed simultaneously. However, construction of the commercial land use is not currently proposed and would likely occur at a later future date. Note that in the scenario where both land uses are constructed separately construction, emissions would be less than the construction emissions modeled for this assessment of simultaneous construction that show emissions would be below the thresholds due to the BAAQMD screening sizes. Individually both the residential (i.e. Condo/Townhouse) and the commercial (i.e. Supermarket) land uses are under the BAAQMD construction-related screening size for both mid-rise apartments and supermarkets. For construction-related criteria air pollutant impacts, the screening size is identified as 240 dwelling units for condos/townhomes and 277,000 sf for supermarkets. Since the project proposes 172 condo/townhomes and 21,000 sf of supermarket; each land use's individual construction period

emissions would not exceed the BAAQMD significance thresholds for construction-related criteria air pollutants.

The proposed project land uses and earthwork volumes were entered into CalEEMod as follows:

- 172 dwelling units entered as “Condo/Townhouse”
- 21,000 sf entered as “Supermarket”
- 4,354 sf entered as “Recreational Swimming Pool” to represent the clubhouse⁴
- 277 parking spaces entered as “Parking Lot” for the residential buildings
- 33 parking spaces entered as “Parking Lot” for the community shopping center
- 60 parking spaces entered as “Enclosed Parking with Elevator” for the community shopping center
- 5,000 cubic yards (cy) of soil exported and imported during grading for the residential buildings
- 13,000 cy of soil exported for the community shopping center + subterranean garage
- 320 truck trips during the foundation phase (a building construction phase)
- 807 cy of asphalt hauled during paving/hardscape

The CalEEMod construction schedule assumed that the project would be built out over a period of approximately 15 months, beginning in September 2020. Based on the provided construction schedule and equipment usage assumptions, there were an estimated 370 construction workdays. Average daily emissions were calculated by dividing the total construction emissions by the number of construction days. Table 2 shows average daily construction emissions of ROG, NO_x, PM₁₀ exhaust, and PM_{2.5} exhaust during construction of the project. The calculated construction period emissions would not exceed the BAAQMD significance thresholds and have a *less-than-significant* impact.

Table 2. Construction Period Emissions

Scenario	ROG	NO_x	PM₁₀ Exhaust	PM_{2.5} Exhaust
Total Construction Emissions (tons)	0.5 tons	4.8 tons	0.19 tons	0.18 tons
Average Daily Emissions (pounds/day)¹	2.5 lbs./day	25.8 lbs./day	1.0 lbs./day	1.0 lbs./day
<i>BAAQMD Thresholds (pounds per day)</i>	54 lbs./day	54 lbs./day	82 lbs./day	54 lbs./day
Exceed Threshold?	No	No	No	No
Note: Assumes 370 construction workdays				

However, construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM₁₀ and PM_{2.5}. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD CEQA Air Quality Guidelines

⁴ The recreational swimming pool land use was used to represent the proposed club house (a two-story building) and outdoor community space that would include a pool. There are no mobile trips associated with this land use.

consider these impacts to be *less-than-significant* if best management practices are implemented to reduce these emissions. *Mitigation Measure AQ-1 would implement BAAQMD-recommended best management practices.*

Mitigation Measure AQ-1: Include measures to control dust and exhaust during construction.

During any construction period ground disturbance, the applicant shall ensure that the project contractor implement measures to control dust and exhaust. Implementation of the measures recommended by BAAQMD and listed below would reduce the air quality impacts associated with grading and new construction to a less-than-significant level. Additional measures are identified to reduce construction equipment exhaust emissions. The contractor shall implement the following best management practices that are required of all projects:

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

Effectiveness of Mitigation Measure AQ-1

The measures included above would be consistent with BAAQMD-recommended basic control measures for reducing fugitive particulate matter that are contained in the BAAQMD CEQA Air

Quality Guidelines. Mitigation measure AQ-1 would ensure that construction related air quality impacts are reduced to *less than significant* levels.

Operational Period Emissions

Operational air emissions from the project would be generated primarily from autos driven by future residents, employees, and customers. Evaporative emissions from architectural coatings and maintenance products (classified as consumer products) are typical emissions from these types of uses. CalEEMod was also used to estimate emissions from operation of the proposed project assuming full build-out inclusive of the proposed residential development and the future operation of a 21,000 square foot commercial component presumed to be a grocery store or equivalent type of commercial use.

Model Year

Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates utilized by CalEEMod. The earliest the project site could possibly be constructed and begin operating would be 2023 since construction would extend to February 2022. Emissions associated with build-out later than 2023 would be lower.

Trip Generation Rates

CalEEMod allows the user to enter specific vehicle trip generation rates, which were input to the model using the daily trip generation rate provided in the project trip generation table. For each land use type, the daily trips forecasted with trip reductions applied was divided by the quantity of that land use to identify the weekday daily trip rate. The Saturday and Sunday trip rates were assumed to be the weekday rate adjusted by multiplying the ratio of the CalEEMod default rates for those days.

The traffic analysis provided the project trip generation values for the Multi-Family Housing and the Community Shopping Center (i.e. labeled as Supermarket in the traffic analysis).⁵ The weekday trip rate for the Multi-Family Housing is 5.44 daily trips, which changed the Saturday trip rate to 5.31 and the Sunday trip rate to 4.53. The Community Shopping Center weekday trip rate is 106.78 daily trips but was reduced by five percent to account for internal capture.⁶ With the internal capture, the daily rate for the supermarket is 99.19, which changed the Saturday trip rate to 172.29 and the Sunday trip rate to 161.48. Additionally, due to the proximity of several other supermarkets and community shopping center within a mile of the project site, it was assumed that the customers that would visit this community shopping center would not travel more than three miles. Thus, the commercial-customer (C-C) trip length was changed to three miles.

⁵ W-Trans, 2020. *Traffic Impact Study for the 38° North Phase 2 Project*. January.

⁶ Internal capture accounts for the internal trips that occur in a mixed-use development. Residents of the project would patronize the adjacent community shopping center with a majority of the trips made by walking. The few automobile trips would be on-site and not affect the adjacent street network.

Energy

CaleEEMod defaults for energy use were used, which include the 2016 Title 24 Building Standards. Indirect emissions from electricity were computed in CaleEEMod. The model has a default rate of 641.3 pounds of CO₂ per megawatt of electricity produced, which is based on PG&E's 2008 emissions rate. The derived 2020 rate for PG&E was estimated at 290 pounds of CO₂ per megawatt of electricity delivered.⁷ This rate was used in the model.

Other Inputs

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

Existing Uses

The site is currently undeveloped, so no existing land use model was run.

Project Operational Emissions

Tables 3, 3a, and 3b show the operational period emissions for the project (includes residential and commercial land uses), for the residential land use, and for the commercial land use, respectively. Tables 3a and 3b are given for informational purposes only. Project significance is based on emissions listed in Table 3. As shown in Table 3, operational emissions would not exceed the BAAQMD significance thresholds. This would be considered a *less-than-significant* impact.

⁷ Pacific Gas & Electric, 2015. *Greenhouse Gas Emission Factors: Guidance for PG&E Customers*. November.

Table 3. Operational Period Emissions

Scenario	ROG	NOx	PM ₁₀	PM _{2.5}
2023 Project Operational Emissions (tons/year)	1.7 tons	3.5 tons	1.4 tons	0.4 tons
<i>BAAQMD Thresholds (tons /year)</i>	<i>10 tons</i>	<i>10 tons</i>	<i>15 tons</i>	<i>10 tons</i>
<i>Exceed Threshold?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
2023 Project Operational Emissions (lbs/day) ¹	9.2 lbs.	19.3 lbs.	7.8 lbs.	2.2 lbs.
<i>BAAQMD Thresholds (pounds/day)</i>	<i>54 lbs.</i>	<i>54 lbs.</i>	<i>82 lbs.</i>	<i>54 lbs.</i>
<i>Exceed Threshold?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
Notes: ¹ Assumes 365-day operation.				

Table 3a. Multi-family Residential Building Operational Period Emissions

Scenario	ROG	NOx	PM ₁₀	PM _{2.5}
2023 Multi-Family Residential Buildings Operational Emissions (tons/year)	1.05 tons	1.39 tons	0.81 tons	0.24 tons
<i>BAAQMD Thresholds (tons /year)</i>	<i>10 tons</i>	<i>10 tons</i>	<i>15 tons</i>	<i>10 tons</i>
<i>Exceed Threshold?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
2023 Multi-Family Residential Buildings Operational Emissions (lbs/day) ¹	5.78 lbs.	7.60 lbs.	4.42 lbs.	1.30 lbs.
<i>BAAQMD Thresholds (pounds/day)</i>	<i>54 lbs.</i>	<i>54 lbs.</i>	<i>82 lbs.</i>	<i>54 lbs.</i>
<i>Exceed Threshold?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
Notes: ¹ Assumes 365-day operation.				

Table 3b. Community Shopping Center Operational Period Emissions

Scenario	ROG	NOx	PM ₁₀	PM _{2.5}
2023 Community Shopping Center Operational Emissions (tons/year)	0.67 tons	2.49 tons	1.06 tons	0.30 tons
<i>BAAQMD Thresholds (tons /year)</i>	<i>10 tons</i>	<i>10 tons</i>	<i>15 tons</i>	<i>10 tons</i>
<i>Exceed Threshold?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
2023 Community Shopping Center Operational Emissions (lbs/day) ¹	3.67 lbs.	13.67 lbs.	5.83 lbs.	1.62 lbs.
<i>BAAQMD Thresholds (pounds/day)</i>	<i>54 lbs.</i>	<i>54 lbs.</i>	<i>82 lbs.</i>	<i>54 lbs.</i>
<i>Exceed Threshold?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
Notes: ¹ Assumes 365-day operation.				

Impact: Community Risk Assessment – Toxic Air Containments

Project impacts related to increased community risk can occur either by introducing a new source of TACs with the potential to adversely affect existing sensitive receptors in the project vicinity or by significantly exacerbating existing cumulative TAC impacts. A construction community health risk assessment was prepared to address project construction impacts on the surrounding off-site sensitive receptors since temporary project construction activity would generate dust and equipment exhaust that could affect nearby sensitive receptors. There are also several sources of TACs and localized air pollutants in the vicinity of the project. The impact of the existing sources of TAC upon the existing sensitive receptors and new incoming sensitive receptors was assessed. Community risk impacts are addressed by predicting increased lifetime cancer risk, the increase in annual PM_{2.5} concentrations and computing the Hazard Index (HI) for non-cancer health risks. The methodology for computing community risks impacts is contained in *Attachment 1*.

Additionally, a community risk assessment was completed to address the impact of the existing sources of TACS upon the project's future residents. We note that to the extent this analysis considers *existing* air quality issues in relation to the impact on *future residents* of the Project, it does so for informational purposes only pursuant to the judicial decisions in *CBIA v. BAAQMD* (2015) 62 Cal.4th 369, 386 and *Ballona Wetlands Land Trust v. City of Los Angeles* (2011) 201 Cal.App.4th 455, 473

Construction Community Health Risk Impacts

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. These exhaust air pollutant emissions would not be considered to contribute substantially to existing or projected air quality violations as shown in Table 2. However, Construction exhaust emissions may pose health risks for sensitive receptors such as surrounding residents. The primary community risk impact issue associated with construction emissions are cancer risk and exposure to PM_{2.5}. DPM from exhaust poses both a potential health and nuisance impact to nearby receptors. A health risk assessment of the project construction activities was conducted to evaluate potential health effects to nearby sensitive receptors from construction emissions of DPM and PM_{2.5}.⁸ This assessment included dispersion modeling to predict the offsite and onsite concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be evaluated. This assessment also modeled both residential and commercial land uses as being constructed simultaneously because it is the worst-case scenario.

Construction Emissions

The CalEEMod model provided total annual PM₁₀ exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles, with total emissions from all construction stages as 0.1875 tons (375 pounds). The on-road emissions are a result of haul truck travel during demolition and grading activities, worker travel, and vendor deliveries during construction. A trip length of one mile was used to represent vehicle travel while at or near the construction site. It was assumed that these emissions from on-road vehicles traveling at or near the site would occur at the construction site. Fugitive PM_{2.5} dust emissions were calculated by CalEEMod as 0.0910 tons (182 pounds) for the overall construction period.

⁸ DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict DPM and PM_{2.5} concentrations at sensitive receptors (existing residences) in the vicinity of the project construction area. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.⁹ Emission sources for the construction site were grouped into two categories: exhaust emissions of DPM and fugitive PM_{2.5} dust emissions. Combustion equipment exhaust emissions were modeled as a series of point sources with a nine-foot release height (construction equipment exhaust stack height) placed at 15.5-meter (51-foot) intervals throughout the construction site. This resulted in 158 individual point sources being used to represent mobile equipment DPM exhaust emissions in the construction area, with DPM emissions occurring throughout the project construction site. The locations of the point sources used for the modeling are identified in Figure 1. Emissions from vehicle travel on- and off-site were distributed among the point sources throughout the site. Construction fugitive PM_{2.5} dust emissions were modeled as an area source encompassing the entire construction site with a near ground level release height of 2 meters (6.6 feet). Construction emissions were modeled as occurring daily between 7 a.m. to 7 p.m. per the project applicant.

The modeling used a 5-year meteorological data set (2009-2013) from the Sonoma County Airport prepared for use with the AERMOD model by CARB. As shown in Figure 2, based on this meteorological data set, the winds generally come from the southeast. Annual DPM and PM_{2.5} concentrations from construction activities at each project site during the 2019-2020 period were calculated using the model. DPM and PM_{2.5} concentrations were calculated at nearby sensitive receptor locations. Receptor heights of 1.5 meters (4.9 feet) and 4.5 meters (14.7 feet) were used to represent the breathing height of nearby residences in nearby apartments and single-family homes.

⁹ Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0*. May.

Figure 1. Project Construction Site, Point Source Locations, Locations of Off-Site Sensitive Receptors, and TAC Impacts

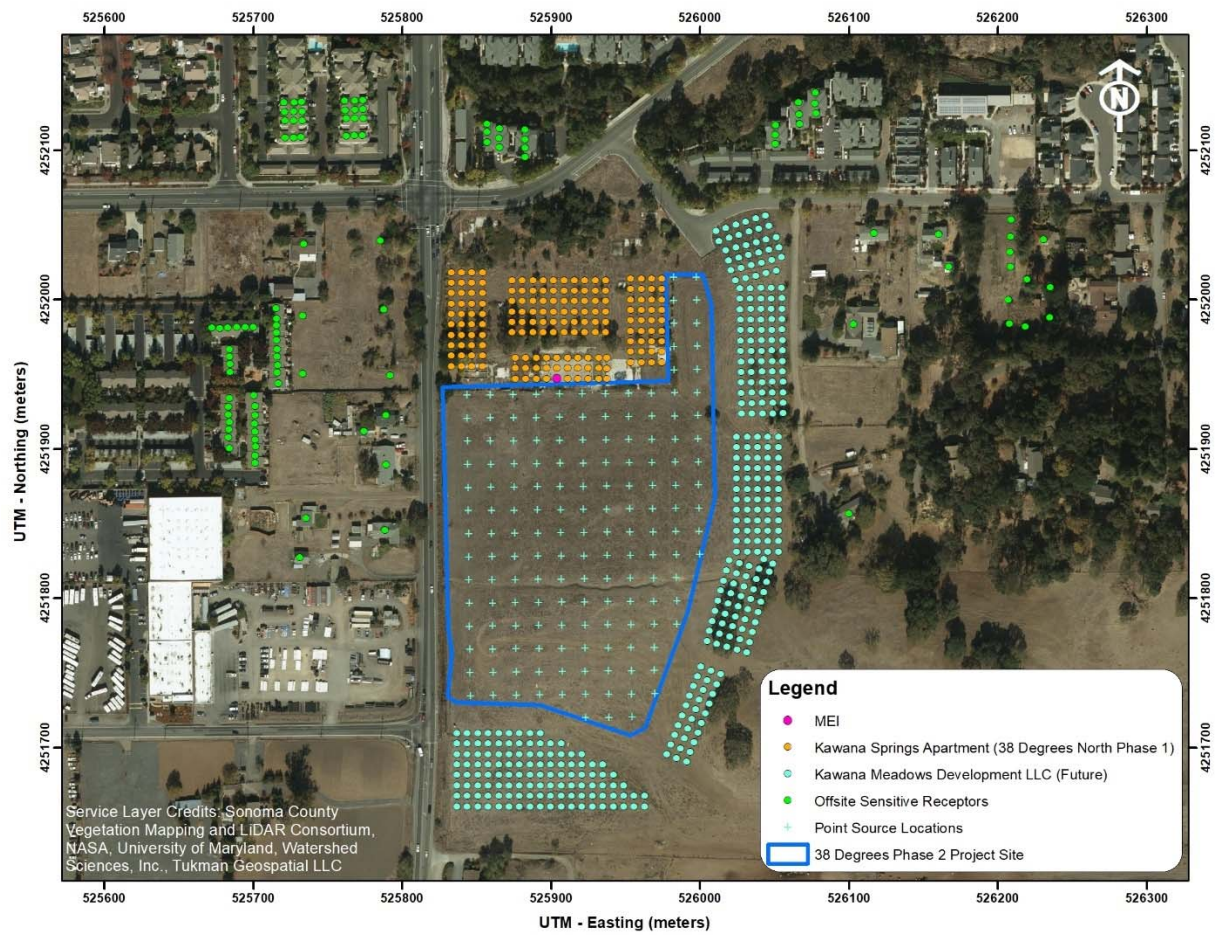
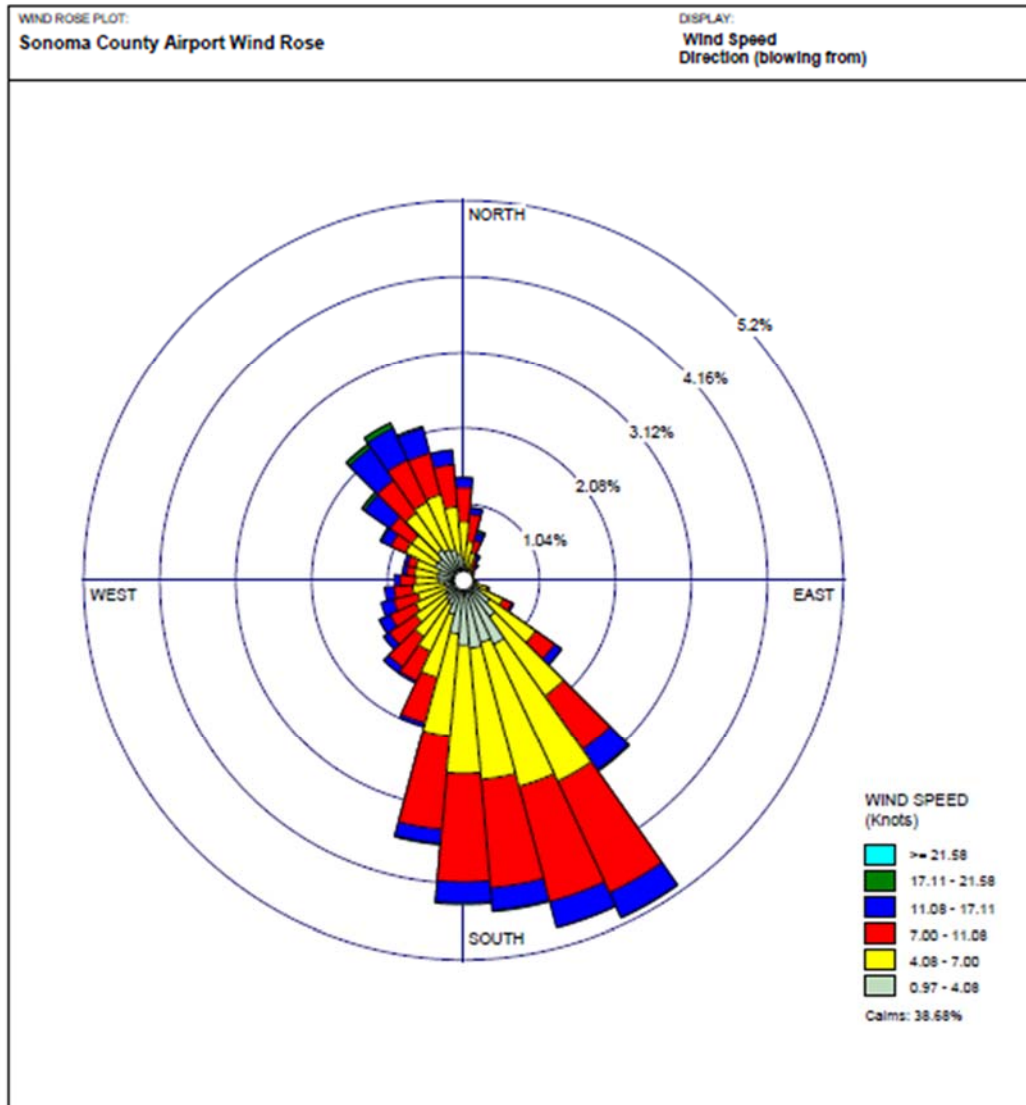


Figure 2. Sonoma County Airport Wind Rose (2009-2013 CARB Meteorological Data)



The maximum-modeled annual DPM and PM_{2.5} concentrations, which includes both the DPM and fugitive PM_{2.5} concentrations, were identified at nearby existing sensitive receptors (as shown in Figure 2) to find the maximally exposed individuals (MEIs). Additionally, sensitive receptors were placed the future site of the Kawana Springs Apartments Homes (i.e. 38° North Phase 1) and to the east and south of the project to represent future development owned by Kawana Meadows Development LLC.

Using the maximum annual modeled DPM concentrations, the maximum increased cancer risks were calculated using BAAQMD recommended methods and exposure parameters described in *Attachment 1*. Non-cancer health hazards and maximum PM_{2.5} concentrations were also calculated and identified. *Attachment 3* to this report includes the emission calculations used for the construction area source modeling and the cancer risk calculations.

Results of this assessment indicated that the MEI most impacted by construction was located at Kawana Springs Apartments Homes (see Figure 1). The 120-unit multifamily residential is north of the project site and is currently under construction at 2604 Petaluma Hill Road. It was assumed that the Kawana Springs Apartments Homes would be occupied and operational prior to construction of 38° North Phase 2. As shown in Table 4, the maximum increased residential cancer risks and maximum PM_{2.5} concentration from construction at the MEI exceed their respective BAAQMD single-source thresholds. *Mitigation Measure AQ-2* would reduce these impacts to a *less-than-significant* level.

Table 4. Construction Risk Impacts at the Offsite Residential MEI

Source	Cancer Risk (per million)	Annual PM _{2.5} (µg/m ³)	Hazard Index
Project Construction			
Unmitigated	46.0 (infant)	0.51	0.03
Mitigated	5.5 (infant)	0.05	<0.01
BAAQMD Single-Source Threshold	>10.0	>0.3	>1.0
<i>Exceed Threshold?</i>			
Unmitigated	Yes	Yes	<i>No</i>
Mitigated	<i>No</i>	<i>No</i>	<i>No</i>

Cumulative Impact of All TAC Sources

Community health risk assessments typically look at all substantial sources of TACs located within 1,000 feet of project sites and at new TAC sources that would be introduced by the project. These sources include highways, busy surface streets, and stationary sources identified by BAAQMD. A review of the project area indicates that traffic on Petaluma Hill Road and Kawana Springs have an average daily traffic (ADT) of over 10,000 vehicles. The future Farmers Lane Extension would also have an ADT of over 10,000 vehicles. All other roadways within the area are assumed to have an ADT that is less than 10,000 vehicles. One stationary source was identified within the 1,000-foot influence area using the BAAQMD's stationary source Google Earth map, and two more sources were noted near the border of the 1,000-foot influence area. Figure 3 shows the sources affecting the project site. Details of the modeling and community risk calculations are included in Attachment 4.

Figure 3. Project Site and Nearby TAC and PM_{2.5} Sources



Local Roadways – Petaluma Hill Road, Kawana Springs Road, and Farmers Lane Extension

For local roadways, BAAQMD has provided the *Roadway Screening Analysis Calculator* to assess whether roadways with traffic volumes of over 10,000 vehicles per day may have a potentially significant effect on the surrounding existing sensitive receptors. Two adjustments were made to the cancer risk predictions made by this calculator: (1) adjustment for latest vehicle emissions rates predicted using EMFAC2014 and (2) adjustment of cancer risk to reflect new Office of Environmental Health Hazard Assessment (OEHHA) guidance (see *Attachment 1*).

The calculator uses EMFAC2011 emission rates for the year 2014. However, a new version of the emissions factor model, EMFAC2014 is available. This version predicts lower emission rates. An adjustment factor of 0.5 was developed by comparing emission rates of total organic gases (TOG) for running exhaust and running losses developed using EMFAC2011 for year 2014 and those from EMFAC2014 for 2018.

The predicted cancer risk was then adjusted using a factor of 1.3744 to account for new OEHHA guidance. This factor was provided by BAAQMD for use with their CEQA screening tools that are used to predict cancer risk.

The following roadways were identified as having over 10,000 vehicles per day: Petaluma Hill Road, Kawana Springs Road, Famers Lane Extension. The ADT on Petaluma Hill Road was estimated to be 18,370 daily vehicles and the ADT on Kawana Springs Road was estimated to be 17,240 daily vehicles. These estimates were based on the peak-hour traffic volumes included in the project's traffic analysis for background plus project conditions.¹⁰ The AM and PM peak-hour volumes were averaged and then multiplied by 10 to estimate the ADT. Based on previous correspondence with W-Trans, Farmers Lane Extension would have an estimated ADT of 15,000 daily vehicles.¹¹ Note that Yolanda Avenue was not included because the ADT was estimated to be 8,345 daily vehicles. Fanz Kafka Avenue was also not included because the ADT, which includes the traffic from the extension, was estimated to be only 1,000 daily vehicles.

The BAAQMD *Roadway Screening Analysis Calculator* for Sonoma County was used for these roadways. Petaluma Hill Road was identified as a north-south directional roadway with the MEI being approximately 280-feet east of the roadway. Kawana Springs Road was identified as an east-west directional roadway with the MEI being approximately 420-feet south of the roadway. For Farmers Lane, the road was identified as an east to west roadway with the MEI being approximately 740-feet north of the roadway. Estimated risk values for the roadways are listed in Table 5. Note that BAAQMD has found that non-cancer hazards from all local roadways would be well below the BAAQMD thresholds. Chronic or acute HI for roadways would be below 0.03.

Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Stationary Source Risk & Hazard Analysis Tool*. This mapping tool uses Google Earth and identifies the location of nearby stationary sources and their estimated risk and hazard impacts. In

¹⁰ W-Trans, 2020. *Traffic Impact Study for the 38° North Phase 2 Project*. January.

¹¹ Correspondence with W-Trans by email on February 28, 2017.

addition, BAAQMD's *Permitted Stationary Sources 2018* GIS website¹² was used to locate updated nearby permitted stationary sources. A Stationary Source Information Form (SSIF) containing the identified sources was prepared and submitted to BAAQMD. BAAQMD provided updated emissions data.¹³ Those data were input into BAAQMD's *Risk and Hazards Emissions Screening Calculator* which computes the cancer risk, annual PM_{2.5} concentrations, and HI using adjustments to account for new OEHHA guidance and distance from the sources.

Three stationary sources were identified; however, the two Flyers gas dispensing facility located at 455 Yolanda Avenue are over 1,000 feet (approximately 1,200 feet) from the project site and thus not included in the cumulative analysis. The remaining stationary source (Plant #17919) operated by the City of Santa Rosa Utilities Department was identified as a generator and included within the cumulative analysis.

Cumulative Community Health Risk at Offsite MEI

Community risk impacts from combined sources upon the project site are reported in Table 5. Without the application of *Mitigation Measure AQ-2*, the project construction activity would exceed the single-source BAAQMD community risk thresholds, since the increased cancer risk and maximum annual PM_{2.5} concentration exceed their respective thresholds. However, the combined annual cancer risk, PM_{2.5} concentrations and Hazard risk values, which includes unmitigated and mitigated, would not exceed the BAAQMD cumulative-source thresholds. The project would have a *less-than-significant impact with mitigation*.

Table 5. Impacts from Combined TAC Sources at Offsite MEI

Source	Maximum Cancer Risk (per million)	Maximum Annual PM _{2.5} (µg/m ³)	Maximum Hazard Index
Project Construction			
Unmitigated	46.0 (infant)	0.51	0.03
Mitigated	5.5 (infant)	0.05	<0.01
Petaluma Hill Road (north-south) at 280 feet east ADT 18,370	2.4	0.09	<0.03
Kawana Springs (east-west) at 420 feet south ADT 17,240	0.9	0.03	<0.03
Farmers Lane Extension (east-west) at 740 feet south	0.1	<0.01	<0.03
City of Santa Rosa Utilities Department (Plant #17919, Generator) at 1,000-feet	0.1	<0.01	<0.01
Cumulative Total			
Unmitigated	49.5	0.65	0.13
Mitigated	9.0	0.19	0.11
BAAQMD Cumulative Source Threshold	>100	>0.8	>10.0
Significant?			
Unmitigated	No	No	No
Mitigated	No	No	No

¹² BAAQMD,

<https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65>

¹³ Correspondence with Areana Flores, BAAQMD, August 8, 2019.

Mitigation Measure AQ-2: Selection of equipment during construction to minimize emissions. Such equipment selection would include the following:

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

1. All diesel-powered off-road equipment, larger than 25 horsepower, operating on the site for more than two days continuously shall, at a minimum, meet U.S. EPA particulate matter emissions standards for Tier 4 engines or, alternatively, Tier 3 engines that include CARB-certified Level 3 Diesel Particulate Filters (DPF)¹⁴. Note that engines that are electrically powered or uses non-diesel fuels would meet this requirement.

Effectiveness of Mitigation Measure AQ-2

Project construction activities were analyzed with the assumption of equipment with Tier 3 engines and level 3 DPFs. With this implementation of this mitigation, the computed maximum increased lifetime residential cancer risk from construction, assuming infant exposure, would be 5.5 in one million or less, the maximum annual PM_{2.5} concentration would be 0.05 µg/m³, and the Hazard Index would be <0.01. As a result, impacts would be reduced to *less-than-significant* with respect to community risk caused by construction activities.

Mitigation Measure AQ-3: Project level health risk assessment of the proposed Community Shopping Center to minimize emissions during construction and operation.

1. Construction activities associated with the commercial components would be evaluated to ensure the measures identified above in MM AQ-2 are adequate in terms of impacts to new project residents. Otherwise, additional measures to reduce these impacts would be required as follows:
 - a. Electrification of portable equipment
 - b. Use of alternatively fueled (non-diesel) equipment
 - c. Use of cleaner haul truck fleet
 - d. Proper staging of equipment.
2. The project level HRA prepared for the Community shopping center shall evaluate operational emissions and identify avoidance and minimization to ensure that levels fall below BAAQMD thresholds for Health Risks to sensitive receptors. Such measure may include but are not limited to the following:
 - a. Locate delivery points at least 100 feet from sensitive receptors
 - b. Include exterior plugs at loading areas so that delivery trucks can plug in
 - c. Utilize an electric or low emissions vehicle fleet
 - d. Prohibit idling of heavy-duty trucks during deliveries

¹⁴ See <http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm>

Effectiveness of Mitigation Measure AQ-3

The project-level health risk assessment shall demonstrate that the risk and hazards from construction and operation of the proposed *Community Shopping Center* would be below the BAAQMD single-source thresholds for increased cancer risk, annual PM_{2.5}, and hazard index. The project-level analyses shall identify measures, including but not limited to those described above to reduce significant construction and/or operation impacts upon nearby sensitive receptors. With implementation of the measures, impacts from construction and operation would be reduced to *less-than-significant*.

Non-CEQA Impacts: Exposure of Project Residences to Existing Odors and TACs

The project would locate new sensitive receptors (i.e., residents) near existing sources of odors and TACs and PM_{2.5}.

Odors

The project site is located about 300 to 1,000 feet downwind of a dairy farm (coordinates 38°24'41.1"N 122°42'07.2"W) that is a source of odors. The receptors introduced by the project may be subject to objectionable odors at times that are produced by the dairy farm operations. These facilities generate odors from various sources, but most common is the uncontrolled decomposition of cow manure. Manure piles, lagoons and livestock areas are all areas that would produce odors. There are several exposed manure areas and an exposed lagoon. These odors would be dependent on wind direction and speed, atmospheric stability and types of dairy operations. Odor control can only be accomplished by the dairy farm operations. Because this is an existing environment, impacts to new project residents are noted but not assessed.

Community Health Risk at Project Site

Additionally, a health risk assessment was completed to analyze the impact existing TAC sources would have on the new proposed sensitive receptors that that project would introduce. Per *CBIA v. BAAQMD*, lead agencies are not required to analyze the impacts of existing conditions on a project's future residents. However, a community risk assessment was completed for the project's receptors for informational purposes only. The same TAC sources identified above were used in this HRA assessment. Additionally, the impacts from the construction of the community shopping center and from the trucks that would make deliveries to the community shopping center once operational were also assessed. All results are listed in Table 6.

Local Roadways – Petaluma Hill Road and Kawana Springs Road Farmers Lane Extension

The roadway analysis was done in the same manner for the new project sensitive receptors as described above for the construction MEI. The sensitive receptors introduced by the project would be 50-feet east of Petaluma Hill Road, 450-feet south of Kawana Springs Road, and 50-feet north of Farmers Lane Extension.

Stationary Sources

The stationary source analysis was done in the same manner as described above for the MEI. Results are listed in Table 6.

Construction of the Community Shopping Center

As stated above in the project description, the community shopping is not planned to be developed simultaneously with the multi-family residential buildings. However, impacts from the project were assumed to include construction of both uses to provide a credible worst-case assessment. Assuming the residential area is constructed and then the shopping center would expose the new project residents to construction emissions from the shopping center. The impact from this activity would be subject to the measures identified in MM AQ-3 and be further reduced.

Delivery Truck Traffic to the Community Shopping Center

Operation of the shopping center could be a source of minor TAC and PM_{2.5} emissions from delivery trucks. A store of this size, assuming it would sell groceries, would be expected to receive deliveries of goods. These might include 1 to 2 large truck deliveries per week and 5 or 6 small vehicle deliveries per day. Such deliveries would occur about 100 feet or further from residences or areas where sensitive receptors would be exposed for extended periods.

Cumulative Community Health Risk at Project Site

Community risk impacts from the combined sources upon the project site are reported in Table 6. The TAC sources are compared against the BAAQMD single-source threshold and then combined and compared against the BAAQMD cumulative-source threshold. As shown, none of the sources exceed the single-source or cumulative-source thresholds.

Table 6. Cumulative Community Risk Impacts from Combined Sources at Project Site

Source	Maximum Cancer Risk (per million)	Maximum Annual PM _{2.5} (µg/m ³)	Maximum Hazard Index
Petaluma Hill Road (north-south) at 50 feet east ADT 18,370	7.3	0.27	<0.03
Kawana Springs (east-west) at 450 feet south ADT 17,240	0.9	0.03	<0.03
Farmers Lane (east-west) at 50 feet north ADT 15,000	0.6	0.02	<0.03
City of Santa Rosa Utilities Department (Plant #17919, Generator) at 1,000-feet	0.1	<0.01	<0.01
Construction of the Community Shopping Center	<10.0	<0.3	<1.0
BAAQMD Single-Source Threshold	>10.0	>0.3	>1.0
Cumulative Total	18.9	0.63	1.1
BAAQMD Cumulative Source Threshold	>100	>0.8	>10.0

GREENHOUSE GAS EMISSIONS

Setting

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

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

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

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

Recent Regulatory Actions

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

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

(CPUC), and Building Standards Commission have all been developing regulations that will help meet the goals of AB 32 and Executive Order S-3-05.

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

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

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

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

SB 350 Renewable Portfolio Standards

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

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

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

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

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

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

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

Regulatory Agency

Santa Rosa 2035 General Plan: Greenhouse Gas Appendix

The following greenhouse gas emission reduction goals and policies from the Santa Rosa General Plan 2035 are applicable to the proposed project.

Land Use and Livability

LUL-G-1 Develop the following areas as mixed-use centers (see General Plan Land Use diagram): South of Hearn Avenue, at Dutton Meadow Avenue, West of Corporate Center Parkway, at Northpoint Parkway, Piner Road at Marlow Road, and Petaluma Hill Road, at Yolanda Avenue.

Open Space and Conservation

OSC-J Take appropriate actions to help Santa Rosa and the larger Bay Area region achieve and maintain all ambient air quality standards

OSC-J-1 Review all new construction projects and require dust abatement actions as contained in the CEQA Handbook of the Bay Area Air Quality Management District

OSC-J-3 Reduce particulate matter emissions from wood burning appliances through implementation of the city's Wood Burning Appliance code.

OSC-M Reduce Greenhouse Gas Emissions

OSC-M-1 Meet local, regional, and state targets for reduction of greenhouse gas emissions through implementation of the Climate Action Plan

City of Santa Rosa Climate Action Plan

Adopted by the City of Santa Rosa on June 5, 2012, the Climate Action Plan (CAP) is a document that presents measures that will reduce local GHG measures that will meet state, regional, and local reduction targets. The CAP focuses on three target years: 2015, 2020, and 2035. The 2015 year was to determine if the City could meet the reduction target of 25% below 1990 levels by 2015. The 2020 year is included for consistency with AB 32 targets, while a 2035 GHG emission forecast was developed to be consistent with the 2035 General Plan. The City includes several reduction measures that apply to a variety of sectors within the CAP to help sources of GHGs reduce their emissions in a multitude of ways. There is also a CAP checklist that was developed by the City to ensure that new construction projects comply with the measures outlined in the CAP. Therefore, if a project complies with the City's CAP checklist, then the new development would be found to have a less-than-significant impact since the City's CAP meets the BAAQMD requirements for a qualified greenhouse gas reduction strategy.

Declaration of a Climate Emergency and Immediate Emergency Mobilization to Restore a Safe Climate

On January 14, 2020, the Santa Rosa City Council adopted a resolution endorsing the declaration of a climate emergency and immediate emergency mobilization to restore a safe climate

(Resolution No. Res-2020-002). The City joins a nationwide call for a just transition away from fossil fuels and joins efforts to mobilize efforts to enact policies that reduce GHG emissions. City will contribute to the development of a countywide 2030 Climate Emergency Mobilization Strategy that focuses on identifying key local actions, including a ten-year Emergency Policy Package to prioritize a short list of the most impactful local policies that will drive changes and identify key areas for state level advocacy.

Significance Thresholds

The BAAQMD's CEQA Air Quality Guidelines do not use quantified thresholds for projects that are in a jurisdiction with a qualified GHG reductions plan (i.e., a Climate Action Plan). The plan has to address emissions associated with the period that the project would operate (e.g., beyond year 2020). For quantified emissions, the guidelines recommended a GHG threshold of 1,100 metric tons or 4.6 metric tons (MT) per capita. These thresholds were developed based on meeting the 2020 GHG targets set in the scoping plan that addressed AB 32. The goal of AB 32 was to reduce statewide GHG emissions to 1990 levels by 2020. CARB reports in their latest emission inventory, which is year 2017, emissions were 424 million metric tons¹⁵. This level is 7 million metric tons below the 2020 goal of 431 million metric tons. Therefore, the AB 32 goal is being met. However, development of the project would occur beyond 2020.

Because BAAQMD has not published quantified thresholds post 2020, the City of Santa Rosa has elected to rely on the compliance with the City's Climate Action Plan Checklist measures. If the project does comply with the New Development Checklist (Appendix E in the CAP), then it can be determined that the project is less-than-significant since the project will comply with a qualified GHG reduction strategy.

Project-Level GHG Emissions

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

CalEEMod Modeling

CalEEMod was used to predict GHG emissions from operation of the site assuming full build-out of the project. The project land use types and size and other project-specific information were input to the model, as described above within the operational period emissions. For the GHG analysis, three separate operational models were run to compare the GHG emissions for (1) solely the multi-family residential buildings, (2) solely the community shopping center, and (3) the combination of both land uses. CalEEMod output is included in *Attachment 2*.

Service Population Emissions

¹⁵ CARB. 2019. *California Greenhouse Gas Emissions for 2000 to 2017 Trends of Emissions and Other Indicators*. Available at https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2017/ghg_inventory_trends_00-17.pdf

The project service population efficiency rate is based on the number of future residents and future employees. For this project, the number of future residents was estimated by multiplying the total number of residential units by the persons per household rate for Santa Rosa found in the California Department of Finance Population and Housing Estimate report.¹⁶ Using the 2.65 persons per household 2019 estimate for Santa Rosa, the number of future residents was estimated to be 456. The number of future employees for the community shopping center is unknown. A rate of four workers per 1,000 sf of gross leasable area was used. The future employee population was estimated then to be 84 employees.

Construction GHG Emissions

GHG emissions associated with construction were computed to be 828 MT of CO₂e for the total construction period (includes construction of both residential and commercial components). Separate construction models were not run to estimate construction GHG emissions. Construction GHG emissions would be lower if the residential and commercial land uses were modeled separately. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the City nor BAAQMD have an adopted threshold of significance for construction related GHG emissions, though BAAQMD recommends quantifying emissions and disclosing that GHG emissions would occur during construction. BAAQMD also encourages the incorporation of best management practices to reduce GHG emissions during construction where feasible and applicable.

Operational GHG Emissions

The CalEEMod model, along with the project vehicle trip generation rates, was used to estimate daily emissions associated with operation of the projects that include the proposed residential project and the future commercial component. The GHG emissions for both the residential and commercial component are shown in Table 7. Emissions associated with the multi-family residential land use are shown in Table 7a and emissions for the commercial land use are shown in Table 7b. These emissions are provided for informational purposes only. The significance of the GHG emissions will be determined with the City of Santa Rosa's Climate Action Plan (CAP).¹⁷ It is a recognized Qualified GHG Reduction Strategy. The BAAQMD's CEQA Air Quality Guidelines do not use quantified thresholds for projects that are in a jurisdiction with a qualified GHG reductions plan (i.e., a Climate Action Plan).

The City's CAP follows both the State CEQA Guidelines and BAAQMD's guidelines by incorporating the standard elements of a Qualified GHG Reduction Strategy. Standard elements of a Qualified GHG Reduction Strategy include measures or a group of measures (including performance standards) that demonstrates with substantial evidence that, if implemented on a project-by-project basis, these measures would collectively achieve specified emissions levels.

¹⁶ State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties and the State — January 1, 2011-2018*. Sacramento, California, May 2018.

¹⁷ City of Santa Rosa, 2012. *Climate Action Plan*. June. Web: <https://srcity.org/DocumentCenter/View/10762/Climate-Action-Plan-PDF?bidId=>

The GHG reduction measures included in the CAP demonstrate the City’s ability to reach a GHG reduction target of 25% below 1990 levels, by year 2020.

As summarized on page ES-7 of the CAP, implementation of the measures of the Santa Rosa CAP are expected to decrease GHG emissions to 2.3 MTCO₂e per person per year by year 2035. While this timeframe is five years after an assumed 2030 target threshold, the CAP notes that a reduction to 2.9 MTCO₂e per person per year in 2020, and with assumed steady reductions over time, it can be concluded that emissions would be below 2.8 MTCO₂e per person per year (or a 40% reduction below 2020 thresholds) by year 2030.

The Santa Rosa CAP demonstrates that it would meet the anticipated State 2030 GHG emissions reductions targets. If a project can demonstrate consistency with the Santa Rosa CAP, its impacts related to GHG emission by year 2030 would be considered less than significant and fully consistent with State GHG emissions reduction requirements, with no need to quantify project-specific emission. This is consistent with BAAQMD guidelines related to the analysis of projects under the 2020 GHG emissions reduction targets, as applied to the updated 2030 targets.

The project is subject to the City of Santa Rosa’s CAP to meet AB 32 requirements and must incorporate the mandatory items therein or identify suitable substitute measures.¹⁸ *Mitigation Measures GHG-1 and GHG-2* require the project to use the CAP checklist and incorporate additional sustainability measures for the proposed community shopping center.

Table 7. Annual Project GHG Emissions (CO₂e) in Metric Tons for Project*

Source Category	Proposed Project in 2023	Proposed Project in 2030	Proposed Project in 2035
Area	9	9	9
Energy Consumption	460	460	460
Mobile	1,634	1,372	1,293
Solid Waste Generation	112	112	112
Water Usage	22	22	22
Total	2,237	1,975	1,895
Service Population Emissions (MT CO ₂ e/year/service population)	4.1	3.7	3.5

*Includes both Multi-Family Residential and Community Shopping Center Land Uses,

¹⁸ Appendix E of the Climate Action Plan states that, “To be in compliance with the CAP, all measures denoted with an asterisk [mandatory items] are required in all new development projects unless otherwise specified. If a project cannot meet one or more of the mandatory requirements, substitutions may be made from other measures listed at the discretion of the Community Development Director.”

Table 7a. Annual Project GHG Emissions (CO₂e) in Metric Tons for Multi-Family Residential Buildings

Source Category	Proposed Project in 2023	Proposed Project in 2030	Proposed Project in 2035
Area	9	9	9
Energy Consumption	293	293	293
Mobile	857	714	670
Solid Waste Generation	52	52	52
Water Usage	13	13	13
Total	1,230	1,087	1,043
Service Population Emissions (MT CO ₂ e/year/service population)	2.7	2.4	2.3

Table 7b. Annual Project GHG Emissions (CO₂e) in Metric Tons for Community Shopping Center

Source Category	Proposed Project in 2023	Proposed Project in 2030	Proposed Project in 2035
Area	<1	<1	<1
Energy Consumption	167	167	167
Mobile	1,234	1,036	976
Solid Waste Generation	60	60	60
Water Usage	3	3	3
Total	1,465	1,267	1,207
Service Population Emissions (MT CO ₂ e/year/service population)	17.4	15.8	14.4

Mitigation Measure GHG-1: Santa Rosa’s CAP Appendix E New Development Checklist or other qualified GHG program in effect, shall be submitted along with any application for the future community shopping center, demonstrating compliance with all mandatory requirements of the Santa Rosa’s CAP Appendix E New Development Checklist, except where the item is not applicable or where a suitable substitution is provided.

Mitigation Measure GHG-2: *Implement a GHG Reduction Strategy for the community shopping center:*

Prior to development of the community shopping center, a GHG reduction strategy shall be developed and approved by the City. This strategy shall identify measures to reduce total commercial GHG emissions to levels that meet thresholds associated with:

1. Targets identified in the City’s Climate Action Plan that are consistent with current State goals of achieving reductions consistent with SB 32.

Measures to meet these thresholds shall be identified through a refined analysis GHG emissions of the final project design. Measures that would be included in the commercial portion of the project may include the following:

- Installation of solar power systems or other renewable electric generating systems that provide electricity to power on-site equipment and possibly provide excess electric power;

- Install efficient space and water heating systems;
- Construct onsite or fund off-site carbon sequestration projects (such as a forestry or wetlands projects for which inventory and reporting protocols have been adopted). If the project develops an off-site project, it must be registered with the Climate Action Reserve or otherwise approved by the BAAQMD in order to be used to offset Project emissions;
- Purchase of carbon credits to offset Project annual emissions. Carbon offset credits must be verified and registered with The Climate Registry, the Climate Action Reserve, or another source approved by the California Air Resources Board or BAAQMD. The preference for offset carbon credit purchases include those that can be achieved as follows: 1) within the City; 2) within the San Francisco Bay Area Air Basin; 3) within the State of California; then 4) elsewhere in the United States. Provisions of evidence of payments, and funding of an escrow-type account or endowment fund would be overseen by the County;
- Develop and implement a transportation demand management (TDM) program to further reduce mobile GHG emissions.
- Purchase carbon-free generated electricity from Sonoma Clean Power (i.e. EverGreen Mix).

Effectiveness of Mitigation Measure GHG-1 and GHG-2

Adherence with the City of Santa Rosa's CAP Appendix E New Development Checklist would ensure that the project complies with a qualified GHG reduction strategy. Impacts would be considered *less-than-significant* if compliance is met. *Mitigation Measure GHG-1* would require that a project complete the checklist with their application submittal.

A GHG reduction strategy would require the project to identify measures to reduce its GHG emissions. The measures include but are not limited to the ones described in *Mitigation Measure GHG-2*. Furthermore, the project would not conflict with Resolution No. Res-2020-002 as the project would be consistent with the City's Climate Action Plan by adhering to the City's CAP Appendix E New Development Checklist and the project would have emissions reduced below the thresholds established that address future State actions to reduce GHG emissions. With implementation of this mitigation, the operational GHG emissions would be reduced to *less-than-significant*.

Supporting Documentation

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

Attachment 2 includes the CalEEMod output for project construction TAC emissions. Also included are any modeling assumptions.

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

Attachment 4 includes the screening community risk calculations from sources affecting the construction MEI and the queuing calculations.

Attachment 1: Health Risk Calculation Methodology

A health risk assessment (HRA) for exposure to Toxic Air Contaminates (TACs) requires the application of a risk characterization model to the results from the air dispersion model to estimate potential health risk at each sensitive receptor location. The State of California Office of Environmental Health Hazard Assessment (OEHHA) and California Air Resources Board (CARB) develop recommended methods for conducting health risk assessments. The most recent OEHHA risk assessment guidelines were published in February of 2015.¹⁹ These guidelines incorporate substantial changes designed to provide for enhanced protection of children, as required by State law, compared to previous published risk assessment guidelines. CARB has provided additional guidance on implementing OEHHA's recommended methods.²⁰ This HRA used the 2015 OEHHA risk assessment guidelines and CARB guidance. The BAAQMD has adopted recommended procedures for applying the newest OEHHA guidelines as part of Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants.²¹ Exposure parameters from the OEHHA guidelines and the recent BAAQMD HRA Guidelines were used in this evaluation.

Cancer Risk

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

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

¹⁹ OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.

²⁰ CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.

²¹ BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

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

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

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

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

Where:

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

ASF = Age sensitivity factor for specified age group

ED = Exposure duration (years)

AT = Averaging time for lifetime cancer risk (years)

FAH = Fraction of time spent at home (unitless)

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

Where:

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

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

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

10⁻⁶ = Conversion factor

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

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

Non-Cancer Hazards

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

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

Annual PM_{2.5} Concentrations

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

Attachment 2: CalEEMod Modeling Outputs

Project Name:		38 Degrees North Phase 2							Complete ALL Portions in Yellow		
	See Equipment Type TAB for type, horsepower and load factor										
	Project Size					172 Dwelling Units	7.08 AC	total project acres disturbed			
						160,000 s.f. residential				N	
						21,000 s.f. retail					
						N/A	s.f. office/commercial				
						4,354 s.f. other, specify:	Clubhouse				
						22,900 s.f. surface parking	33 spaces		*future commerical		
						33,400 s.f. parking garage	60 spaces		*future commerical		
						103,800 s.f. parking lot	277 spaces			*IR Edits in blue	
	Construction Hours					7 am	to	7 pm			
Qty	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	Annual Hours	Comments			
	Demolition	Start Date:	NA	Total phase:	NA	Overall Import/Export Volumes					
		End Date:	NA								
	Site Preparation	Start Date:	9/7/2020	Total phase:	15						
		End Date:	9/25/2020								
1	Scraper	361	0.48	8	10	5.3	80			2 weeks	
1	Graders	174	0.41	8	15	8.0	120			3 weeks	
1	Rubber Tired Dozers	255	0.4	8	15	8.0	120			3 weeks	
1	Tractors/Loaders/Backhoes	97	0.37	8	15	8.0	120			3 weeks	
1	Off Highway Truck	400	0.38	4	10	2.7	40			2 Weeks	
	Grading / Excavation	Start Date:	9/28/2020	Total phase:	25						
		End Date:	10/30/2020								
	Excavators	162	0.38	8	15	4.8	120			Soil Hauling Volume	
	Graders	174	0.41	8	15	4.8	120			Onsite Stock Pile Only, ~5,000 cu yd.	
1	Rubber Tired Dozers	255	0.4	8	15	4.8	120				
1	Tractors/Loaders/Backhoes	97	0.37	8	15	4.8	120				
1	Trucking (Stockpile onsite)	16	0.38	8	15	4.8	120			Residential portion only	
	Foundation	Start Date:	10/26/2020	Total phase:	55						
		End Date:	12/25/2020				0				
1	Tractor/Loader/Backhoe	97	0.37	4	45	3.3	180				
1	Excavators	162	0.38	4	45	3.3	180				
1	Skid Steer	64	0.37	4	20	1.5	80				
	Concrete Pre Mix Trucks	9	0.57	8	20	2.9	160			320 Trucks/ 30 min onsite each	
1	Concrete Pump	84	0.74	7	12	1.5	84				
	Trenching/ Utilities	Start Date:	11/2/2020	Total phase:	80						
		End Date:	1/8/2021				0				
1	Tractor/Loader/Backhoe	97	0.37	5	50	3.1	250				
1	Excavators	162	0.38	5	50	3.1	250				
1	Skid Steer	64	0.37	2	25	0.6	50				
1	Plate Compactor	8	0.43	4	45	2.3	180				
	Building - Framing and Exterior	Start Date:	11/30/2020	Total phase:	125						
		End Date:	5/28/2021								
1	Air Compressors	78	0.48	8	21	1.3	168				
1	Aerial Lift	62	0.31	8	35	2.2	280				
1	Aerial Lift	62	0.31	8	35	2.2	280				
1	Rough Terrain Forklifts	100	0.4	6	45	2.2	270				
	Paving/ Hardscape	Start Date:	7/5/2021	Total phase:	90						
		Start Date:	9/3/2021								
	Concrete Pre Mix Trucks	9	0.57	8	10	0.9	80				
	Concrete Pump	84	0.74	7	6	0.5	42				
1	Pavers	125	0.42	8	7	0.6	56				
1	Paving Equipment	130	0.36	8	7	0.6	56				
1	Rollers	80	0.38	8	7	0.6	56				
1	Tractors/Loaders/Backhoes	97	0.37	8	7	0.6	56				
1	Skid Steer	64	0.37	6	15	1.0	90				
	Landscaping	Start Date:	9/6/2021	Total phase:	90						
		Start Date:	12/31/2021								
1	Skid Steer	64	0.37	2	40	0.9	80	Asphalt? 807 cubic yards or _81_ round trips?			
	Misc (Delivery's/ Day to Day)	Start Date:	9/7/2020								
		Start Date:	10/29/2021								
	Other General Equipment	150	0.34	2	300	2	600				
1	Cranes					7					
3	Forklifts					8					
1	Generator Sets					8					
3	Tractor/loaders/backhoes					7					
1	Welders					8					

discussions with City staff, an internal capture rate of five percent was applied to the daily trips and p.m. peak hour trips.

Total Project Trip Generation

Based on application of these assumptions, the proposed project would be expected to generate an average of 3,178 trips per day, including 142 a.m. peak hour trips and 270 trips during the p.m. peak hour. After deductions are made to reflect internal trips, the project would be expected to generate 3,019 net new trips daily, with 142 occurring during the a.m. peak hour and 257 during the p.m. peak hour. Taken individually, the proposed residences would be expected to generate an average of 936 trips daily, with 62 of these occurring during the morning peak hour and 76 during the evening peak hour. These results are summarized in Table 7.

Table 7 – Trip Generation Summary

Land Use	Units	Daily		AM Peak Hour				PM Peak Hour			
		Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
Supermarket	21 ksf	106.78	2,242	3.82	80	48	32	9.24	194	99	95
Multi-family Housing	172 du	5.44	936	0.36	62	16	46	0.44	76	46	30
Subtotal			3,178		142	64	78		270	145	125
Internal Capture		-5%	-159	0%	0	0	0	-5%	-13	-7	-6
Total			3,019		142	64	78		257	138	119

Note: ksf = 1,000 square feet; du = dwelling unit

Trip Distribution

Like the trips for the approved and pending projects, trips for the proposed project were allocated to the surround street network based on the assumptions indicated in Table 5.

Vehicle Miles Traveled

While the City has not yet adopted a policy regarding vehicle miles traveled (VMT), the project's contribution was estimated for informational purposes only. Vehicle miles traveled associated with the project were calculated by multiplying the estimated number of trips and the average trip distance for the Traffic Analysis Zone (TAZ) in which the project is located. Using the daily trips generated for 172 dwelling units (du) as determined above using the standard trip generation rate, and an average distance of 10.09 miles traveled per daily trip in the project's location as available from the Sonoma County Transportation Authority (SCTA) 2016 *Comprehensive Transportation Plan* (CTP), the estimated VMT for the residential component of the project is 9,445 vehicle miles traveled. These results are shown in Table 8.

Table 8 – VMT Summary

Land Use	Daily Trips	Average Trip Length	Calculated Daily VMT
Multi-family Housing	936	10.09 mi	9,445

It is emphasized that VMT thresholds have not yet been established by the City of Santa Rosa; such standards are not required to be in place until July 1, 2020. However, as stated in the Proposed CEQA Guidelines Section 15064.3, Subdivision (b)(1), a document issued by the State of California Governor's Office of Planning and Research (OPR) to guide local agencies in developing their own standards, projects including residential, retail, and office space,

38 Degrees North, Phase 2 AQ/GHG 2023 - Sonoma-San Francisco County, Annual

38 Degrees North, Phase 2 AQ/GHG 2023**Sonoma-San Francisco County, Annual****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	60.00	Space	0.00	33,400.00	0
Parking Lot	33.00	Space	0.00	22,900.00	0
Parking Lot	277.00	Space	0.00	103,800.00	0
Recreational Swimming Pool	4.35	1000sqft	0.00	4,354.00	0
Condo/Townhouse	172.00	Dwelling Unit	7.10	160,000.00	492
Supermarket	21.00	1000sqft	0.00	21,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	75
Climate Zone	4			Operational Year	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 290 rate

Land Use - from Construction worksheet

Construction Phase - From Construction worksheet

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on Construciton equipment list

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construciton sheet - not including water truck

Off-road Equipment - Based on construction sheet

Trips and VMT - Grading is for on-site hauling

Grading - Based on construction equipment list

Vehicle Trips - TIA = SM 99.19,172.29,161.48 Res 5.44,5.31,4.53

Woodstoves - no wood burning

Energy Use -

Water And Wastewater - wtp

Construction Off-road Equipment Mitigation - Tier 4i and BMPs

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

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
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tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
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tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	230.00	300.00
tblConstructionPhase	NumDays	230.00	125.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	20.00	90.00
tblConstructionPhase	NumDays	10.00	15.00
tblConstructionPhase	NumDays	10.00	85.00

tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	25.80	55.00
tblFireplaces	NumberWood	29.24	0.00
tblGrading	MaterialExported	0.00	18,000.00
tblGrading	MaterialImported	0.00	5,000.00
tblLandUse	LandUseSquareFeet	24,000.00	33,400.00
tblLandUse	LandUseSquareFeet	110,800.00	103,800.00
tblLandUse	LandUseSquareFeet	13,200.00	22,900.00
tblLandUse	LandUseSquareFeet	4,350.00	4,354.00
tblLandUse	LandUseSquareFeet	172,000.00	160,000.00
tblLandUse	LotAcreage	0.54	0.00
tblLandUse	LotAcreage	2.49	0.00
tblLandUse	LotAcreage	0.30	0.00
tblLandUse	LotAcreage	0.10	0.00
tblLandUse	LotAcreage	10.75	7.10
tblLandUse	LotAcreage	0.48	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	4.80
tblOffRoadEquipment	UsageHours	8.00	4.80
tblOffRoadEquipment	UsageHours	8.00	0.60
tblOffRoadEquipment	UsageHours	8.00	0.60
tblOffRoadEquipment	UsageHours	8.00	0.60
tblOffRoadEquipment	UsageHours	8.00	4.80
tblOffRoadEquipment	UsageHours	8.00	6.40
tblOffRoadEquipment	UsageHours	8.00	4.80
tblOffRoadEquipment	UsageHours	8.00	6.40
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripNumber	0.00	640.00
tblTripsAndVMT	HaulingTripNumber	0.00	162.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	49.00	0.00
tblTripsAndVMT	VendorTripNumber	0.00	49.00
tblTripsAndVMT	WorkerTripNumber	200.00	2.00
tblVehicleTrips	CC_TL	7.30	3.00
tblVehicleTrips	ST_TR	5.67	5.31
tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	ST_TR	177.59	172.29
tblVehicleTrips	SU_TR	4.84	4.53
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	SU_TR	166.44	161.48
tblVehicleTrips	WD_TR	5.81	5.44
tblVehicleTrips	WD_TR	33.82	0.00
tblVehicleTrips	WD_TR	102.24	99.19

tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.1619	1.7540	1.2475	2.8200e-003	0.1461	0.0718	0.2179	0.0626	0.0672	0.1298	0.0000	253.2770	253.2770	0.0478	0.0000	254.4727
2021	0.2962	2.8935	2.5592	6.1400e-003	0.1644	0.1129	0.2774	0.0445	0.1062	0.1507	0.0000	554.2880	554.2880	0.0818	0.0000	556.3325
2022	0.0130	0.1272	0.1017	1.9000e-004	0.0610	6.1500e-003	0.0672	0.0333	5.6600e-003	0.0390	0.0000	16.5780	16.5780	5.1600e-003	0.0000	16.7072

Maximum	0.2962	2.8935	2.5592	6.1400e-003	0.1644	0.1129	0.2774	0.0626	0.1062	0.1507	0.0000	554.2880	554.2880	0.0818	0.0000	556.3325
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Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0601	1.1275	1.3476	2.8200e-003	0.0884	6.8900e-003	0.0953	0.0344	6.8000e-003	0.0412	0.0000	253.2768	253.2768	0.0478	0.0000	254.4725
2021	0.1406	2.1796	2.7215	6.1400e-003	0.1644	0.0139	0.1783	0.0445	0.0137	0.0582	0.0000	554.2877	554.2877	0.0818	0.0000	556.3322
2022	3.2900e-003	0.0648	0.1205	1.9000e-004	0.0279	3.0000e-004	0.0282	0.0151	3.0000e-004	0.0154	0.0000	16.5780	16.5780	5.1600e-003	0.0000	16.7071
Maximum	0.1406	2.1796	2.7215	6.1400e-003	0.1644	0.0139	0.1783	0.0445	0.0137	0.0582	0.0000	554.2877	554.2877	0.0818	0.0000	556.3322

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	56.71	29.38	-7.20	0.00	24.44	88.97	46.35	33.08	88.38	64.07	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	9-7-2020	12-6-2020	1.5168	0.9176
2	12-7-2020	3-6-2021	1.0294	0.7386
3	3-7-2021	6-6-2021	0.8891	0.6303
4	6-7-2021	9-6-2021	0.9730	0.7080
5	9-7-2021	12-6-2021	0.6243	0.4700
6	12-7-2021	3-6-2022	0.1335	0.0657
		Highest	1.5168	0.9176

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	0.8837	0.0207	1.2836	1.1000e-004		7.5600e-003	7.5600e-003		7.5600e-003	7.5600e-003	0.0000	8.9594	8.9594	2.1600e-003	1.3000e-004	9.0508
Energy	0.0199	0.1715	0.0826	1.0900e-003		0.0138	0.0138		0.0138	0.0138	0.0000	456.1158	456.1158	0.0297	8.9700e-003	459.5317
Mobile	0.7719	3.3338	6.4965	0.0177	1.3832	0.0164	1.3996	0.3722	0.0153	0.3875	0.0000	1,631.9841	1,631.9841	0.0814	0.0000	1,634.02
Waste						0.0000	0.0000		0.0000	0.0000	45.1350	0.0000	45.1350	2.6674	0.0000	111.8202
Water						0.0000	0.0000		0.0000	0.0000	4.9718	13.3643	18.3360	0.0185	0.0111	22.1016
Total	1.6755	3.526	7.8627	0.0189	1.3832	0.0378	1.421	0.3722	0.0367	0.4088	50.1068	2,110.42	2,160.53	2.7991	0.0202	2,236.52

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	0.8837	0.0207	1.2836	1.1000e-004		7.5600e-003	7.5600e-003		7.5600e-003	7.5600e-003	0.0000	8.9594	8.9594	2.1600e-003	1.3000e-004	9.0508
Energy	0.0199	0.1715	0.0826	1.0900e-003		0.0138	0.0138		0.0138	0.0138	0.0000	456.1158	456.1158	0.0297	8.9700e-003	459.5317
Mobile	0.7719	3.3338	6.4965	0.0177	1.3832	0.0164	1.3996	0.3722	0.0153	0.3875	0.0000	1,631.9841	1,631.9841	0.0814	0.0000	1,634.0191
Waste						0.0000	0.0000		0.0000	0.0000	45.1350	0.0000	45.1350	2.6674	0.0000	111.8202
Water						0.0000	0.0000		0.0000	0.0000	4.9718	13.3643	18.3360	0.0185	0.0111	22.1016
Total	1.6755	3.5260	7.8627	0.0189	1.3832	0.0378	1.4210	0.3722	0.0367	0.4088	50.1068	2,110.4235	2,160.5303	2.7991	0.0202	2,236.5233

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/7/2020	9/25/2020	5	15	
2	Delivery Equipment	Building Construction	9/7/2020	10/29/2021	5	300	Rough Terrain Forklift
3	Grading	Grading	9/28/2020	10/30/2020	5	25	
4	Foundation	Trenching	10/26/2020	1/8/2021	5	55	
5	Trenching/Utilities	Trenching	11/2/2020	2/19/2021	5	80	
6	Building Construction	Building Construction	11/30/2020	5/21/2021	5	125	
7	Paving/Hardscape	Paving	7/5/2021	11/5/2021	5	90	
8	Landscape	Site Preparation	9/6/2021	12/31/2021	5	85	
9	Future Grading	Grading	1/3/2022	2/4/2022	5	25	

Acres of Grading (Site Preparation Phase): 17.44

Acres of Grading (Grading Phase): 7.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Scrapers	1	5.30	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Delivery Equipment	Cranes	1	7.00	231	0.29

Delivery Equipment	Forklifts	3	8.00	89	0.20
Delivery Equipment	Generator Sets	1	8.00	84	0.74
Delivery Equipment	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Delivery Equipment	Welders	1	8.00	46	0.45
Grading	Excavators	1	4.80	158	0.38
Grading	Graders	1	4.80	187	0.41
Grading	Rubber Tired Dozers	1	4.80	247	0.40
Grading	Tractors/Loaders/Backhoes	1	4.80	97	0.37
Foundation	Excavators	1	3.30	158	0.38
Foundation	Pumps	1	1.50	84	0.74
Foundation	Skid Steer Loaders	1	1.50	65	0.37
Foundation	Tractors/Loaders/Backhoes	1	3.30	97	0.37
Trenching/Utilities	Excavators	1	3.10	158	0.38
Trenching/Utilities	Plate Compactors	1	2.30	8	0.43
Trenching/Utilities	Skid Steer Loaders	1	0.60	65	0.37
Trenching/Utilities	Tractors/Loaders/Backhoes	1	3.10	97	0.37
Building Construction	Aerial Lifts	2	2.20	63	0.31
Building Construction	Air Compressors	1	1.30	78	0.48
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Rough Terrain Forklifts	1	2.20	100	0.40
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving/Hardscape	Pavers	1	0.60	130	0.42
Paving/Hardscape	Paving Equipment	1	0.60	132	0.36
Paving/Hardscape	Pumps	1	0.50	84	0.74
Paving/Hardscape	Rollers	1	0.60	80	0.38
Paving/Hardscape	Skid Steer Loaders	1	0.60	65	0.37
Paving/Hardscape	Tractors/Loaders/Backhoes	1	0.60	97	0.37

Landscape	Rubber Tired Dozers	0	8.00	247	0.40
Landscape	Skid Steer Loaders	1	0.90	65	0.37
Landscape	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Future Grading	Excavators	1	8.00	158	0.38
Future Grading	Graders	0	8.00	187	0.41
Future Grading	Rubber Tired Dozers	1	6.40	247	0.40
Future Grading	Tractors/Loaders/Backhoes	1	6.40	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	4	10.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Delivery Equipment	9	2.00	49.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	2,875.00	10.80	7.30	1.00	LD_Mix	HDT_Mix	HHDT
Foundation	4	10.00	0.00	640.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	HHDT
Trenching/Utilities	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	4	200.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving/Hardscape	6	15.00	49.00	162.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	HHDT
Paving/Hardscape	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Landscape	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Future Grading	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0544	0.0000	0.0544	0.0258	0.0000	0.0258	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0182	0.2066	0.0988	2.1000e-004		8.9500e-003	8.9500e-003		8.2400e-003	8.2400e-003	0.0000	18.6612	18.6612	6.0400e-003	0.0000	18.8121
Total	0.0182	0.2066	0.0988	2.1000e-004	0.0544	8.9500e-003	0.0634	0.0258	8.2400e-003	0.0341	0.0000	18.6612	18.6612	6.0400e-003	0.0000	18.8121

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	3.0000e-005	9.0000e-004	2.3000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.1931	0.1931	1.0000e-005	0.0000	0.1934
Worker	3.6000e-004	2.6000e-004	2.6100e-003	1.0000e-005	5.9000e-004	0.0000	5.9000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5422	0.5422	2.0000e-005	0.0000	0.5427
Total	3.9000e-004	1.1600e-003	2.8400e-003	1.0000e-005	6.4000e-004	0.0000	6.4000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.7353	0.7353	3.0000e-005	0.0000	0.7361

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					0.0245	0.0000	0.0245	0.0116	0.0000	0.0116	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6100e-003	0.0600	0.1181	2.1000e-004		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	18.6612	18.6612	6.0400e-003	0.0000	18.8121
Total	3.6100e-003	0.0600	0.1181	2.1000e-004	0.0245	3.5000e-004	0.0248	0.0116	3.5000e-004	0.0120	0.0000	18.6612	18.6612	6.0400e-003	0.0000	18.8121

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	3.0000e-005	9.0000e-004	2.3000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.1931	0.1931	1.0000e-005	0.0000	0.1934
Worker	3.6000e-004	2.6000e-004	2.6100e-003	1.0000e-005	5.9000e-004	0.0000	5.9000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5422	0.5422	2.0000e-005	0.0000	0.5427
Total	3.9000e-004	1.1600e-003	2.8400e-003	1.0000e-005	6.4000e-004	0.0000	6.4000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.7353	0.7353	3.0000e-005	0.0000	0.7361

3.3 Delivery Equipment - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0890	0.8058	0.7076	1.1300e-003		0.0469	0.0469		0.0441	0.0441	0.0000	97.2762	97.2762	0.0237	0.0000	97.8695
Total	0.0890	0.8058	0.7076	1.1300e-003		0.0469	0.0469		0.0441	0.0441	0.0000	97.2762	97.2762	0.0237	0.0000	97.8695

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	8.1000e-003	0.2470	0.0624	5.5000e-004	0.0133	1.3100e-003	0.0147	3.8600e-003	1.2600e-003	5.1100e-003	0.0000	52.9852	52.9852	3.2500e-003	0.0000	53.0663
Worker	4.0000e-004	2.9000e-004	2.9300e-003	1.0000e-005	6.6000e-004	1.0000e-005	6.6000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.6073	0.6073	2.0000e-005	0.0000	0.6079
Total	8.5000e-003	0.2473	0.0653	5.6000e-004	0.0140	1.3200e-003	0.0153	4.0400e-003	1.2600e-003	5.2900e-003	0.0000	53.5925	53.5925	3.2700e-003	0.0000	53.6742

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	0.0224	0.4583	0.7507	1.1300e-003		3.5500e-003	3.5500e-003		3.5500e-003	3.5500e-003	0.0000	97.2761	97.2761	0.0237	0.0000	97.8694
Total	0.0224	0.4583	0.7507	1.1300e-003		3.5500e-003	3.5500e-003		3.5500e-003	3.5500e-003	0.0000	97.2761	97.2761	0.0237	0.0000	97.8694

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.1000e-003	0.2470	0.0624	5.5000e-004	0.0133	1.3100e-003	0.0147	3.8600e-003	1.2600e-003	5.1100e-003	0.0000	52.9852	52.9852	3.2500e-003	0.0000	53.0663
Worker	4.0000e-004	2.9000e-004	2.9300e-003	1.0000e-005	6.6000e-004	1.0000e-005	6.6000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.6073	0.6073	2.0000e-005	0.0000	0.6079
Total	8.5000e-003	0.2473	0.0653	5.6000e-004	0.0140	1.3200e-003	0.0153	4.0400e-003	1.2600e-003	5.2900e-003	0.0000	53.5925	53.5925	3.2700e-003	0.0000	53.6742

3.3 Delivery Equipment - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2053	1.8827	1.7901	2.9100e-003		0.1035	0.1035		0.0973	0.0973	0.0000	250.1683	250.1683	0.0604	0.0000	251.6771
Total	0.2053	1.8827	1.7901	2.9100e-003		0.1035	0.1035		0.0973	0.0973	0.0000	250.1683	250.1683	0.0604	0.0000	251.6771

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	0.0168	0.5762	0.1411	1.4000e-003	0.0343	1.4500e-003	0.0358	9.9200e-003	1.3800e-003	0.0113	0.0000	135.0210	135.0210	8.0200e-003	0.0000	135.2216
Worker	9.5000e-004	6.7000e-004	6.8100e-003	2.0000e-005	1.7000e-003	1.0000e-005	1.7100e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.5076	1.5076	5.0000e-005	0.0000	1.5089

Total	0.0178	0.5768	0.1479	1.4200e-003	0.0360	1.4600e-003	0.0375	0.0104	1.3900e-003	0.0118	0.0000	136.5286	136.5286	8.0700e-003	0.0000	136.7304
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Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0576	1.1785	1.9304	2.9100e-003		9.1400e-003	9.1400e-003		9.1400e-003	9.1400e-003	0.0000	250.1680	250.1680	0.0604	0.0000	251.6768
Total	0.0576	1.1785	1.9304	2.9100e-003		9.1400e-003	9.1400e-003		9.1400e-003	9.1400e-003	0.0000	250.1680	250.1680	0.0604	0.0000	251.6768

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	0.0168	0.5762	0.1411	1.4000e-003	0.0343	1.4500e-003	0.0358	9.9200e-003	1.3800e-003	0.0113	0.0000	135.0210	135.0210	8.0200e-003	0.0000	135.2216
Worker	9.5000e-004	6.7000e-004	6.8100e-003	2.0000e-005	1.7000e-003	1.0000e-005	1.7100e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.5076	1.5076	5.0000e-005	0.0000	1.5089
Total	0.0178	0.5768	0.1479	1.4200e-003	0.0360	1.4600e-003	0.0375	0.0104	1.3900e-003	0.0118	0.0000	136.5286	136.5286	8.0700e-003	0.0000	136.7304

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0504	0.0000	0.0504	0.0255	0.0000	0.0255	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0151	0.1663	0.0862	1.8000e-004		7.5500e-003	7.5500e-003		6.9500e-003	6.9500e-003	0.0000	15.4513	15.4513	5.0000e-003	0.0000	15.5762
Total	0.0151	0.1663	0.0862	1.8000e-004	0.0504	7.5500e-003	0.0580	0.0255	6.9500e-003	0.0324	0.0000	15.4513	15.4513	5.0000e-003	0.0000	15.5762

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.8900e-003	0.1462	0.0236	1.7000e-004	1.2200e-003	1.8000e-004	1.4000e-003	3.4000e-004	1.7000e-004	5.1000e-004	0.0000	16.3883	16.3883	2.5700e-003	0.0000	16.4526
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.3000e-004	4.3500e-003	1.0000e-005	9.8000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9037	0.9037	3.0000e-005	0.0000	0.9045
Total	3.4900e-003	0.1467	0.0280	1.8000e-004	2.2000e-003	1.9000e-004	2.3900e-003	6.0000e-004	1.8000e-004	7.8000e-004	0.0000	17.2920	17.2920	2.6000e-003	0.0000	17.3571

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					0.0227	0.0000	0.0227	0.0115	0.0000	0.0115	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8600e-003	0.0572	0.1073	1.8000e-004		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004	0.0000	15.4513	15.4513	5.0000e-003	0.0000	15.5762
Total	2.8600e-003	0.0572	0.1073	1.8000e-004	0.0227	2.9000e-004	0.0230	0.0115	2.9000e-004	0.0117	0.0000	15.4513	15.4513	5.0000e-003	0.0000	15.5762

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.8900e-003	0.1462	0.0236	1.7000e-004	1.2200e-003	1.8000e-004	1.4000e-003	3.4000e-004	1.7000e-004	5.1000e-004	0.0000	16.3883	16.3883	2.5700e-003	0.0000	16.4526
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	4.3000e-004	4.3500e-003	1.0000e-005	9.8000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9037	0.9037	3.0000e-005	0.0000	0.9045
Total	3.4900e-003	0.1467	0.0280	1.8000e-004	2.2000e-003	1.9000e-004	2.3900e-003	6.0000e-004	1.8000e-004	7.8000e-004	0.0000	17.2920	17.2920	2.6000e-003	0.0000	17.3571

3.5 Foundation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.9000e-003	0.0668	0.0797	1.2000e-004		3.6900e-003	3.6900e-003		3.4700e-003	3.4700e-003	0.0000	10.7733	10.7733	2.8000e-003	0.0000	10.8433
Total	6.9000e-003	0.0668	0.0797	1.2000e-004		3.6900e-003	3.6900e-003		3.4700e-003	3.4700e-003	0.0000	10.7733	10.7733	2.8000e-003	0.0000	10.8433

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.1300e-003	0.0473	8.8200e-003	1.0000e-004	1.8900e-003	1.2000e-004	2.0100e-003	5.1000e-004	1.2000e-004	6.3000e-004	0.0000	9.4546	9.4546	7.9000e-004	0.0000	9.4743
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1700e-003	8.5000e-004	8.5300e-003	2.0000e-005	1.9200e-003	2.0000e-005	1.9400e-003	5.1000e-004	1.0000e-005	5.3000e-004	0.0000	1.7713	1.7713	6.0000e-005	0.0000	1.7729
Total	2.3000e-003	0.0482	0.0174	1.2000e-004	3.8100e-003	1.4000e-004	3.9500e-003	1.0200e-003	1.3000e-004	1.1600e-003	0.0000	11.2259	11.2259	8.5000e-004	0.0000	11.2472

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.1300e-003	0.0528	0.0891	1.2000e-004		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004	0.0000	10.7733	10.7733	2.8000e-003	0.0000	10.8433
Total	2.1300e-003	0.0528	0.0891	1.2000e-004		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004	0.0000	10.7733	10.7733	2.8000e-003	0.0000	10.8433

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	tons/yr										MT/yr					
Hauling	1.1300e-003	0.0473	8.8200e-003	1.0000e-004	1.8900e-003	1.2000e-004	2.0100e-003	5.1000e-004	1.2000e-004	6.3000e-004	0.0000	9.4546	9.4546	7.9000e-004	0.0000	9.4743
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1700e-003	8.5000e-004	8.5300e-003	2.0000e-005	1.9200e-003	2.0000e-005	1.9400e-003	5.1000e-004	1.0000e-005	5.3000e-004	0.0000	1.7713	1.7713	6.0000e-005	0.0000	1.7729
Total	2.3000e-003	0.0482	0.0174	1.2000e-004	3.8100e-003	1.4000e-004	3.9500e-003	1.0200e-003	1.3000e-004	1.1600e-003	0.0000	11.2259	11.2259	8.5000e-004	0.0000	11.2472

3.5 Foundation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.7000e-004	7.3800e-003	9.7300e-003	2.0000e-005		3.9000e-004	3.9000e-004		3.7000e-004	3.7000e-004	0.0000	1.3194	1.3194	3.4000e-004	0.0000	1.3280
Total	7.7000e-004	7.3800e-003	9.7300e-003	2.0000e-005		3.9000e-004	3.9000e-004		3.7000e-004	3.7000e-004	0.0000	1.3194	1.3194	3.4000e-004	0.0000	1.3280

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3000e-004	5.4400e-003	1.0200e-003	1.0000e-005	1.5200e-003	1.0000e-005	1.5300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1440	1.1440	9.0000e-005	0.0000	1.1464
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	9.0000e-005	9.5000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2094	0.2094	1.0000e-005	0.0000	0.2096

Total	2.6000e-004	5.5300e-003	1.9700e-003	1.0000e-005	1.7600e-003	1.0000e-005	1.7700e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3534	1.3534	1.0000e-004	0.0000	1.3559
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Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.6000e-004	6.4700e-003	0.0109	2.0000e-005		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	1.3194	1.3194	3.4000e-004	0.0000	1.3280
Total	2.6000e-004	6.4700e-003	0.0109	2.0000e-005		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	1.3194	1.3194	3.4000e-004	0.0000	1.3280

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3000e-004	5.4400e-003	1.0200e-003	1.0000e-005	1.5200e-003	1.0000e-005	1.5300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1440	1.1440	9.0000e-005	0.0000	1.1464
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	9.0000e-005	9.5000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2094	0.2094	1.0000e-005	0.0000	0.2096
Total	2.6000e-004	5.5300e-003	1.9700e-003	1.0000e-005	1.7600e-003	1.0000e-005	1.7700e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3534	1.3534	1.0000e-004	0.0000	1.3559

3.6 Trenching/Utilities - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.2600e-003	0.0419	0.0509	8.0000e-005		2.2700e-003	2.2700e-003		2.0900e-003	2.0900e-003	0.0000	6.6913	6.6913	2.1200e-003	0.0000	6.7443
Total	4.2600e-003	0.0419	0.0509	8.0000e-005		2.2700e-003	2.2700e-003		2.0900e-003	2.0900e-003	0.0000	6.6913	6.6913	2.1200e-003	0.0000	6.7443

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0500e-003	7.6000e-004	7.6600e-003	2.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.5905	1.5905	6.0000e-005	0.0000	1.5920
Total	1.0500e-003	7.6000e-004	7.6600e-003	2.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.5905	1.5905	6.0000e-005	0.0000	1.5920

Mitigated Construction On-Site

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

Off-Road	1.2200e-003	0.0329	0.0560	8.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	6.6913	6.6913	2.1200e-003	0.0000	6.7443
Total	1.2200e-003	0.0329	0.0560	8.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	6.6913	6.6913	2.1200e-003	0.0000	6.7443

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0500e-003	7.6000e-004	7.6600e-003	2.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.5905	1.5905	6.0000e-005	0.0000	1.5920
Total	1.0500e-003	7.6000e-004	7.6600e-003	2.0000e-005	1.7300e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.5905	1.5905	6.0000e-005	0.0000	1.5920

3.6 Trenching/Utilities - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.2100e-003	0.0309	0.0416	6.0000e-005		1.6100e-003	1.6100e-003		1.4900e-003	1.4900e-003	0.0000	5.4761	5.4761	1.7400e-003	0.0000	5.5194
Total	3.2100e-003	0.0309	0.0416	6.0000e-005		1.6100e-003	1.6100e-003		1.4900e-003	1.4900e-003	0.0000	5.4761	5.4761	1.7400e-003	0.0000	5.5194

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-004	5.6000e-004	5.6700e-003	1.0000e-005	1.4100e-003	1.0000e-005	1.4200e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2563	1.2563	4.0000e-005	0.0000	1.2574
Total	8.0000e-004	5.6000e-004	5.6700e-003	1.0000e-005	1.4100e-003	1.0000e-005	1.4200e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2563	1.2563	4.0000e-005	0.0000	1.2574

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.0000e-003	0.0269	0.0458	6.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	5.4761	5.4761	1.7400e-003	0.0000	5.5194
Total	1.0000e-003	0.0269	0.0458	6.0000e-005		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	5.4761	5.4761	1.7400e-003	0.0000	5.5194

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-004	5.6000e-004	5.6700e-003	1.0000e-005	1.4100e-003	1.0000e-005	1.4200e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2563	1.2563	4.0000e-005	0.0000	1.2574
Total	8.0000e-004	5.6000e-004	5.6700e-003	1.0000e-005	1.4100e-003	1.0000e-005	1.4200e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2563	1.2563	4.0000e-005	0.0000	1.2574

3.7 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3300e-003	0.0143	0.0196	3.0000e-005		6.2000e-004	6.2000e-004		6.0000e-004	6.0000e-004	0.0000	2.6365	2.6365	6.9000e-004	0.0000	2.6537
Total	1.3300e-003	0.0143	0.0196	3.0000e-005		6.2000e-004	6.2000e-004		6.0000e-004	6.0000e-004	0.0000	2.6365	2.6365	6.9000e-004	0.0000	2.6537

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0114	8.3200e-003	0.0836	1.9000e-004	0.0188	1.5000e-004	0.0190	5.0100e-003	1.4000e-004	5.1500e-003	0.0000	17.3511	17.3511	6.4000e-004	0.0000	17.3670

Total	0.0114	8.3200e-003	0.0836	1.9000e-004	0.0188	1.5000e-004	0.0190	5.0100e-003	1.4000e-004	5.1500e-003	0.0000	17.3511	17.3511	6.4000e-004	0.0000	17.3670
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Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.7000e-004	0.0140	0.0218	3.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	2.6365	2.6365	6.9000e-004	0.0000	2.6537
Total	6.7000e-004	0.0140	0.0218	3.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	2.6365	2.6365	6.9000e-004	0.0000	2.6537

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0114	8.3200e-003	0.0836	1.9000e-004	0.0188	1.5000e-004	0.0190	5.0100e-003	1.4000e-004	5.1500e-003	0.0000	17.3511	17.3511	6.4000e-004	0.0000	17.3670
Total	0.0114	8.3200e-003	0.0836	1.9000e-004	0.0188	1.5000e-004	0.0190	5.0100e-003	1.4000e-004	5.1500e-003	0.0000	17.3511	17.3511	6.4000e-004	0.0000	17.3670

3.7 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.1500e-003	0.0558	0.0821	1.3000e-004		2.2200e-003	2.2200e-003		2.1200e-003	2.1200e-003	0.0000	11.0962	11.0962	2.8800e-003	0.0000	11.1682
Total	5.1500e-003	0.0558	0.0821	1.3000e-004		2.2200e-003	2.2200e-003		2.1200e-003	2.1200e-003	0.0000	11.0962	11.0962	2.8800e-003	0.0000	11.1682

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0447	0.0312	0.3182	7.8000e-004	0.0793	6.2000e-004	0.0799	0.0211	5.7000e-004	0.0217	0.0000	70.4932	70.4932	2.3800e-003	0.0000	70.5528
Total	0.0447	0.0312	0.3182	7.8000e-004	0.0793	6.2000e-004	0.0799	0.0211	5.7000e-004	0.0217	0.0000	70.4932	70.4932	2.3800e-003	0.0000	70.5528

Mitigated Construction On-Site

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

Off-Road	2.8200e-003	0.0588	0.0917	1.3000e-004		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003	0.0000	11.0962	11.0962	2.8800e-003	0.0000	11.1681
Total	2.8200e-003	0.0588	0.0917	1.3000e-004		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003	0.0000	11.0962	11.0962	2.8800e-003	0.0000	11.1681

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0447	0.0312	0.3182	7.8000e-004	0.0793	6.2000e-004	0.0799	0.0211	5.7000e-004	0.0217	0.0000	70.4932	70.4932	2.3800e-003	0.0000	70.5528
Total	0.0447	0.0312	0.3182	7.8000e-004	0.0793	6.2000e-004	0.0799	0.0211	5.7000e-004	0.0217	0.0000	70.4932	70.4932	2.3800e-003	0.0000	70.5528

3.8 Paving/Hardscape - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.0800e-003	0.0406	0.0476	7.0000e-005		2.1600e-003	2.1600e-003		2.0300e-003	2.0300e-003	0.0000	6.5029	6.5029	1.6800e-003	0.0000	6.5447
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	4.0800e-003	0.0406	0.0476	7.0000e-005		2.1600e-003	2.1600e-003		2.0300e-003	2.0300e-003	0.0000	6.5029	6.5029	1.6800e-003	0.0000	6.5447

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-004	0.0126	2.3700e-003	3.0000e-005	8.6000e-004	3.0000e-005	8.9000e-004	2.3000e-004	3.0000e-005	2.6000e-004	0.0000	2.6544	2.6544	2.2000e-004	0.0000	2.6599
Vendor	7.0100e-003	0.2401	0.0588	5.8000e-004	0.0244	6.0000e-004	0.0250	6.6100e-003	5.8000e-004	7.1800e-003	0.0000	56.2587	56.2587	3.3400e-003	0.0000	56.3423
Worker	5.9700e-003	4.1700e-003	0.0425	1.0000e-004	0.0197	8.0000e-005	0.0198	5.0600e-003	8.0000e-005	5.1400e-003	0.0000	9.4224	9.4224	3.2000e-004	0.0000	9.4303
Total	0.0133	0.2569	0.1037	7.1000e-004	0.0450	7.1000e-004	0.0457	0.0119	6.9000e-004	0.0126	0.0000	68.3355	68.3355	3.8800e-003	0.0000	68.4326

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3100e-003	0.0320	0.0538	7.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	6.5028	6.5028	1.6800e-003	0.0000	6.5447
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.3100e-003	0.0320	0.0538	7.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	6.5028	6.5028	1.6800e-003	0.0000	6.5447

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	tons/yr										MT/yr					
Hauling	3.0000e-004	0.0126	2.3700e-003	3.0000e-005	8.6000e-004	3.0000e-005	8.9000e-004	2.3000e-004	3.0000e-005	2.6000e-004	0.0000	2.6544	2.6544	2.2000e-004	0.0000	2.6599
Vendor	7.0100e-003	0.2401	0.0588	5.8000e-004	0.0244	6.0000e-004	0.0250	6.6100e-003	5.8000e-004	7.1800e-003	0.0000	56.2587	56.2587	3.3400e-003	0.0000	56.3423
Worker	5.9700e-003	4.1700e-003	0.0425	1.0000e-004	0.0197	8.0000e-005	0.0198	5.0600e-003	8.0000e-005	5.1400e-003	0.0000	9.4224	9.4224	3.2000e-004	0.0000	9.4303
Total	0.0133	0.2569	0.1037	7.1000e-004	0.0450	7.1000e-004	0.0457	0.0119	6.9000e-004	0.0126	0.0000	68.3355	68.3355	3.8800e-003	0.0000	68.4326

3.9 Landscape - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-004	4.8000e-003	6.6500e-003	1.0000e-005		2.0000e-004	2.0000e-004		1.8000e-004	1.8000e-004	0.0000	0.8684	0.8684	2.8000e-004	0.0000	0.8754
Total	3.6000e-004	4.8000e-003	6.6500e-003	1.0000e-005	0.0000	2.0000e-004	2.0000e-004	0.0000	1.8000e-004	1.8000e-004	0.0000	0.8684	0.8684	2.8000e-004	0.0000	0.8754

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6000e-004	3.9000e-004	4.0200e-003	1.0000e-005	1.0000e-003	1.0000e-005	1.0100e-003	2.7000e-004	1.0000e-005	2.7000e-004	0.0000	0.8899	0.8899	3.0000e-005	0.0000	0.8906

Total	5.6000e-004	3.9000e-004	4.0200e-003	1.0000e-005	1.0000e-003	1.0000e-005	1.0100e-003	2.7000e-004	1.0000e-005	2.7000e-004	0.0000	0.8899	0.8899	3.0000e-005	0.0000	0.8906
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Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4000e-004	5.5600e-003	7.5000e-003	1.0000e-005		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	0.8684	0.8684	2.8000e-004	0.0000	0.8754
Total	2.4000e-004	5.5600e-003	7.5000e-003	1.0000e-005	0.0000	2.3000e-004	2.3000e-004	0.0000	2.3000e-004	2.3000e-004	0.0000	0.8684	0.8684	2.8000e-004	0.0000	0.8754

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6000e-004	3.9000e-004	4.0200e-003	1.0000e-005	1.0000e-003	1.0000e-005	1.0100e-003	2.7000e-004	1.0000e-005	2.7000e-004	0.0000	0.8899	0.8899	3.0000e-005	0.0000	0.8906
Total	5.6000e-004	3.9000e-004	4.0200e-003	1.0000e-005	1.0000e-003	1.0000e-005	1.0100e-003	2.7000e-004	1.0000e-005	2.7000e-004	0.0000	0.8899	0.8899	3.0000e-005	0.0000	0.8906

3.10 Future Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0602	0.0000	0.0602	0.0331	0.0000	0.0331	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0126	0.1269	0.0989	1.8000e-004		6.1500e-003	6.1500e-003		5.6600e-003	5.6600e-003	0.0000	15.9056	15.9056	5.1400e-003	0.0000	16.0342
Total	0.0126	0.1269	0.0989	1.8000e-004	0.0602	6.1500e-003	0.0664	0.0331	5.6600e-003	0.0388	0.0000	15.9056	15.9056	5.1400e-003	0.0000	16.0342

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1000e-004	2.7000e-004	2.8200e-003	1.0000e-005	7.8000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.6724	0.6724	2.0000e-005	0.0000	0.6729
Total	4.1000e-004	2.7000e-004	2.8200e-003	1.0000e-005	7.8000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.6724	0.6724	2.0000e-005	0.0000	0.6729

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					0.0271	0.0000	0.0271	0.0149	0.0000	0.0149	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8800e-003	0.0645	0.1177	1.8000e-004		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004	0.0000	15.9056	15.9056	5.1400e-003	0.0000	16.0342
Total	2.8800e-003	0.0645	0.1177	1.8000e-004	0.0271	3.0000e-004	0.0274	0.0149	3.0000e-004	0.0152	0.0000	15.9056	15.9056	5.1400e-003	0.0000	16.0342

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1000e-004	2.7000e-004	2.8200e-003	1.0000e-005	7.8000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.6724	0.6724	2.0000e-005	0.0000	0.6729
Total	4.1000e-004	2.7000e-004	2.8200e-003	1.0000e-005	7.8000e-004	1.0000e-005	7.9000e-004	2.1000e-004	1.0000e-005	2.1000e-004	0.0000	0.6724	0.6724	2.0000e-005	0.0000	0.6729

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7719	3.3338	6.4965	0.0177	1.3832	0.0164	1.3996	0.3722	0.0153	0.3875	0.0000	1,631.9841	1,631.9841	0.0814	0.0000	1,634.0191

Unmitigated	0.7719	3.3338	6.4965	0.0177	1.3832	0.0164	1.3996	0.3722	0.0153	0.3875	0.0000	1,631.984 1	1,631.9841	0.0814	0.0000	1,634.019 1
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4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	935.68	913.32	779.16	2,102,033	2,102,033
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Supermarket	2,082.99	3,618.09	3391.08	1,626,723	1,626,723
Total	3,018.67	4,531.41	4,170.24	3,728,756	3,728,756

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9
Supermarket	9.50	3.00	7.30	6.50	74.50	19.00	34	30	36

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.594113	0.036394	0.166849	0.102253	0.024126	0.006070	0.030484	0.028024	0.003137	0.001706	0.004997	0.000880	0.000967
Enclosed Parking with Elevator	0.594113	0.036394	0.166849	0.102253	0.024126	0.006070	0.030484	0.028024	0.003137	0.001706	0.004997	0.000880	0.000967
Parking Lot	0.594113	0.036394	0.166849	0.102253	0.024126	0.006070	0.030484	0.028024	0.003137	0.001706	0.004997	0.000880	0.000967
Recreational Swimming Pool	0.594113	0.036394	0.166849	0.102253	0.024126	0.006070	0.030484	0.028024	0.003137	0.001706	0.004997	0.000880	0.000967
Supermarket	0.594113	0.036394	0.166849	0.102253	0.024126	0.006070	0.030484	0.028024	0.003137	0.001706	0.004997	0.000880	0.000967

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	259.0733	259.0733	0.0259	5.3600e-003	261.3183
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	259.0733	259.0733	0.0259	5.3600e-003	261.3183
NaturalGas Mitigated	0.0199	0.1715	0.0826	1.0900e-003		0.0138	0.0138		0.0138	0.0138	0.0000	197.0425	197.0425	3.7800e-003	3.6100e-003	198.2135
NaturalGas Unmitigated	0.0199	0.1715	0.0826	1.0900e-003		0.0138	0.0138		0.0138	0.0138	0.0000	197.0425	197.0425	3.7800e-003	3.6100e-003	198.2135

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					
Condo/Townhouse	3.22036e+006	0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	171.8506	171.8506	3.2900e-003	3.1500e-003	172.8718
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
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
Recreational Swimming Pool	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
Supermarket	472080	2.5500e-003	0.0231	0.0194	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	25.1920	25.1920	4.8000e-004	4.6000e-004	25.3417
Total		0.0199	0.1715	0.0826	1.0900e-003		0.0138	0.0138		0.0138	0.0138	0.0000	197.0425	197.0425	3.7700e-003	3.6100e-003	198.2135

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					
Condo/Townhouse	3.22036e+006	0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	171.8506	171.8506	3.2900e-003	3.1500e-003	172.8718
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
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
Recreational Swimming Pool	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
Supermarket	472080	2.5500e-003	0.0231	0.0194	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	25.1920	25.1920	4.8000e-004	4.6000e-004	25.3417
Total		0.0199	0.1715	0.0826	1.0900e-003		0.0138	0.0138		0.0138	0.0138	0.0000	197.0425	197.0425	3.7700e-003	3.6100e-003	198.2135

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	867814	114.1538	0.0114	2.3600e-003	115.1430
Enclosed Parking with Elevator	195724	25.7459	2.5700e-003	5.3000e-004	25.9690
Parking Lot	36330	4.7789	4.8000e-004	1.0000e-004	4.8203
Parking Lot	8015	1.0543	1.1000e-004	2.0000e-005	1.0634
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000

Supermarket	861630	113.3404	0.0113	2.3400e-003	114.3225
Total		259.0733	0.0259	5.3500e-003	261.3183

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	867814	114.1538	0.0114	2.3600e-003	115.1430
Enclosed Parking with Elevator	195724	25.7459	2.5700e-003	5.3000e-004	25.9690
Parking Lot	36330	4.7789	4.8000e-004	1.0000e-004	4.8203
Parking Lot	8015	1.0543	1.1000e-004	2.0000e-005	1.0634
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Supermarket	861630	113.3404	0.0113	2.3400e-003	114.3225
Total		259.0733	0.0259	5.3500e-003	261.3183

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	tons/yr									MT/yr						
Mitigated	0.8837	0.0207	1.2836	1.1000e-004		7.5600e-003	7.5600e-003		7.5600e-003	7.5600e-003	0.0000	8.9594	8.9594	2.1600e-003	1.3000e-004	9.0508
Unmitigated	0.8837	0.0207	1.2836	1.1000e-004		7.5600e-003	7.5600e-003		7.5600e-003	7.5600e-003	0.0000	8.9594	8.9594	2.1600e-003	1.3000e-004	9.0508

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	0.1269					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7172					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.9000e-004	5.9300e-003	2.5200e-003	4.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	6.8662	6.8662	1.3000e-004	1.3000e-004	6.9070
Landscaping	0.0388	0.0148	1.2810	7.0000e-005		7.0800e-003	7.0800e-003		7.0800e-003	7.0800e-003	0.0000	2.0932	2.0932	2.0200e-003	0.0000	2.1438
Total	0.8837	0.0207	1.2836	1.1000e-004		7.5600e-003	7.5600e-003		7.5600e-003	7.5600e-003	0.0000	8.9594	8.9594	2.1500e-003	1.3000e-004	9.0508

Mitigated

[illegible]

Hearth	6.9000e-004	5.9300e-003	2.5200e-003	4.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	6.8662	6.8662	1.3000e-004	1.3000e-004	6.9070
Landscaping	0.0388	0.0148	1.2810	7.0000e-005		7.0800e-003	7.0800e-003		7.0800e-003	7.0800e-003	0.0000	2.0932	2.0932	2.0200e-003	0.0000	2.1438
Total	0.8837	0.0207	1.2836	1.1000e-004		7.5600e-003	7.5600e-003		7.5600e-003	7.5600e-003	0.0000	8.9594	8.9594	2.1500e-003	1.3000e-004	9.0508

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	18.3360	0.0185	0.0111	22.1016
Unmitigated	18.3360	0.0185	0.0111	22.1016

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	11.2065 / 7.06496	15.1940	0.0148	8.8500e-003	18.2020
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000

Recreational Swimming Pool	0.257273 / 0.157683	0.3467	3.4000e-004	2.0000e-004	0.4158
Supermarket	2.58863 / 0.0800608	2.7952	3.3400e-003	2.0300e-003	3.4839
Total		18.3360	0.0185	0.0111	22.1016

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	11.2065 / 7.06496	15.1940	0.0148	8.8500e-003	18.2020
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0.257273 / 0.157683	0.3467	3.4000e-004	2.0000e-004	0.4158
Supermarket	2.58863 / 0.0800608	2.7952	3.3400e-003	2.0300e-003	3.4839
Total		18.3360	0.0185	0.0111	22.1016

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
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	MT/yr			
Mitigated	45.1350	2.6674	0.0000	111.8202
Unmitigated	45.1350	2.6674	0.0000	111.8202

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	79.12	16.0606	0.9492	0.0000	39.7896
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	24.79	5.0322	0.2974	0.0000	12.4669
Supermarket	118.44	24.0423	1.4209	0.0000	59.5637
Total		45.1350	2.6674	0.0000	111.8202

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	79.12	16.0606	0.9492	0.0000	39.7896

Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	24.79	5.0322	0.2974	0.0000	12.4669
Supermarket	118.44	24.0423	1.4209	0.0000	59.5637
Total		45.1350	2.6674	0.0000	111.8202

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

38 Degrees North, Phase 2 AQ/GHG 2030 - Sonoma-San Francisco County, Annual

38 Degrees North, Phase 2 AQ/GHG 2030**Sonoma-San Francisco County, Annual****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	60.00	Space	0.00	33,400.00	0
Parking Lot	33.00	Space	0.00	22,900.00	0
Parking Lot	277.00	Space	0.00	103,800.00	0
Recreational Swimming Pool	4.35	1000sqft	0.00	4,354.00	0
Condo/Townhouse	172.00	Dwelling Unit	7.10	160,000.00	492
Supermarket	21.00	1000sqft	0.00	21,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	75
Climate Zone	4			Operational Year	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 290 rate

Land Use - from Construction worksheet

Construction Phase - From Construction worksheet

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on Construciton equipment list

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construciton sheet - not including water truck

Off-road Equipment - Based on construction sheet

Trips and VMT - Grading is for on-site hauling

Grading - Based on construction equipment list

Vehicle Trips - TIA = SM 99.19,172.29,161.48 Res 5.44,5.31,4.53

Woodstoves - no wood burning

Energy Use -

Water And Wastewater - wtp

Construction Off-road Equipment Mitigation - Tier 4i and BMPs

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

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	230.00	300.00
tblConstructionPhase	NumDays	230.00	125.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	20.00	90.00
tblConstructionPhase	NumDays	10.00	15.00
tblConstructionPhase	NumDays	10.00	85.00

tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	25.80	55.00
tblFireplaces	NumberWood	29.24	0.00
tblGrading	MaterialExported	0.00	18,000.00
tblGrading	MaterialImported	0.00	5,000.00
tblLandUse	LandUseSquareFeet	24,000.00	33,400.00
tblLandUse	LandUseSquareFeet	110,800.00	103,800.00
tblLandUse	LandUseSquareFeet	13,200.00	22,900.00
tblLandUse	LandUseSquareFeet	4,350.00	4,354.00
tblLandUse	LandUseSquareFeet	172,000.00	160,000.00
tblLandUse	LotAcreage	0.54	0.00
tblLandUse	LotAcreage	2.49	0.00
tblLandUse	LotAcreage	0.30	0.00
tblLandUse	LotAcreage	0.10	0.00
tblLandUse	LotAcreage	10.75	7.10
tblLandUse	LotAcreage	0.48	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	4.80
tblOffRoadEquipment	UsageHours	8.00	4.80
tblOffRoadEquipment	UsageHours	8.00	0.60
tblOffRoadEquipment	UsageHours	8.00	0.60
tblOffRoadEquipment	UsageHours	8.00	0.60
tblOffRoadEquipment	UsageHours	8.00	4.80
tblOffRoadEquipment	UsageHours	8.00	6.40
tblOffRoadEquipment	UsageHours	8.00	4.80
tblOffRoadEquipment	UsageHours	8.00	6.40
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripNumber	0.00	640.00
tblTripsAndVMT	HaulingTripNumber	0.00	162.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	49.00	0.00
tblTripsAndVMT	VendorTripNumber	0.00	49.00
tblTripsAndVMT	WorkerTripNumber	200.00	2.00
tblVehicleTrips	CC_TL	7.30	3.00
tblVehicleTrips	ST_TR	5.67	5.31
tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	ST_TR	177.59	172.29
tblVehicleTrips	SU_TR	4.84	4.53
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	SU_TR	166.44	161.48
tblVehicleTrips	WD_TR	5.81	5.44
tblVehicleTrips	WD_TR	33.82	0.00
tblVehicleTrips	WD_TR	102.24	99.19

tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

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	0.8833	0.0207	1.2799	1.1000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003	0.0000	8.9594	8.9594	2.1400e-003	1.3000e-004	9.0503
Energy	0.0199	0.1715	0.0826	1.0900e-003		0.0138	0.0138		0.0138	0.0138	0.0000	456.1158	456.1158	0.0297	8.9700e-003	459.5317
Mobile	0.4863	2.8747	4.0061	0.0148	1.3816	0.0110	1.3926	0.3714	0.0103	0.3817	0.0000	1,370.9158	1,370.9158	0.0599	0.0000	1,372.41

Waste						0.0000	0.0000		0.0000	0.0000	45.1350	0.0000	45.1350	2.6674	0.0000	111.8202
Water						0.0000	0.0000		0.0000	0.0000	4.9718	13.3643	18.3360	0.0185	0.0111	22.1016
Total	1.3895	3.0669	5.3686	0.0160	1.3816	0.0323	1.4139	0.3714	0.0316	0.4030	50.1068	1,849.3552	1,899.4620	2.7775	0.0202	1,974.9162

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	0.8833	0.0207	1.2799	1.1000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003	0.0000	8.9594	8.9594	2.1400e-003	1.3000e-004	9.0503
Energy	0.0199	0.1715	0.0826	1.0900e-003		0.0138	0.0138		0.0138	0.0138	0.0000	456.1158	456.1158	0.0297	8.9700e-003	459.5317
Mobile	0.4863	2.8747	4.0061	0.0148	1.3816	0.0110	1.3926	0.3714	0.0103	0.3817	0.0000	1,370.9158	1,370.9158	0.0599	0.0000	1,372.4125
Waste						0.0000	0.0000		0.0000	0.0000	45.1350	0.0000	45.1350	2.6674	0.0000	111.8202
Water						0.0000	0.0000		0.0000	0.0000	4.9718	13.3643	18.3360	0.0185	0.0111	22.1016
Total	1.3895	3.0669	5.3686	0.0160	1.3816	0.0323	1.4139	0.3714	0.0316	0.4030	50.1068	1,849.3552	1,899.4620	2.7775	0.0202	1,974.9162

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4863	2.8747	4.0061	0.0148	1.3816	0.0110	1.3926	0.3714	0.0103	0.3817	0.0000	1,370.9158	1,370.9158	0.0599	0.0000	1,372.4125
Unmitigated	0.4863	2.8747	4.0061	0.0148	1.3816	0.0110	1.3926	0.3714	0.0103	0.3817	0.0000	1,370.9158	1,370.9158	0.0599	0.0000	1,372.4125

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	935.68	913.32	779.16	2,102,033	2,102,033
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Supermarket	2,082.99	3,618.09	3391.08	1,626,723	1,626,723
Total	3,018.67	4,531.41	4,170.24	3,728,756	3,728,756

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9
Supermarket	9.50	3.00	7.30	6.50	74.50	19.00	34	30	36

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.625329	0.031298	0.162135	0.089092	0.014618	0.004632	0.032111	0.030354	0.003196	0.001373	0.004305	0.000897	0.000662
Enclosed Parking with Elevator	0.625329	0.031298	0.162135	0.089092	0.014618	0.004632	0.032111	0.030354	0.003196	0.001373	0.004305	0.000897	0.000662
Parking Lot	0.625329	0.031298	0.162135	0.089092	0.014618	0.004632	0.032111	0.030354	0.003196	0.001373	0.004305	0.000897	0.000662
Recreational Swimming Pool	0.625329	0.031298	0.162135	0.089092	0.014618	0.004632	0.032111	0.030354	0.003196	0.001373	0.004305	0.000897	0.000662
Supermarket	0.625329	0.031298	0.162135	0.089092	0.014618	0.004632	0.032111	0.030354	0.003196	0.001373	0.004305	0.000897	0.000662

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	259.0733	259.0733	0.0259	5.3600e-003	261.3183
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	259.0733	259.0733	0.0259	5.3600e-003	261.3183
NaturalGas Mitigated	0.0199	0.1715	0.0826	1.0900e-003		0.0138	0.0138		0.0138	0.0138	0.0000	197.0425	197.0425	3.7800e-003	3.6100e-003	198.2135
NaturalGas Unmitigated	0.0199	0.1715	0.0826	1.0900e-003		0.0138	0.0138		0.0138	0.0138	0.0000	197.0425	197.0425	3.7800e-003	3.6100e-003	198.2135

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
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Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	3.22036e+006	0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	171.8506	171.8506	3.2900e-003	3.1500e-003	172.8718
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
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
Recreational Swimming Pool	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
Supermarket	472080	2.5500e-003	0.0231	0.0194	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	25.1920	25.1920	4.8000e-004	4.6000e-004	25.3417
Total		0.0199	0.1715	0.0826	1.0900e-003		0.0138	0.0138		0.0138	0.0138	0.0000	197.0425	197.0425	3.7700e-003	3.6100e-003	198.2135

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	3.22036e+006	0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	171.8506	171.8506	3.2900e-003	3.1500e-003	172.8718
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
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
Recreational Swimming Pool	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
Supermarket	472080	2.5500e-003	0.0231	0.0194	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	25.1920	25.1920	4.8000e-004	4.6000e-004	25.3417
Total		0.0199	0.1715	0.0826	1.0900e-003		0.0138	0.0138		0.0138	0.0138	0.0000	197.0425	197.0425	3.7700e-003	3.6100e-003	198.2135

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	867814	114.1538	0.0114	2.3600e-003	115.1430
Enclosed Parking with Elevator	195724	25.7459	2.5700e-003	5.3000e-004	25.9690
Parking Lot	36330	4.7789	4.8000e-004	1.0000e-004	4.8203
Parking Lot	8015	1.0543	1.1000e-004	2.0000e-005	1.0634
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Supermarket	861630	113.3404	0.0113	2.3400e-003	114.3225
Total		259.0733	0.0259	5.3500e-003	261.3183

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	867814	114.1538	0.0114	2.3600e-003	115.1430
Enclosed Parking with Elevator	195724	25.7459	2.5700e-003	5.3000e-004	25.9690
Parking Lot	36330	4.7789	4.8000e-004	1.0000e-004	4.8203
Parking Lot	8015	1.0543	1.1000e-004	2.0000e-005	1.0634
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Supermarket	861630	113.3404	0.0113	2.3400e-003	114.3225
Total		259.0733	0.0259	5.3500e-003	261.3183

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	0.8833	0.0207	1.2799	1.1000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003	0.0000	8.9594	8.9594	2.1400e-003	1.3000e-004	9.0503
Unmitigated	0.8833	0.0207	1.2799	1.1000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003	0.0000	8.9594	8.9594	2.1400e-003	1.3000e-004	9.0503

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	0.1269					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7172					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.9000e-004	5.9300e-003	2.5200e-003	4.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	6.8662	6.8662	1.3000e-004	1.3000e-004	6.9070
Landscaping	0.0384	0.0147	1.2774	7.0000e-005		7.1000e-003	7.1000e-003		7.1000e-003	7.1000e-003	0.0000	2.0932	2.0932	2.0100e-003	0.0000	2.1434
Total	0.8833	0.0207	1.2799	1.1000e-004		7.5800e-003	7.5800e-003		7.5800e-003	7.5800e-003	0.0000	8.9594	8.9594	2.1400e-003	1.3000e-004	9.0503

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	0.1269					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7172					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.9000e-004	5.9300e-003	2.5200e-003	4.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	6.8662	6.8662	1.3000e-004	1.3000e-004	6.9070
Landscaping	0.0384	0.0147	1.2774	7.0000e-005		7.1000e-003	7.1000e-003		7.1000e-003	7.1000e-003	0.0000	2.0932	2.0932	2.0100e-003	0.0000	2.1434
Total	0.8833	0.0207	1.2799	1.1000e-004		7.5800e-003	7.5800e-003		7.5800e-003	7.5800e-003	0.0000	8.9594	8.9594	2.1400e-003	1.3000e-004	9.0503

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	18.3360	0.0185	0.0111	22.1016
Unmitigated	18.3360	0.0185	0.0111	22.1016

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	11.2065 / 7.06496	15.1940	0.0148	8.8500e-003	18.2020
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0.257273 / 0.157683	0.3467	3.4000e-004	2.0000e-004	0.4158
Supermarket	2.58863 / 0.0800608	2.7952	3.3400e-003	2.0300e-003	3.4839
Total		18.3360	0.0185	0.0111	22.1016

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	11.2065 / 7.06496	15.1940	0.0148	8.8500e-003	18.2020
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0.257273 / 0.157683	0.3467	3.4000e-004	2.0000e-004	0.4158
Supermarket	2.58863 / 0.0800608	2.7952	3.3400e-003	2.0300e-003	3.4839
Total		18.3360	0.0185	0.0111	22.1016

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	45.1350	2.6674	0.0000	111.8202
Unmitigated	45.1350	2.6674	0.0000	111.8202

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	79.12	16.0606	0.9492	0.0000	39.7896
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	24.79	5.0322	0.2974	0.0000	12.4669
Supermarket	118.44	24.0423	1.4209	0.0000	59.5637
Total		45.1350	2.6674	0.0000	111.8202

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	79.12	16.0606	0.9492	0.0000	39.7896
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	24.79	5.0322	0.2974	0.0000	12.4669
Supermarket	118.44	24.0423	1.4209	0.0000	59.5637
Total		45.1350	2.6674	0.0000	111.8202

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

38 Degrees North, Phase 2 AQ/GHG 2035 - Sonoma-San Francisco County, Annual

38 Degrees North, Phase 2 AQ/GHG 2035**Sonoma-San Francisco County, Annual****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	60.00	Space	0.00	33,400.00	0
Parking Lot	33.00	Space	0.00	22,900.00	0
Parking Lot	277.00	Space	0.00	103,800.00	0
Recreational Swimming Pool	4.35	1000sqft	0.00	4,354.00	0
Condo/Townhouse	172.00	Dwelling Unit	7.10	160,000.00	492
Supermarket	21.00	1000sqft	0.00	21,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	75
Climate Zone	4			Operational Year	2035
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 290 rate

Land Use - from Construction worksheet

Construction Phase - From Construction worksheet

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on Construciton equipment list

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construciton sheet - not including water truck

Off-road Equipment - Based on construction sheet

Trips and VMT - Grading is for on-site hauling

Grading - Based on construction equipment list

Vehicle Trips - TIA = SM 99.19,172.29,161.48 Res 5.44,5.31,4.53

Woodstoves - no wood burning

Energy Use -

Water And Wastewater - wtp

Construction Off-road Equipment Mitigation - Tier 4i and BMPs

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

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	230.00	300.00
tblConstructionPhase	NumDays	230.00	125.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	20.00	90.00
tblConstructionPhase	NumDays	10.00	15.00
tblConstructionPhase	NumDays	10.00	85.00

tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	25.80	55.00
tblFireplaces	NumberWood	29.24	0.00
tblGrading	MaterialExported	0.00	18,000.00
tblGrading	MaterialImported	0.00	5,000.00
tblLandUse	LandUseSquareFeet	24,000.00	33,400.00
tblLandUse	LandUseSquareFeet	110,800.00	103,800.00
tblLandUse	LandUseSquareFeet	13,200.00	22,900.00
tblLandUse	LandUseSquareFeet	4,350.00	4,354.00
tblLandUse	LandUseSquareFeet	172,000.00	160,000.00
tblLandUse	LotAcreage	0.54	0.00
tblLandUse	LotAcreage	2.49	0.00
tblLandUse	LotAcreage	0.30	0.00
tblLandUse	LotAcreage	0.10	0.00
tblLandUse	LotAcreage	10.75	7.10
tblLandUse	LotAcreage	0.48	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	4.80
tblOffRoadEquipment	UsageHours	8.00	4.80
tblOffRoadEquipment	UsageHours	8.00	0.60
tblOffRoadEquipment	UsageHours	8.00	0.60
tblOffRoadEquipment	UsageHours	8.00	0.60
tblOffRoadEquipment	UsageHours	8.00	4.80
tblOffRoadEquipment	UsageHours	8.00	6.40
tblOffRoadEquipment	UsageHours	8.00	4.80
tblOffRoadEquipment	UsageHours	8.00	6.40
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripNumber	0.00	640.00
tblTripsAndVMT	HaulingTripNumber	0.00	162.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	49.00	0.00
tblTripsAndVMT	VendorTripNumber	0.00	49.00
tblTripsAndVMT	WorkerTripNumber	200.00	2.00
tblVehicleTrips	CC_TL	7.30	3.00
tblVehicleTrips	ST_TR	5.67	5.31
tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	ST_TR	177.59	172.29
tblVehicleTrips	SU_TR	4.84	4.53
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	SU_TR	166.44	161.48
tblVehicleTrips	WD_TR	5.81	5.44
tblVehicleTrips	WD_TR	33.82	0.00
tblVehicleTrips	WD_TR	102.24	99.19

tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

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	0.8832	0.0206	1.2788	1.1000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003	0.0000	8.9594	8.9594	2.1400e-003	1.3000e-004	9.0503
Energy	0.0199	0.1715	0.0826	1.0900e-003		0.0138	0.0138		0.0138	0.0138	0.0000	456.1158	456.1158	0.0297	8.9700e-003	459.5317
Mobile	0.3612	2.7327	3.1508	0.0139	1.3813	7.9600e-003	1.3893	0.3713	7.4100e-003	0.3787	0.0000	1,291.5127	1,291.5127	0.0527	0.0000	1,292.83

Waste						0.0000	0.0000		0.0000	0.0000	45.1350	0.0000	45.1350	2.6674	0.0000	111.8202
Water						0.0000	0.0000		0.0000	0.0000	4.9718	13.3643	18.3360	0.0185	0.0111	22.1016
Total	1.2643	2.9249	4.5121	0.0151	1.3813	0.0293	1.4106	0.3713	0.0287	0.4001	50.1068	1,769.9521	1,820.0589	2.7704	0.0202	1,895.3336

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	0.8832	0.0206	1.2788	1.1000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003	0.0000	8.9594	8.9594	2.1400e-003	1.3000e-004	9.0503
Energy	0.0199	0.1715	0.0826	1.0900e-003		0.0138	0.0138		0.0138	0.0138	0.0000	456.1158	456.1158	0.0297	8.9700e-003	459.5317
Mobile	0.3612	2.7327	3.1508	0.0139	1.3813	7.9600e-003	1.3893	0.3713	7.4100e-003	0.3787	0.0000	1,291.5127	1,291.5127	0.0527	0.0000	1,292.8298
Waste						0.0000	0.0000		0.0000	0.0000	45.1350	0.0000	45.1350	2.6674	0.0000	111.8202
Water						0.0000	0.0000		0.0000	0.0000	4.9718	13.3643	18.3360	0.0185	0.0111	22.1016
Total	1.2643	2.9249	4.5121	0.0151	1.3813	0.0293	1.4106	0.3713	0.0287	0.4001	50.1068	1,769.9521	1,820.0589	2.7704	0.0202	1,895.3336

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3612	2.7327	3.1508	0.0139	1.3813	7.9600e-003	1.3893	0.3713	7.4100e-003	0.3787	0.0000	1,291.5127	1,291.5127	0.0527	0.0000	1,292.8298
Unmitigated	0.3612	2.7327	3.1508	0.0139	1.3813	7.9600e-003	1.3893	0.3713	7.4100e-003	0.3787	0.0000	1,291.5127	1,291.5127	0.0527	0.0000	1,292.8298

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	935.68	913.32	779.16	2,102,033	2,102,033
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Supermarket	2,082.99	3,618.09	3391.08	1,626,723	1,626,723
Total	3,018.67	4,531.41	4,170.24	3,728,756	3,728,756

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9
Supermarket	9.50	3.00	7.30	6.50	74.50	19.00	34	30	36

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.631952	0.030215	0.161142	0.086119	0.011578	0.004283	0.033032	0.031556	0.003254	0.001262	0.004128	0.000903	0.000577
Enclosed Parking with Elevator	0.631952	0.030215	0.161142	0.086119	0.011578	0.004283	0.033032	0.031556	0.003254	0.001262	0.004128	0.000903	0.000577
Parking Lot	0.631952	0.030215	0.161142	0.086119	0.011578	0.004283	0.033032	0.031556	0.003254	0.001262	0.004128	0.000903	0.000577
Recreational Swimming Pool	0.631952	0.030215	0.161142	0.086119	0.011578	0.004283	0.033032	0.031556	0.003254	0.001262	0.004128	0.000903	0.000577
Supermarket	0.631952	0.030215	0.161142	0.086119	0.011578	0.004283	0.033032	0.031556	0.003254	0.001262	0.004128	0.000903	0.000577

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	259.0733	259.0733	0.0259	5.3600e-003	261.3183
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	259.0733	259.0733	0.0259	5.3600e-003	261.3183
NaturalGas Mitigated	0.0199	0.1715	0.0826	1.0900e-003		0.0138	0.0138		0.0138	0.0138	0.0000	197.0425	197.0425	3.7800e-003	3.6100e-003	198.2135
NaturalGas Unmitigated	0.0199	0.1715	0.0826	1.0900e-003		0.0138	0.0138		0.0138	0.0138	0.0000	197.0425	197.0425	3.7800e-003	3.6100e-003	198.2135

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
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Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	3.22036e+006	0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	171.8506	171.8506	3.2900e-003	3.1500e-003	172.8718
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
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
Recreational Swimming Pool	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
Supermarket	472080	2.5500e-003	0.0231	0.0194	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	25.1920	25.1920	4.8000e-004	4.6000e-004	25.3417
Total		0.0199	0.1715	0.0826	1.0900e-003		0.0138	0.0138		0.0138	0.0138	0.0000	197.0425	197.0425	3.7700e-003	3.6100e-003	198.2135

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	3.22036e+006	0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	171.8506	171.8506	3.2900e-003	3.1500e-003	172.8718
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
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
Recreational Swimming Pool	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
Supermarket	472080	2.5500e-003	0.0231	0.0194	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	25.1920	25.1920	4.8000e-004	4.6000e-004	25.3417
Total		0.0199	0.1715	0.0826	1.0900e-003		0.0138	0.0138		0.0138	0.0138	0.0000	197.0425	197.0425	3.7700e-003	3.6100e-003	198.2135

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	867814	114.1538	0.0114	2.3600e-003	115.1430
Enclosed Parking with Elevator	195724	25.7459	2.5700e-003	5.3000e-004	25.9690
Parking Lot	36330	4.7789	4.8000e-004	1.0000e-004	4.8203
Parking Lot	8015	1.0543	1.1000e-004	2.0000e-005	1.0634
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Supermarket	861630	113.3404	0.0113	2.3400e-003	114.3225
Total		259.0733	0.0259	5.3500e-003	261.3183

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	867814	114.1538	0.0114	2.3600e-003	115.1430
Enclosed Parking with Elevator	195724	25.7459	2.5700e-003	5.3000e-004	25.9690
Parking Lot	36330	4.7789	4.8000e-004	1.0000e-004	4.8203
Parking Lot	8015	1.0543	1.1000e-004	2.0000e-005	1.0634
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Supermarket	861630	113.3404	0.0113	2.3400e-003	114.3225
Total		259.0733	0.0259	5.3500e-003	261.3183

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	0.8832	0.0206	1.2788	1.1000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003	0.0000	8.9594	8.9594	2.1400e-003	1.3000e-004	9.0503
Unmitigated	0.8832	0.0206	1.2788	1.1000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003	0.0000	8.9594	8.9594	2.1400e-003	1.3000e-004	9.0503

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	0.1269					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7172					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.9000e-004	5.9300e-003	2.5200e-003	4.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	6.8662	6.8662	1.3000e-004	1.3000e-004	6.9070
Landscaping	0.0384	0.0147	1.2762	7.0000e-005		7.1000e-003	7.1000e-003		7.1000e-003	7.1000e-003	0.0000	2.0932	2.0932	2.0000e-003	0.0000	2.1433
Total	0.8832	0.0206	1.2788	1.1000e-004		7.5800e-003	7.5800e-003		7.5800e-003	7.5800e-003	0.0000	8.9594	8.9594	2.1300e-003	1.3000e-004	9.0503

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	0.1269					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7172					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.9000e-004	5.9300e-003	2.5200e-003	4.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	6.8662	6.8662	1.3000e-004	1.3000e-004	6.9070
Landscaping	0.0384	0.0147	1.2762	7.0000e-005		7.1000e-003	7.1000e-003		7.1000e-003	7.1000e-003	0.0000	2.0932	2.0932	2.0000e-003	0.0000	2.1433
Total	0.8832	0.0206	1.2788	1.1000e-004		7.5800e-003	7.5800e-003		7.5800e-003	7.5800e-003	0.0000	8.9594	8.9594	2.1300e-003	1.3000e-004	9.0503

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	18.3360	0.0185	0.0111	22.1016
Unmitigated	18.3360	0.0185	0.0111	22.1016

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	11.2065 / 7.06496	15.1940	0.0148	8.8500e-003	18.2020
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0.257273 / 0.157683	0.3467	3.4000e-004	2.0000e-004	0.4158
Supermarket	2.58863 / 0.0800608	2.7952	3.3400e-003	2.0300e-003	3.4839
Total		18.3360	0.0185	0.0111	22.1016

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	11.2065 / 7.06496	15.1940	0.0148	8.8500e-003	18.2020
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0.257273 / 0.157683	0.3467	3.4000e-004	2.0000e-004	0.4158
Supermarket	2.58863 / 0.0800608	2.7952	3.3400e-003	2.0300e-003	3.4839
Total		18.3360	0.0185	0.0111	22.1016

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	45.1350	2.6674	0.0000	111.8202
Unmitigated	45.1350	2.6674	0.0000	111.8202

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	79.12	16.0606	0.9492	0.0000	39.7896
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	24.79	5.0322	0.2974	0.0000	12.4669
Supermarket	118.44	24.0423	1.4209	0.0000	59.5637
Total		45.1350	2.6674	0.0000	111.8202

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	79.12	16.0606	0.9492	0.0000	39.7896
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	24.79	5.0322	0.2974	0.0000	12.4669
Supermarket	118.44	24.0423	1.4209	0.0000	59.5637
Total		45.1350	2.6674	0.0000	111.8202

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

38 Degrees North, Phase 2 TAC - Sonoma-San Francisco County, Annual

38 Degrees North, Phase 2 TAC

Sonoma-San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	60.00	Space	0.00	33,400.00	0
Parking Lot	33.00	Space	0.00	22,900.00	0
Parking Lot	277.00	Space	0.00	103,800.00	0
Recreational Swimming Pool	4.35	1000sqft	0.00	4,354.00	0
Condo/Townhouse	172.00	Dwelling Unit	7.10	160,000.00	492
Supermarket	21.00	1000sqft	0.00	21,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	75
Climate Zone	4			Operational Year	2023

Utility Company Pacific Gas & Electric Company

CO2 Intensity (lb/MW hr)	144	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006
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1.3 User Entered Comments & Non-Default Data

Project Characteristics - SCE Clean Start rate of 128, assuming 90% participation, rest PG&E at 290

Land Use - from Construction worksheet

Construction Phase - From Construction worksheet

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construction sheet

Construction Off-road Equipment Mitigation - Tier 3 dpf 3 and BMPs

[illegible]

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
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tblConstructionPhase	NumDays	230.00	125.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	20.00	90.00
tblConstructionPhase	NumDays	10.00	15.00
tblConstructionPhase	NumDays	10.00	85.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	25.80	55.00
tblFireplaces	NumberWood	29.24	0.00
tblGrading	MaterialExported	0.00	18,000.00
tblGrading	MaterialImported	0.00	5,000.00
tblLandUse	LandUseSquareFeet	24,000.00	33,400.00
tblLandUse	LandUseSquareFeet	110,800.00	103,800.00
tblLandUse	LandUseSquareFeet	13,200.00	22,900.00
tblLandUse	LandUseSquareFeet	4,350.00	4,354.00
tblLandUse	LandUseSquareFeet	172,000.00	160,000.00
tblLandUse	LotAcreage	0.54	0.00
tblLandUse	LotAcreage	2.49	0.00
tblLandUse	LotAcreage	0.30	0.00

tblLandUse	LotAcreage	0.10	0.00
tblLandUse	LotAcreage	10.75	7.10
tblLandUse	LotAcreage	0.48	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	4.80
tblOffRoadEquipment	UsageHours	8.00	4.80
tblOffRoadEquipment	UsageHours	8.00	0.60
tblOffRoadEquipment	UsageHours	8.00	0.60
tblOffRoadEquipment	UsageHours	8.00	0.60
tblOffRoadEquipment	UsageHours	8.00	4.80
tblOffRoadEquipment	UsageHours	8.00	6.40
tblOffRoadEquipment	UsageHours	8.00	4.80
tblOffRoadEquipment	UsageHours	8.00	6.40
tblProjectCharacteristics	CO2IntensityFactor	641.35	144
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00

[illegible]

tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripNumber	200.00	2.00
tblVehicleTrips	CC_TL	7.30	3.00
tblVehicleTrips	ST_TR	5.67	5.31
tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	ST_TR	177.59	172.29
tblVehicleTrips	SU_TR	4.84	4.53
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	SU_TR	166.44	161.48
tblVehicleTrips	WD_TR	5.81	5.44
tblVehicleTrips	WD_TR	33.82	0.00
tblVehicleTrips	WD_TR	102.24	99.19
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
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tblWater	SepticTankPercent	10.33	0.00
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tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.1471	1.6260	1.1392	2.1400e-003	0.1105	0.0705	0.1811	0.0529	0.0660	0.1188	0.0000	188.8223	188.8223	0.0457	0.0000	189.9657
2021	0.2489	2.5518	2.2062	3.8800e-003	0.0182	0.1108	0.1290	4.9800e-003	0.1042	0.1092	0.0000	340.7258	340.7258	0.0755	0.0000	342.6120
2022	0.0127	0.1270	0.0997	1.8000e-004	0.0603	6.1500e-003	0.0664	0.0331	5.6600e-003	0.0388	0.0000	15.9857	15.9857	5.1500e-003	0.0000	16.1144
Maximum	0.2489	2.5518	2.2062	3.8800e-003	0.1105	0.1108	0.1811	0.0529	0.1042	0.1188	0.0000	340.7258	340.7258	0.0755	0.0000	342.6120

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0555	1.2250	1.2393	2.1400e-003	0.0529	8.5100e-003	0.0614	0.0131	8.4800e-003	0.0216	0.0000	188.8221	188.8221	0.0457	0.0000	189.9655
2021	0.1097	2.2152	2.3685	3.8800e-003	0.0182	0.0168	0.0350	4.9800e-003	0.0168	0.0217	0.0000	340.7255	340.7255	0.0755	0.0000	342.6117
2022	4.5800e-003	0.0885	0.1185	1.8000e-004	0.0272	6.4000e-004	0.0278	7.4700e-003	6.4000e-004	8.1000e-003	0.0000	15.9856	15.9856	5.1500e-003	0.0000	16.1144
Maximum	0.1097	2.2152	2.3685	3.8800e-003	0.0529	0.0168	0.0614	0.0131	0.0168	0.0217	0.0000	340.7255	340.7255	0.0755	0.0000	342.6117

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Percent Reduction	58.46	18.03	-8.16	0.00	48.03	86.16	67.02	71.90	85.29	80.72	0.00	0.00	0.00	0.00	0.00	0.00
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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	9-7-2020	12-6-2020	1.4162	1.0064
2	12-7-2020	3-6-2021	0.9053	0.7425
3	3-7-2021	6-6-2021	0.7929	0.6526
4	6-7-2021	9-6-2021	0.8550	0.7065
5	9-7-2021	12-6-2021	0.5340	0.4479
6	12-7-2021	3-6-2022	0.1328	0.0891
		Highest	1.4162	1.0064

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/7/2020	9/25/2020	5	15	
2	Delivery Equipment	Building Construction	9/7/2020	10/29/2021	5	300	Rough Terrain Forklift
3	Grading	Grading	9/28/2020	10/30/2020	5	25	
4	Foundation	Trenching	10/26/2020	1/8/2021	5	55	
5	Trenching/Utilities	Trenching	11/2/2020	2/19/2021	5	80	
6	Building Construction	Building Construction	11/30/2020	5/21/2021	5	125	
7	Paving/Hardscape	Paving	7/5/2021	11/5/2021	5	90	
8	Landscape	Site Preparation	9/6/2021	12/31/2021	5	85	
9	Future Grading	Grading	1/3/2022	2/4/2022	5	25	

Acres of Grading (Site Preparation Phase): 17.44

Acres of Grading (Grading Phase): 7.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Scrapers	1	5.30	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Delivery Equipment	Cranes	1	7.00	231	0.29
Delivery Equipment	Forklifts	3	8.00	89	0.20
Delivery Equipment	Generator Sets	1	8.00	84	0.74
Delivery Equipment	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Delivery Equipment	Welders	1	8.00	46	0.45
Grading	Excavators	1	4.80	158	0.38
Grading	Graders	1	4.80	187	0.41
Grading	Rubber Tired Dozers	1	4.80	247	0.40
Grading	Tractors/Loaders/Backhoes	1	4.80	97	0.37
Foundation	Excavators	1	3.30	158	0.38
Foundation	Pumps	1	1.50	84	0.74
Foundation	Skid Steer Loaders	1	1.50	65	0.37
Foundation	Tractors/Loaders/Backhoes	1	3.30	97	0.37
Trenching/Utilities	Excavators	1	3.10	158	0.38
Trenching/Utilities	Plate Compactors	1	2.30	8	0.43
Trenching/Utilities	Skid Steer Loaders	1	0.60	65	0.37
Trenching/Utilities	Tractors/Loaders/Backhoes	1	3.10	97	0.37
Building Construction	Aerial Lifts	2	2.20	63	0.31
Building Construction	Air Compressors	1	1.30	78	0.48
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	0	8.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Rough Terrain Forklifts	1	2.20	100	0.40
Building Construction	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45

Paving/Hardscape	Pavers	1	0.60	130	0.42
Paving/Hardscape	Paving Equipment	1	0.60	132	0.36
Paving/Hardscape	Pumps	1	0.50	84	0.74
Paving/Hardscape	Rollers	1	0.60	80	0.38
Paving/Hardscape	Skid Steer Loaders	1	0.60	65	0.37
Paving/Hardscape	Tractors/Loaders/Backhoes	1	0.60	97	0.37
Landscape	Rubber Tired Dozers	0	8.00	247	0.40
Landscape	Skid Steer Loaders	1	0.90	65	0.37
Landscape	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Future Grading	Excavators	1	8.00	158	0.38
Future Grading	Graders	0	8.00	187	0.41
Future Grading	Rubber Tired Dozers	1	6.40	247	0.40
Future Grading	Tractors/Loaders/Backhoes	1	6.40	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	4	10.00	1.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Delivery Equipment	9	2.00	49.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	2,875.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Foundation	4	10.00	0.00	640.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Trenching/Utilities	4	10.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Building Construction	4	200.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Paving/Hardscape	6	15.00	49.00	162.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Paving/Hardscape	6	15.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Landscape	1	3.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Future Grading	3	8.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0544	0.0000	0.0544	0.0258	0.0000	0.0258	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0182	0.2066	0.0988	2.1000e-004		8.9500e-003	8.9500e-003		8.2400e-003	8.2400e-003	0.0000	18.6612	18.6612	6.0400e-003	0.0000	18.8121
Total	0.0182	0.2066	0.0988	2.1000e-004	0.0544	8.9500e-003	0.0634	0.0258	8.2400e-003	0.0341	0.0000	18.6612	18.6612	6.0400e-003	0.0000	18.8121

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	5.3000e-004	1.4000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0544	0.0544	1.0000e-005	0.0000	0.0546
Worker	1.2000e-004	6.0000e-005	7.3000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.0644	0.0644	0.0000	0.0000	0.0645
Total	1.3000e-004	5.9000e-004	8.7000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.1188	0.1188	1.0000e-005	0.0000	0.1191

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					0.0245	0.0000	0.0245	5.8100e-003	0.0000	5.8100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.2100e-003	0.1027	0.1181	2.1000e-004		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004	0.0000	18.6612	18.6612	6.0400e-003	0.0000	18.8121
Total	5.2100e-003	0.1027	0.1181	2.1000e-004	0.0245	6.5000e-004	0.0251	5.8100e-003	6.5000e-004	6.4600e-003	0.0000	18.6612	18.6612	6.0400e-003	0.0000	18.8121

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	5.3000e-004	1.4000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0544	0.0544	1.0000e-005	0.0000	0.0546
Worker	1.2000e-004	6.0000e-005	7.3000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.0644	0.0644	0.0000	0.0000	0.0645
Total	1.3000e-004	5.9000e-004	8.7000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.1188	0.1188	1.0000e-005	0.0000	0.1191

3.3 Delivery Equipment - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0890	0.8058	0.7076	1.1300e-003		0.0469	0.0469		0.0441	0.0441	0.0000	97.2762	97.2762	0.0237	0.0000	97.8695
Total	0.0890	0.8058	0.7076	1.1300e-003		0.0469	0.0469		0.0441	0.0441	0.0000	97.2762	97.2762	0.0237	0.0000	97.8695

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	3.7500e-003	0.1462	0.0374	1.5000e-004	1.8700e-003	2.7000e-004	2.1500e-003	5.5000e-004	2.6000e-004	8.1000e-004	0.0000	14.9350	14.9350	2.1000e-003	0.0000	14.9875
Worker	1.4000e-004	6.0000e-005	8.2000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0721	0.0721	0.0000	0.0000	0.0723
Total	3.8900e-003	0.1462	0.0382	1.5000e-004	1.9300e-003	2.7000e-004	2.2100e-003	5.7000e-004	2.6000e-004	8.3000e-004	0.0000	15.0072	15.0072	2.1000e-003	0.0000	15.0598

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	0.0283	0.5975	0.7507	1.1300e-003		5.6900e-003	5.6900e-003		5.6900e-003	5.6900e-003	0.0000	97.2761	97.2761	0.0237	0.0000	97.8694

Total	0.0283	0.5975	0.7507	1.1300e-003		5.6900e-003	5.6900e-003		5.6900e-003	5.6900e-003	0.0000	97.2761	97.2761	0.0237	0.0000	97.8694
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Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7500e-003	0.1462	0.0374	1.5000e-004	1.8700e-003	2.7000e-004	2.1500e-003	5.5000e-004	2.6000e-004	8.1000e-004	0.0000	14.9350	14.9350	2.1000e-003	0.0000	14.9875
Worker	1.4000e-004	6.0000e-005	8.2000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0721	0.0721	0.0000	0.0000	0.0723
Total	3.8900e-003	0.1462	0.0382	1.5000e-004	1.9300e-003	2.7000e-004	2.2100e-003	5.7000e-004	2.6000e-004	8.3000e-004	0.0000	15.0072	15.0072	2.1000e-003	0.0000	15.0598

3.3 Delivery Equipment - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2053	1.8827	1.7901	2.9100e-003		0.1035	0.1035		0.0973	0.0973	0.0000	250.1683	250.1683	0.0604	0.0000	251.6771
Total	0.2053	1.8827	1.7901	2.9100e-003		0.1035	0.1035		0.0973	0.0973	0.0000	250.1683	250.1683	0.0604	0.0000	251.6771

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	8.4700e-003	0.3602	0.0859	3.9000e-004	4.8200e-003	3.8000e-004	5.2000e-003	1.4000e-003	3.7000e-004	1.7700e-003	0.0000	38.1317	38.1317	5.2200e-003	0.0000	38.2621
Worker	3.2000e-004	1.4000e-004	1.8900e-003	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1793	0.1793	1.0000e-005	0.0000	0.1796
Total	8.7900e-003	0.3604	0.0877	3.9000e-004	4.9800e-003	3.8000e-004	5.3600e-003	1.4400e-003	3.7000e-004	1.8100e-003	0.0000	38.3110	38.3110	5.2300e-003	0.0000	38.4417

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	0.0728	1.5364	1.9304	2.9100e-003		0.0146	0.0146		0.0146	0.0146	0.0000	250.1680	250.1680	0.0604	0.0000	251.6768
Total	0.0728	1.5364	1.9304	2.9100e-003		0.0146	0.0146		0.0146	0.0146	0.0000	250.1680	250.1680	0.0604	0.0000	251.6768

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	8.4700e-003	0.3602	0.0859	3.9000e-004	4.8200e-003	3.8000e-004	5.2000e-003	1.4000e-003	3.7000e-004	1.7700e-003	0.0000	38.1317	38.1317	5.2200e-003	0.0000	38.2621
Worker	3.2000e-004	1.4000e-004	1.8900e-003	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1793	0.1793	1.0000e-005	0.0000	0.1796
Total	8.7900e-003	0.3604	0.0877	3.9000e-004	4.9800e-003	3.8000e-004	5.3600e-003	1.4400e-003	3.7000e-004	1.8100e-003	0.0000	38.3110	38.3110	5.2300e-003	0.0000	38.4417

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0504	0.0000	0.0504	0.0255	0.0000	0.0255	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0151	0.1663	0.0862	1.8000e-004		7.5500e-003	7.5500e-003		6.9500e-003	6.9500e-003	0.0000	15.4513	15.4513	5.0000e-003	0.0000	15.5762
Total	0.0151	0.1663	0.0862	1.8000e-004	0.0504	7.5500e-003	0.0580	0.0255	6.9500e-003	0.0324	0.0000	15.4513	15.4513	5.0000e-003	0.0000	15.5762

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.8900e-003	0.1462	0.0236	1.7000e-004	1.2200e-003	1.8000e-004	1.4000e-003	3.4000e-004	1.7000e-004	5.1000e-004	0.0000	16.3883	16.3883	2.5700e-003	0.0000	16.4526
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	9.0000e-005	1.2100e-003	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.1074	0.1074	1.0000e-005	0.0000	0.1075
Total	3.0900e-003	0.1463	0.0248	1.7000e-004	1.3100e-003	1.8000e-004	1.4900e-003	3.6000e-004	1.7000e-004	5.4000e-004	0.0000	16.4957	16.4957	2.5800e-003	0.0000	16.5601

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					0.0227	0.0000	0.0227	5.7300e-003	0.0000	5.7300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.3100e-003	0.0853	0.1073	1.8000e-004		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004	0.0000	15.4513	15.4513	5.0000e-003	0.0000	15.5762
Total	4.3100e-003	0.0853	0.1073	1.8000e-004	0.0227	5.8000e-004	0.0233	5.7300e-003	5.8000e-004	6.3100e-003	0.0000	15.4513	15.4513	5.0000e-003	0.0000	15.5762

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.8900e-003	0.1462	0.0236	1.7000e-004	1.2200e-003	1.8000e-004	1.4000e-003	3.4000e-004	1.7000e-004	5.1000e-004	0.0000	16.3883	16.3883	2.5700e-003	0.0000	16.4526
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	9.0000e-005	1.2100e-003	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	3.0000e-005	0.0000	0.1074	0.1074	1.0000e-005	0.0000	0.1075
Total	3.0900e-003	0.1463	0.0248	1.7000e-004	1.3100e-003	1.8000e-004	1.4900e-003	3.6000e-004	1.7000e-004	5.4000e-004	0.0000	16.4957	16.4957	2.5800e-003	0.0000	16.5601

3.5 Foundation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.9000e-003	0.0668	0.0797	1.2000e-004		3.6900e-003	3.6900e-003		3.4700e-003	3.4700e-003	0.0000	10.7733	10.7733	2.8000e-003	0.0000	10.8433
Total	6.9000e-003	0.0668	0.0797	1.2000e-004		3.6900e-003	3.6900e-003		3.4700e-003	3.4700e-003	0.0000	10.7733	10.7733	2.8000e-003	0.0000	10.8433

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.7000e-004	0.0290	4.6800e-003	3.0000e-005	2.6000e-004	4.0000e-005	3.0000e-004	7.0000e-005	3.0000e-005	1.1000e-004	0.0000	3.2502	3.2502	5.1000e-004	0.0000	3.2629
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	1.8000e-004	2.3800e-003	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.2104	0.2104	1.0000e-005	0.0000	0.2108
Total	9.7000e-004	0.0292	7.0600e-003	3.0000e-005	4.4000e-004	4.0000e-005	4.8000e-004	1.2000e-004	3.0000e-005	1.6000e-004	0.0000	3.4606	3.4606	5.2000e-004	0.0000	3.4737

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.8900e-003	0.0615	0.0891	1.2000e-004		5.7000e-004	5.7000e-004		5.7000e-004	5.7000e-004	0.0000	10.7733	10.7733	2.8000e-003	0.0000	10.8433

Total	2.8900e-003	0.0615	0.0891	1.2000e-004		5.7000e-004	5.7000e-004		5.7000e-004	5.7000e-004	0.0000	10.7733	10.7733	2.8000e-003	0.0000	10.8433
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Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.7000e-004	0.0290	4.6800e-003	3.0000e-005	2.6000e-004	4.0000e-005	3.0000e-004	7.0000e-005	3.0000e-005	1.1000e-004	0.0000	3.2502	3.2502	5.1000e-004	0.0000	3.2629
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-004	1.8000e-004	2.3800e-003	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.2104	0.2104	1.0000e-005	0.0000	0.2108
Total	9.7000e-004	0.0292	7.0600e-003	3.0000e-005	4.4000e-004	4.0000e-005	4.8000e-004	1.2000e-004	3.0000e-005	1.6000e-004	0.0000	3.4606	3.4606	5.2000e-004	0.0000	3.4737

3.5 Foundation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.7000e-004	7.3800e-003	9.7300e-003	2.0000e-005		3.9000e-004	3.9000e-004		3.7000e-004	3.7000e-004	0.0000	1.3194	1.3194	3.4000e-004	0.0000	1.3280
Total	7.7000e-004	7.3800e-003	9.7300e-003	2.0000e-005		3.9000e-004	3.9000e-004		3.7000e-004	3.7000e-004	0.0000	1.3194	1.3194	3.4000e-004	0.0000	1.3280

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.0000e-005	3.4300e-003	5.3000e-004	0.0000	2.1000e-004	0.0000	2.1000e-004	5.0000e-005	0.0000	6.0000e-005	0.0000	0.3949	0.3949	6.0000e-005	0.0000	0.3964
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	2.0000e-005	2.6000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0249	0.0249	0.0000	0.0000	0.0249
Total	1.1000e-004	3.4500e-003	7.9000e-004	0.0000	2.3000e-004	0.0000	2.3000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.4198	0.4198	6.0000e-005	0.0000	0.4214

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.5000e-004	7.5300e-003	0.0109	2.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.3194	1.3194	3.4000e-004	0.0000	1.3280
Total	3.5000e-004	7.5300e-003	0.0109	2.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.3194	1.3194	3.4000e-004	0.0000	1.3280

Mitigated Construction Off-Site

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

Hauling	7.0000e-005	3.4300e-003	5.3000e-004	0.0000	2.1000e-004	0.0000	2.1000e-004	5.0000e-005	0.0000	6.0000e-005	0.0000	0.3949	0.3949	6.0000e-005	0.0000	0.3964
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	2.0000e-005	2.6000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0249	0.0249	0.0000	0.0000	0.0249
Total	1.1000e-004	3.4500e-003	7.9000e-004	0.0000	2.3000e-004	0.0000	2.3000e-004	6.0000e-005	0.0000	7.0000e-005	0.0000	0.4198	0.4198	6.0000e-005	0.0000	0.4214

3.6 Trenching/Utilities - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.2600e-003	0.0419	0.0509	8.0000e-005		2.2700e-003	2.2700e-003		2.0900e-003	2.0900e-003	0.0000	6.6913	6.6913	2.1200e-003	0.0000	6.7443
Total	4.2600e-003	0.0419	0.0509	8.0000e-005		2.2700e-003	2.2700e-003		2.0900e-003	2.0900e-003	0.0000	6.6913	6.6913	2.1200e-003	0.0000	6.7443

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	1.6000e-004	2.1400e-003	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	5.0000e-005	0.0000	0.1890	0.1890	1.0000e-005	0.0000	0.1893
Total	3.6000e-004	1.6000e-004	2.1400e-003	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	5.0000e-005	0.0000	0.1890	0.1890	1.0000e-005	0.0000	0.1893

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.8100e-003	0.0377	0.0560	8.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004	0.0000	6.6913	6.6913	2.1200e-003	0.0000	6.7443
Total	1.8100e-003	0.0377	0.0560	8.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004	0.0000	6.6913	6.6913	2.1200e-003	0.0000	6.7443

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	1.6000e-004	2.1400e-003	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	5.0000e-005	0.0000	0.1890	0.1890	1.0000e-005	0.0000	0.1893
Total	3.6000e-004	1.6000e-004	2.1400e-003	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	5.0000e-005	0.0000	0.1890	0.1890	1.0000e-005	0.0000	0.1893

3.6 Trenching/Utilities - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.2100e-003	0.0309	0.0416	6.0000e-005		1.6100e-003	1.6100e-003		1.4900e-003	1.4900e-003	0.0000	5.4761	5.4761	1.7400e-003	0.0000	5.5194
Total	3.2100e-003	0.0309	0.0416	6.0000e-005		1.6100e-003	1.6100e-003		1.4900e-003	1.4900e-003	0.0000	5.4761	5.4761	1.7400e-003	0.0000	5.5194

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	1.2000e-004	1.5700e-003	0.0000	1.3000e-004	0.0000	1.3000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1494	0.1494	1.0000e-005	0.0000	0.1496
Total	2.7000e-004	1.2000e-004	1.5700e-003	0.0000	1.3000e-004	0.0000	1.3000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1494	0.1494	1.0000e-005	0.0000	0.1496

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.4800e-003	0.0308	0.0458	6.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	5.4761	5.4761	1.7400e-003	0.0000	5.5194

Total	1.4800e-003	0.0308	0.0458	6.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	5.4761	5.4761	1.7400e-003	0.0000	5.5194
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Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	1.2000e-004	1.5700e-003	0.0000	1.3000e-004	0.0000	1.3000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1494	0.1494	1.0000e-005	0.0000	0.1496
Total	2.7000e-004	1.2000e-004	1.5700e-003	0.0000	1.3000e-004	0.0000	1.3000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1494	0.1494	1.0000e-005	0.0000	0.1496

3.7 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3300e-003	0.0143	0.0196	3.0000e-005		6.2000e-004	6.2000e-004		6.0000e-004	6.0000e-004	0.0000	2.6365	2.6365	6.9000e-004	0.0000	2.6537
Total	1.3300e-003	0.0143	0.0196	3.0000e-005		6.2000e-004	6.2000e-004		6.0000e-004	6.0000e-004	0.0000	2.6365	2.6365	6.9000e-004	0.0000	2.6537

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8700e-003	1.7900e-003	0.0233	2.0000e-005	1.7700e-003	3.0000e-005	1.8000e-003	4.7000e-004	3.0000e-005	5.0000e-004	0.0000	2.0613	2.0613	1.3000e-004	0.0000	2.0646
Total	3.8700e-003	1.7900e-003	0.0233	2.0000e-005	1.7700e-003	3.0000e-005	1.8000e-003	4.7000e-004	3.0000e-005	5.0000e-004	0.0000	2.0613	2.0613	1.3000e-004	0.0000	2.0646

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.1000e-004	0.0161	0.0218	3.0000e-005		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	2.6365	2.6365	6.9000e-004	0.0000	2.6537
Total	7.1000e-004	0.0161	0.0218	3.0000e-005		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	2.6365	2.6365	6.9000e-004	0.0000	2.6537

Mitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8700e-003	1.7900e-003	0.0233	2.0000e-005	1.7700e-003	3.0000e-005	1.8000e-003	4.7000e-004	3.0000e-005	5.0000e-004	0.0000	2.0613	2.0613	1.3000e-004	0.0000	2.0646
Total	3.8700e-003	1.7900e-003	0.0233	2.0000e-005	1.7700e-003	3.0000e-005	1.8000e-003	4.7000e-004	3.0000e-005	5.0000e-004	0.0000	2.0613	2.0613	1.3000e-004	0.0000	2.0646

3.7 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.1500e-003	0.0558	0.0821	1.3000e-004		2.2200e-003	2.2200e-003		2.1200e-003	2.1200e-003	0.0000	11.0962	11.0962	2.8800e-003	0.0000	11.1682
Total	5.1500e-003	0.0558	0.0821	1.3000e-004		2.2200e-003	2.2200e-003		2.1200e-003	2.1200e-003	0.0000	11.0962	11.0962	2.8800e-003	0.0000	11.1682

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0150	6.6800e-003	0.0884	9.0000e-005	7.4300e-003	1.2000e-004	7.5500e-003	1.9900e-003	1.1000e-004	2.1000e-003	0.0000	8.3836	8.3836	5.0000e-004	0.0000	8.3960
Total	0.0150	6.6800e-003	0.0884	9.0000e-005	7.4300e-003	1.2000e-004	7.5500e-003	1.9900e-003	1.1000e-004	2.1000e-003	0.0000	8.3836	8.3836	5.0000e-004	0.0000	8.3960

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.9700e-003	0.0679	0.0917	1.3000e-004		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	11.0962	11.0962	2.8800e-003	0.0000	11.1681
Total	2.9700e-003	0.0679	0.0917	1.3000e-004		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	11.0962	11.0962	2.8800e-003	0.0000	11.1681

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0150	6.6800e-003	0.0884	9.0000e-005	7.4300e-003	1.2000e-004	7.5500e-003	1.9900e-003	1.1000e-004	2.1000e-003	0.0000	8.3836	8.3836	5.0000e-004	0.0000	8.3960
Total	0.0150	6.6800e-003	0.0884	9.0000e-005	7.4300e-003	1.2000e-004	7.5500e-003	1.9900e-003	1.1000e-004	2.1000e-003	0.0000	8.3836	8.3836	5.0000e-004	0.0000	8.3960

3.8 Paving/Hardscape - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.0800e-003	0.0406	0.0476	7.0000e-005		2.1600e-003	2.1600e-003		2.0300e-003	2.0300e-003	0.0000	6.5029	6.5029	1.6800e-003	0.0000	6.5447
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	4.0800e-003	0.0406	0.0476	7.0000e-005		2.1600e-003	2.1600e-003		2.0300e-003	2.0300e-003	0.0000	6.5029	6.5029	1.6800e-003	0.0000	6.5447

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5000e-004	7.9600e-003	1.2300e-003	1.0000e-005	1.2000e-004	1.0000e-005	1.3000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.9163	0.9163	1.4000e-004	0.0000	0.9198
Vendor	3.5300e-003	0.1501	0.0358	1.6000e-004	3.3900e-003	1.6000e-004	3.5500e-003	9.2000e-004	1.5000e-004	1.0800e-003	0.0000	15.8882	15.8882	2.1700e-003	0.0000	15.9426
Worker	2.0100e-003	8.9000e-004	0.0118	1.0000e-005	1.8400e-003	2.0000e-005	1.8600e-003	4.7000e-004	1.0000e-005	4.9000e-004	0.0000	1.1206	1.1206	7.0000e-005	0.0000	1.1222
Total	5.6900e-003	0.1590	0.0488	1.8000e-004	5.3500e-003	1.9000e-004	5.5400e-003	1.4200e-003	1.7000e-004	1.6100e-003	0.0000	17.9251	17.9251	2.3800e-003	0.0000	17.9846

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7400e-003	0.0373	0.0538	7.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	6.5028	6.5028	1.6800e-003	0.0000	6.5447

Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.7400e-003	0.0373	0.0538	7.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	6.5028	6.5028	1.6800e-003	0.0000	6.5447

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.5000e-004	7.9600e-003	1.2300e-003	1.0000e-005	1.2000e-004	1.0000e-005	1.3000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.9163	0.9163	1.4000e-004	0.0000	0.9198
Vendor	3.5300e-003	0.1501	0.0358	1.6000e-004	3.3900e-003	1.6000e-004	3.5500e-003	9.2000e-004	1.5000e-004	1.0800e-003	0.0000	15.8882	15.8882	2.1700e-003	0.0000	15.9426
Worker	2.0100e-003	8.9000e-004	0.0118	1.0000e-005	1.8400e-003	2.0000e-005	1.8600e-003	4.7000e-004	1.0000e-005	4.9000e-004	0.0000	1.1206	1.1206	7.0000e-005	0.0000	1.1222
Total	5.6900e-003	0.1590	0.0488	1.8000e-004	5.3500e-003	1.9000e-004	5.5400e-003	1.4200e-003	1.7000e-004	1.6100e-003	0.0000	17.9251	17.9251	2.3800e-003	0.0000	17.9846

3.9 Landscape - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-004	4.8000e-003	6.6500e-003	1.0000e-005		2.0000e-004	2.0000e-004		1.8000e-004	1.8000e-004	0.0000	0.8684	0.8684	2.8000e-004	0.0000	0.8754
Total	3.6000e-004	4.8000e-003	6.6500e-003	1.0000e-005	0.0000	2.0000e-004	2.0000e-004	0.0000	1.8000e-004	1.8000e-004	0.0000	0.8684	0.8684	2.8000e-004	0.0000	0.8754

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	8.0000e-005	1.1200e-003	0.0000	9.0000e-005	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1058	0.1058	1.0000e-005	0.0000	0.1060
Total	1.9000e-004	8.0000e-005	1.1200e-003	0.0000	9.0000e-005	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1058	0.1058	1.0000e-005	0.0000	0.1060

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4000e-004	5.5600e-003	7.5000e-003	1.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.8684	0.8684	2.8000e-004	0.0000	0.8754
Total	2.4000e-004	5.5600e-003	7.5000e-003	1.0000e-005	0.0000	6.0000e-005	6.0000e-005	0.0000	6.0000e-005	6.0000e-005	0.0000	0.8684	0.8684	2.8000e-004	0.0000	0.8754

Mitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	8.0000e-005	1.1200e-003	0.0000	9.0000e-005	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1058	0.1058	1.0000e-005	0.0000	0.1060
Total	1.9000e-004	8.0000e-005	1.1200e-003	0.0000	9.0000e-005	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1058	0.1058	1.0000e-005	0.0000	0.1060

3.10 Future Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0602	0.0000	0.0602	0.0331	0.0000	0.0331	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0126	0.1269	0.0989	1.8000e-004		6.1500e-003	6.1500e-003		5.6600e-003	5.6600e-003	0.0000	15.9056	15.9056	5.1400e-003	0.0000	16.0342
Total	0.0126	0.1269	0.0989	1.8000e-004	0.0602	6.1500e-003	0.0664	0.0331	5.6600e-003	0.0388	0.0000	15.9056	15.9056	5.1400e-003	0.0000	16.0342

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	6.0000e-005	7.8000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0801	0.0801	0.0000	0.0000	0.0802
Total	1.4000e-004	6.0000e-005	7.8000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0801	0.0801	0.0000	0.0000	0.0802

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					0.0271	0.0000	0.0271	7.4500e-003	0.0000	7.4500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.4400e-003	0.0885	0.1177	1.8000e-004		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004	0.0000	15.9056	15.9056	5.1400e-003	0.0000	16.0342
Total	4.4400e-003	0.0885	0.1177	1.8000e-004	0.0271	6.3000e-004	0.0277	7.4500e-003	6.3000e-004	8.0800e-003	0.0000	15.9056	15.9056	5.1400e-003	0.0000	16.0342

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	6.0000e-005	7.8000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0801	0.0801	0.0000	0.0000	0.0802
Total	1.4000e-004	6.0000e-005	7.8000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0801	0.0801	0.0000	0.0000	0.0802

38 Degrees North, Phase 2 AQ/GHG 2023 - Sonoma-San Francisco County, Annual

38 Degrees North, Phase 2 AQ/GHG 2023 Sonoma-San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	277.00	Space	0.00	103,800.00	0
Recreational Swimming Pool	4.35	1000sqft	0.00	4,354.00	0
Condo/Townhouse	172.00	Dwelling Unit	7.10	160,000.00	492

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	75
Climate Zone	4			Operational Year	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 290 rate

Land Use - from Construction worksheet

Construction Phase - No construction operation model

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construction sheet - not including water truck

Trips and VMT - Grading is for on-site hauling

Grading - Based on construction equipment list

Vehicle Trips - TIA = Res 5.44,5.31,4.53

Woodstoves - no wood burning

Energy Use -

Water And Wastewater - wtp

Construction Off-road Equipment Mitigation - Tier 4i and BMPs

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	25.80	55.04
tblFireplaces	NumberWood	29.24	0.00
tblLandUse	LandUseSquareFeet	110,800.00	103,800.00
tblLandUse	LandUseSquareFeet	4,350.00	4,354.00
tblLandUse	LandUseSquareFeet	172,000.00	160,000.00
tblLandUse	LotAcreage	2.49	0.00
tblLandUse	LotAcreage	0.10	0.00
tblLandUse	LotAcreage	10.75	7.10
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblVehicleTrips	ST_TR	5.67	5.31
tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	SU_TR	4.84	4.53
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	WD_TR	5.81	5.44
tblVehicleTrips	WD_TR	33.82	0.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00

tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7858	0.0207	1.2825	1.1000e-004		7.5600e-003	7.5600e-003		7.5600e-003	7.5600e-003	0.0000	8.9623	8.9623	2.1500e-003	1.3000e-004	9.0537
Energy	0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	290.7833	290.7833	0.0152	5.6100e-003	292.8351
Mobile	0.2518	1.2175	2.7839	9.3000e-003	0.7798	8.1600e-003	0.7879	0.2098	7.6400e-003	0.2174	0.0000	856.4298	856.4298	0.0345	0.0000	857.2912
Waste						0.0000	0.0000		0.0000	0.0000	21.0928	0.0000	21.0928	1.2466	0.0000	52.2565
Water						0.0000	0.0000		0.0000	0.0000	4.0559	11.4849	15.5408	0.0151	9.0600e-003	18.6177
Total	1.0549	1.3866	4.1295	0.0104	0.7798	0.0277	0.8075	0.2098	0.0272	0.237	25.1487	1,167.66	1,192.81	1.3135	0.0148	1,230.05

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	0.7858	0.0207	1.2825	1.1000e-004		7.5600e-003	7.5600e-003		7.5600e-003	7.5600e-003	0.0000	8.9623	8.9623	2.1500e-003	1.3000e-004	9.0537
Energy	0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	290.7833	290.7833	0.0152	5.6100e-003	292.8351
Mobile	0.2518	1.2175	2.7839	9.3000e-003	0.7798	8.1600e-003	0.7879	0.2098	7.6400e-003	0.2174	0.0000	856.4298	856.4298	0.0345	0.0000	857.2912
Waste						0.0000	0.0000		0.0000	0.0000	21.0928	0.0000	21.0928	1.2466	0.0000	52.2565
Water						0.0000	0.0000		0.0000	0.0000	4.0559	11.4849	15.5408	0.0151	9.0600e-003	18.6177
Total	1.0549	1.3866	4.1295	0.0104	0.7798	0.0277	0.8075	0.2098	0.0272	0.2370	25.1487	1,167.6603	1,192.8090	1.3135	0.0148	1,230.0542

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2518	1.2175	2.7839	9.3000e-003	0.7798	8.1600e-003	0.7879	0.2098	7.6400e-003	0.2174	0.0000	856.4298	856.4298	0.0345	0.0000	857.2912
Unmitigated	0.2518	1.2175	2.7839	9.3000e-003	0.7798	8.1600e-003	0.7879	0.2098	7.6400e-003	0.2174	0.0000	856.4298	856.4298	0.0345	0.0000	857.2912

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	935.68	913.32	779.16	2,102,033	2,102,033
Parking Lot	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Total	935.68	913.32	779.16	2,102,033	2,102,033

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.594113	0.036394	0.166849	0.102253	0.024126	0.006070	0.030484	0.028024	0.003137	0.001706	0.004997	0.000880	0.000967
Parking Lot	0.594113	0.036394	0.166849	0.102253	0.024126	0.006070	0.030484	0.028024	0.003137	0.001706	0.004997	0.000880	0.000967
Recreational Swimming Pool	0.594113	0.036394	0.166849	0.102253	0.024126	0.006070	0.030484	0.028024	0.003137	0.001706	0.004997	0.000880	0.000967

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	118.9327	118.9327	0.0119	2.4600e-003	119.9633

Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	118.9327	118.9327	0.0119	2.4600e-003	119.9633
NaturalGas Mitigated	0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	171.8506	171.8506	3.2900e-003	3.1500e-003	172.8718
NaturalGas Unmitigated	0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	171.8506	171.8506	3.2900e-003	3.1500e-003	172.8718

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					
Condo/Townhouse	3.22036e+006	0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	171.8506	171.8506	3.2900e-003	3.1500e-003	172.8718
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
Recreational Swimming Pool	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		0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	171.8506	171.8506	3.2900e-003	3.1500e-003	172.8718

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					
Condo/Townhouse	3.22036e+006	0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	171.8506	171.8506	3.2900e-003	3.1500e-003	172.8718
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
Recreational Swimming Pool	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		0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	171.8506	171.8506	3.2900e-003	3.1500e-003	172.8718

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	867814	114.1538	0.0114	2.3600e-003	115.1430
Parking Lot	36330	4.7789	4.8000e-004	1.0000e-004	4.8203
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Total		118.9327	0.0119	2.4600e-003	119.9633

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	867814	114.1538	0.0114	2.3600e-003	115.1430
Parking Lot	36330	4.7789	4.8000e-004	1.0000e-004	4.8203
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Total		118.9327	0.0119	2.4600e-003	119.9633

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	0.7858	0.0207	1.2825	1.1000e-004		7.5600e-003	7.5600e-003		7.5600e-003	7.5600e-003	0.0000	8.9623	8.9623	2.1500e-003	1.3000e-004	9.0537
Unmitigated	0.7858	0.0207	1.2825	1.1000e-004		7.5600e-003	7.5600e-003		7.5600e-003	7.5600e-003	0.0000	8.9623	8.9623	2.1500e-003	1.3000e-004	9.0537

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	0.1148					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6316					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.9000e-004	5.9300e-003	2.5200e-003	4.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	6.8712	6.8712	1.3000e-004	1.3000e-004	6.9120
Landscaping	0.0387	0.0148	1.2800	7.0000e-005		7.0800e-003	7.0800e-003		7.0800e-003	7.0800e-003	0.0000	2.0912	2.0912	2.0200e-003	0.0000	2.1417
Total	0.7858	0.0207	1.2825	1.1000e-004		7.5600e-003	7.5600e-003		7.5600e-003	7.5600e-003	0.0000	8.9623	8.9623	2.1500e-003	1.3000e-004	9.0537

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	0.1148					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6316					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.9000e-004	5.9300e-003	2.5200e-003	4.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	6.8712	6.8712	1.3000e-004	1.3000e-004	6.9120
Landscaping	0.0387	0.0148	1.2800	7.0000e-005		7.0800e-003	7.0800e-003		7.0800e-003	7.0800e-003	0.0000	2.0912	2.0912	2.0200e-003	0.0000	2.1417
Total	0.7858	0.0207	1.2825	1.1000e-004		7.5600e-003	7.5600e-003		7.5600e-003	7.5600e-003	0.0000	8.9623	8.9623	2.1500e-003	1.3000e-004	9.0537

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	15.5408	0.0151	9.0600e-003	18.6177
Unmitigated	15.5408	0.0151	9.0600e-003	18.6177

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	11.2065 / 7.06496	15.1940	0.0148	8.8500e-003	18.2020
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0.257273 / 0.157683	0.3467	3.4000e-004	2.0000e-004	0.4158
Total		15.5408	0.0151	9.0500e-003	18.6177

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	11.2065 / 7.06496	15.1940	0.0148	8.8500e-003	18.2020
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0.257273 / 0.157683	0.3467	3.4000e-004	2.0000e-004	0.4158
Total		15.5408	0.0151	9.0500e-003	18.6177

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	21.0928	1.2466	0.0000	52.2565
Unmitigated	21.0928	1.2466	0.0000	52.2565

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	79.12	16.0606	0.9492	0.0000	39.7896
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	24.79	5.0322	0.2974	0.0000	12.4669
Total		21.0928	1.2466	0.0000	52.2565

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	79.12	16.0606	0.9492	0.0000	39.7896

Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	24.79	5.0322	0.2974	0.0000	12.4669
Total		21.0928	1.2466	0.0000	52.2565

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

38 Degrees North, Phase 2 AQ/GHG 2030 - Sonoma-San Francisco County, Annual

38 Degrees North, Phase 2 AQ/GHG 2030 Sonoma-San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	277.00	Space	0.00	103,800.00	0
Recreational Swimming Pool	4.35	1000sqft	0.00	4,354.00	0
Condo/Townhouse	172.00	Dwelling Unit	7.10	160,000.00	492

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	75
Climate Zone	4			Operational Year	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 290 rate

Land Use - from Construction worksheet

Construction Phase - No construction operation model

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construction sheet - not including water truck

Trips and VMT - Grading is for on-site hauling

Grading - Based on construction equipment list

Vehicle Trips - TIA = Res 5.44,5.31,4.53

Woodstoves - no wood burning

Energy Use -

Water And Wastewater - wtp

Construction Off-road Equipment Mitigation - Tier 4i and BMPs

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	25.80	55.04
tblFireplaces	NumberWood	29.24	0.00
tblLandUse	LandUseSquareFeet	110,800.00	103,800.00
tblLandUse	LandUseSquareFeet	4,350.00	4,354.00
tblLandUse	LandUseSquareFeet	172,000.00	160,000.00
tblLandUse	LotAcreage	2.49	0.00
tblLandUse	LotAcreage	0.10	0.00
tblLandUse	LotAcreage	10.75	7.10
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblVehicleTrips	ST_TR	5.67	5.31
tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	SU_TR	4.84	4.53
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	WD_TR	5.81	5.44
tblVehicleTrips	WD_TR	33.82	0.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00

tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.2 Overall Operational Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7854	0.0206	1.2788	1.1000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003	0.0000	8.9623	8.9623	2.1300e-003	1.3000e-004	9.0532
Energy	0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	290.7833	290.7833	0.0152	5.6100e-003	292.8351
Mobile	0.1599	0.9764	1.7487	7.7100e-003	0.7788	5.3700e-003	0.7842	0.2094	5.0100e-003	0.2144	0.0000	713.4765	713.4765	0.0249	0.0000	714.0993
Waste						0.0000	0.0000		0.0000	0.0000	21.0928	0.0000	21.0928	1.2466	0.0000	52.2565
Water						0.0000	0.0000		0.0000	0.0000	4.0559	11.4849	15.5408	0.0151	9.0600e-003	18.6177
Total	0.9627	1.1454	3.0907	8.7700e-003	0.7788	0.0249	0.8038	0.2094	0.0246	0.2340	25.1487	1,024.7069	1,049.8556	1.3039	0.0148	1,086.8618

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	0.7854	0.0206	1.2788	1.1000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003	0.0000	8.9623	8.9623	2.1300e-003	1.3000e-004	9.0532
Energy	0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	290.7833	290.7833	0.0152	5.6100e-003	292.8351
Mobile	0.1599	0.9764	1.7487	7.7100e-003	0.7788	5.3700e-003	0.7842	0.2094	5.0100e-003	0.2144	0.0000	713.4765	713.4765	0.0249	0.0000	714.0993
Waste						0.0000	0.0000		0.0000	0.0000	21.0928	0.0000	21.0928	1.2466	0.0000	52.2565
Water						0.0000	0.0000		0.0000	0.0000	4.0559	11.4849	15.5408	0.0151	9.0600e-003	18.6177
Total	0.9627	1.1454	3.0907	8.7700e-003	0.7788	0.0249	0.8038	0.2094	0.0246	0.2340	25.1487	1,024.7069	1,049.8556	1.3039	0.0148	1,086.8618

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1599	0.9764	1.7487	7.7100e-003	0.7788	5.3700e-003	0.7842	0.2094	5.0100e-003	0.2144	0.0000	713.4765	713.4765	0.0249	0.0000	714.0993
Unmitigated	0.1599	0.9764	1.7487	7.7100e-003	0.7788	5.3700e-003	0.7842	0.2094	5.0100e-003	0.2144	0.0000	713.4765	713.4765	0.0249	0.0000	714.0993

4.2 Trip Summary Information

	Average Daily Trip Rate	Unmitigated	Mitigated
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Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	935.68	913.32	779.16	2,102,033	2,102,033
Parking Lot	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Total	935.68	913.32	779.16	2,102,033	2,102,033

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	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.625329	0.031298	0.162135	0.089092	0.014618	0.004632	0.032111	0.030354	0.003196	0.001373	0.004305	0.000897	0.000662
Parking Lot	0.625329	0.031298	0.162135	0.089092	0.014618	0.004632	0.032111	0.030354	0.003196	0.001373	0.004305	0.000897	0.000662
Recreational Swimming Pool	0.625329	0.031298	0.162135	0.089092	0.014618	0.004632	0.032111	0.030354	0.003196	0.001373	0.004305	0.000897	0.000662

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	118.9327	118.9327	0.0119	2.4600e-003	119.9633

Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	118.9327	118.9327	0.0119	2.4600e-003	119.9633
NaturalGas Mitigated	0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	171.8506	171.8506	3.2900e-003	3.1500e-003	172.8718
NaturalGas Unmitigated	0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	171.8506	171.8506	3.2900e-003	3.1500e-003	172.8718

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					
Condo/Townhouse	3.22036e+006	0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	171.8506	171.8506	3.2900e-003	3.1500e-003	172.8718
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
Recreational Swimming Pool	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		0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	171.8506	171.8506	3.2900e-003	3.1500e-003	172.8718

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					
Condo/Townhouse	3.22036e+006	0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	171.8506	171.8506	3.2900e-003	3.1500e-003	172.8718
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
Recreational Swimming Pool	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		0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	171.8506	171.8506	3.2900e-003	3.1500e-003	172.8718

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	867814	114.1538	0.0114	2.3600e-003	115.1430
Parking Lot	36330	4.7789	4.8000e-004	1.0000e-004	4.8203
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Total		118.9327	0.0119	2.4600e-003	119.9633

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	867814	114.1538	0.0114	2.3600e-003	115.1430
Parking Lot	36330	4.7789	4.8000e-004	1.0000e-004	4.8203
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Total		118.9327	0.0119	2.4600e-003	119.9633

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	0.7854	0.0206	1.2788	1.1000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003	0.0000	8.9623	8.9623	2.1300e-003	1.3000e-004	9.0532
Unmitigated	0.7854	0.0206	1.2788	1.1000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003	0.0000	8.9623	8.9623	2.1300e-003	1.3000e-004	9.0532

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	0.1148					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6316					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.9000e-004	5.9300e-003	2.5200e-003	4.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	6.8712	6.8712	1.3000e-004	1.3000e-004	6.9120
Landscaping	0.0383	0.0147	1.2763	7.0000e-005		7.0900e-003	7.0900e-003		7.0900e-003	7.0900e-003	0.0000	2.0912	2.0912	2.0000e-003	0.0000	2.1412
Total	0.7854	0.0206	1.2788	1.1000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003	0.0000	8.9623	8.9623	2.1300e-003	1.3000e-004	9.0532

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	0.1148					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6316					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.9000e-004	5.9300e-003	2.5200e-003	4.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	6.8712	6.8712	1.3000e-004	1.3000e-004	6.9120
Landscaping	0.0383	0.0147	1.2763	7.0000e-005		7.0900e-003	7.0900e-003		7.0900e-003	7.0900e-003	0.0000	2.0912	2.0912	2.0000e-003	0.0000	2.1412
Total	0.7854	0.0206	1.2788	1.1000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003	0.0000	8.9623	8.9623	2.1300e-003	1.3000e-004	9.0532

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	15.5408	0.0151	9.0600e-003	18.6177
Unmitigated	15.5408	0.0151	9.0600e-003	18.6177

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	11.2065 / 7.06496	15.1940	0.0148	8.8500e-003	18.2020
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0.257273 / 0.157683	0.3467	3.4000e-004	2.0000e-004	0.4158
Total		15.5408	0.0151	9.0500e-003	18.6177

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	11.2065 / 7.06496	15.1940	0.0148	8.8500e-003	18.2020
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0.257273 / 0.157683	0.3467	3.4000e-004	2.0000e-004	0.4158
Total		15.5408	0.0151	9.0500e-003	18.6177

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	21.0928	1.2466	0.0000	52.2565
Unmitigated	21.0928	1.2466	0.0000	52.2565

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	79.12	16.0606	0.9492	0.0000	39.7896
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	24.79	5.0322	0.2974	0.0000	12.4669
Total		21.0928	1.2466	0.0000	52.2565

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	79.12	16.0606	0.9492	0.0000	39.7896

Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	24.79	5.0322	0.2974	0.0000	12.4669
Total		21.0928	1.2466	0.0000	52.2565

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

38 Degrees North, Phase 2 AQ/GHG 2035 - Sonoma-San Francisco County, Annual

38 Degrees North, Phase 2 AQ/GHG 2035 Sonoma-San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	277.00	Space	0.00	103,800.00	0
Recreational Swimming Pool	4.35	1000sqft	0.00	4,354.00	0
Condo/Townhouse	172.00	Dwelling Unit	7.10	160,000.00	492

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	75
Climate Zone	4			Operational Year	2035
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 290 rate

Land Use - from Construction worksheet

Construction Phase - No construction operation model

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construction sheet - not including water truck

Trips and VMT - Grading is for on-site hauling

Grading - Based on construction equipment list

Vehicle Trips - TIA = Res 5.44,5.31,4.53

Woodstoves - no wood burning

Energy Use -

Water And Wastewater - wtp

Construction Off-road Equipment Mitigation - Tier 4i and BMPs

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	25.80	55.04
tblFireplaces	NumberWood	29.24	0.00
tblLandUse	LandUseSquareFeet	110,800.00	103,800.00
tblLandUse	LandUseSquareFeet	4,350.00	4,354.00
tblLandUse	LandUseSquareFeet	172,000.00	160,000.00
tblLandUse	LotAcreage	2.49	0.00
tblLandUse	LotAcreage	0.10	0.00
tblLandUse	LotAcreage	10.75	7.10
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblVehicleTrips	ST_TR	5.67	5.31
tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	SU_TR	4.84	4.53
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	WD_TR	5.81	5.44
tblVehicleTrips	WD_TR	33.82	0.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPerce nt	2.21	0.00

tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.2 Overall Operational Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.7854	0.0206	1.2777	1.1000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003	0.0000	8.9623	8.9623	2.1300e-003	1.3000e-004	9.0531
Energy	0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	290.7833	290.7833	0.0152	5.6100e-003	292.8351
Mobile	0.1218	0.9001	1.3961	7.2100e-003	0.7787	3.8800e-003	0.7826	0.2093	3.6100e-003	0.2129	0.0000	669.4026	669.4026	0.0218	0.0000	669.9485
Waste						0.0000	0.0000		0.0000	0.0000	21.0928	0.0000	21.0928	1.2466	0.0000	52.2565
Water						0.0000	0.0000		0.0000	0.0000	4.0559	11.4849	15.5408	0.0151	9.0600e-003	18.6177
Total	0.9246	1.0692	2.7369	8.2700e-003	0.7787	0.0235	0.8022	0.2093	0.0232	0.2325	25.1487	980.6331	1,005.7818	1.3008	0.0148	1,042.7110

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	0.7854	0.0206	1.2777	1.1000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003	0.0000	8.9623	8.9623	2.1300e-003	1.3000e-004	9.0531
Energy	0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	290.7833	290.7833	0.0152	5.6100e-003	292.8351
Mobile	0.1218	0.9001	1.3961	7.2100e-003	0.7787	3.8800e-003	0.7826	0.2093	3.6100e-003	0.2129	0.0000	669.4026	669.4026	0.0218	0.0000	669.9485
Waste						0.0000	0.0000		0.0000	0.0000	21.0928	0.0000	21.0928	1.2466	0.0000	52.2565
Water						0.0000	0.0000		0.0000	0.0000	4.0559	11.4849	15.5408	0.0151	9.0600e-003	18.6177
Total	0.9246	1.0692	2.7369	8.2700e-003	0.7787	0.0235	0.8022	0.2093	0.0232	0.2325	25.1487	980.6331	1,005.7818	1.3008	0.0148	1,042.7110

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1218	0.9001	1.3961	7.2100e-003	0.7787	3.8800e-003	0.7826	0.2093	3.6100e-003	0.2129	0.0000	669.4026	669.4026	0.0218	0.0000	669.9485
Unmitigated	0.1218	0.9001	1.3961	7.2100e-003	0.7787	3.8800e-003	0.7826	0.2093	3.6100e-003	0.2129	0.0000	669.4026	669.4026	0.0218	0.0000	669.9485

4.2 Trip Summary Information

	Average Daily Trip Rate	Unmitigated	Mitigated
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Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	935.68	913.32	779.16	2,102,033	2,102,033
Parking Lot	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Total	935.68	913.32	779.16	2,102,033	2,102,033

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-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Condo/Townhouse	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.631952	0.030215	0.161142	0.086119	0.011578	0.004283	0.033032	0.031556	0.003254	0.001262	0.004128	0.000903	0.000577
Parking Lot	0.631952	0.030215	0.161142	0.086119	0.011578	0.004283	0.033032	0.031556	0.003254	0.001262	0.004128	0.000903	0.000577
Recreational Swimming Pool	0.631952	0.030215	0.161142	0.086119	0.011578	0.004283	0.033032	0.031556	0.003254	0.001262	0.004128	0.000903	0.000577

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	118.9327	118.9327	0.0119	2.4600e-003	119.9633

Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	118.9327	118.9327	0.0119	2.4600e-003	119.9633
NaturalGas Mitigated	0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	171.8506	171.8506	3.2900e-003	3.1500e-003	172.8718
NaturalGas Unmitigated	0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	171.8506	171.8506	3.2900e-003	3.1500e-003	172.8718

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					
Condo/Townhouse	3.22036e+006	0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	171.8506	171.8506	3.2900e-003	3.1500e-003	172.8718
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
Recreational Swimming Pool	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		0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	171.8506	171.8506	3.2900e-003	3.1500e-003	172.8718

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					
Condo/Townhouse	3.22036e+006	0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	171.8506	171.8506	3.2900e-003	3.1500e-003	172.8718
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
Recreational Swimming Pool	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		0.0174	0.1484	0.0631	9.5000e-004		0.0120	0.0120		0.0120	0.0120	0.0000	171.8506	171.8506	3.2900e-003	3.1500e-003	172.8718

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	867814	114.1538	0.0114	2.3600e-003	115.1430
Parking Lot	36330	4.7789	4.8000e-004	1.0000e-004	4.8203
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Total		118.9327	0.0119	2.4600e-003	119.9633

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	867814	114.1538	0.0114	2.3600e-003	115.1430
Parking Lot	36330	4.7789	4.8000e-004	1.0000e-004	4.8203
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Total		118.9327	0.0119	2.4600e-003	119.9633

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	0.7854	0.0206	1.2777	1.1000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003	0.0000	8.9623	8.9623	2.1300e-003	1.3000e-004	9.0531
Unmitigated	0.7854	0.0206	1.2777	1.1000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003	0.0000	8.9623	8.9623	2.1300e-003	1.3000e-004	9.0531

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	0.1148					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6316					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.9000e-004	5.9300e-003	2.5200e-003	4.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	6.8712	6.8712	1.3000e-004	1.3000e-004	6.9120
Landscaping	0.0383	0.0147	1.2752	7.0000e-005		7.0900e-003	7.0900e-003		7.0900e-003	7.0900e-003	0.0000	2.0912	2.0912	2.0000e-003	0.0000	2.1412
Total	0.7854	0.0206	1.2777	1.1000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003	0.0000	8.9623	8.9623	2.1300e-003	1.3000e-004	9.0531

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	0.1148					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6316					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	6.9000e-004	5.9300e-003	2.5200e-003	4.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	6.8712	6.8712	1.3000e-004	1.3000e-004	6.9120
Landscaping	0.0383	0.0147	1.2752	7.0000e-005		7.0900e-003	7.0900e-003		7.0900e-003	7.0900e-003	0.0000	2.0912	2.0912	2.0000e-003	0.0000	2.1412
Total	0.7854	0.0206	1.2777	1.1000e-004		7.5700e-003	7.5700e-003		7.5700e-003	7.5700e-003	0.0000	8.9623	8.9623	2.1300e-003	1.3000e-004	9.0531

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	15.5408	0.0151	9.0600e-003	18.6177
Unmitigated	15.5408	0.0151	9.0600e-003	18.6177

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	11.2065 / 7.06496	15.1940	0.0148	8.8500e-003	18.2020
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0.257273 / 0.157683	0.3467	3.4000e-004	2.0000e-004	0.4158
Total		15.5408	0.0151	9.0500e-003	18.6177

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	11.2065 / 7.06496	15.1940	0.0148	8.8500e-003	18.2020
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0.257273 / 0.157683	0.3467	3.4000e-004	2.0000e-004	0.4158
Total		15.5408	0.0151	9.0500e-003	18.6177

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	21.0928	1.2466	0.0000	52.2565
Unmitigated	21.0928	1.2466	0.0000	52.2565

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	79.12	16.0606	0.9492	0.0000	39.7896
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	24.79	5.0322	0.2974	0.0000	12.4669
Total		21.0928	1.2466	0.0000	52.2565

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	79.12	16.0606	0.9492	0.0000	39.7896

Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	24.79	5.0322	0.2974	0.0000	12.4669
Total		21.0928	1.2466	0.0000	52.2565

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

38 Degrees North, Phase 2 - GHG Commercial Only - Sonoma-San Francisco County, Annual

38 Degrees North, Phase 2 - GHG Commercial Only Sonoma-San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	60.00	Space	0.00	33,400.00	0
Parking Lot	33.00	Space	0.00	22,900.00	0
Supermarket	21.00	1000sqft	1.04	21,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	75
Climate Zone	4			Operational Year	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 290 rate

Land Use - from Construction worksheet

Construction Phase - From Construction worksheet

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on Construction equipment list

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construction sheet - not including water truck

Trips and VMT - Grading is for on-site hauling

Grading - Based on construction equipment list

Vehicle Trips - TIA = SM 99.19,172.29,161.48

Woodstoves - no wood burning

Energy Use -

Water And Wastewater - wtp

Construction Off-road Equipment Mitigation - Tier 4i and BMPs

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblLandUse	LandUseSquareFeet	24,000.00	33,400.00
tblLandUse	LandUseSquareFeet	13,200.00	22,900.00
tblLandUse	LotAcreage	0.54	0.00
tblLandUse	LotAcreage	0.30	0.00
tblLandUse	LotAcreage	0.48	1.04
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	HaulingTripNumber	0.00	2,875.00
tblTripsAndVMT	HaulingTripNumber	0.00	162.00
tblVehicleTrips	ST_TR	177.59	172.29
tblVehicleTrips	SU_TR	166.44	161.48
tblVehicleTrips	WD_TR	102.24	99.19
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00

tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 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	0.0979	1.0000e-005	1.0500e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0400e-003	2.0400e-003	1.0000e-005	0.0000	2.17E-03
Energy	2.5500e-003	0.0231	0.0194	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	165.3325	165.3325	0.0145	3.3600e-003	166.6966
Mobile	0.5694	2.4709	4.8526	0.0134	1.0503	0.0124	1.0627	0.2826	0.0116	0.2942	0.0000	1,233.3706	1,233.3706	0.0608	0.0000	1,234.89
Waste						0.0000	0.0000		0.0000	0.0000	24.0423	0.0000	24.0423	1.4209	0.0000	59.5637
Water						0.0000	0.0000		0.0000	0.0000	0.9159	1.8794	2.7952	3.3400e-003	2.0300e-003	3.4839
Total	0.6698	2.4941	4.8731	0.0135	1.0503	0.0141	1.0644	0.2826	0.0133	0.2959	24.9581	1,400.58	1,425.54	1.4995	5.39E-03	1,464.64

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	0.0979	1.0000e-005	1.0500e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0400e-003	2.0400e-003	1.0000e-005	0.0000	2.1700e-003
Energy	2.5500e-003	0.0231	0.0194	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	165.3325	165.3325	0.0145	3.3600e-003	166.6966

Mobile	0.5694	2.4709	4.8526	0.0134	1.0503	0.0124	1.0627	0.2826	0.0116	0.2942	0.0000	1,233.3706	1,233.3706	0.0608	0.0000	1,234.8897
Waste						0.0000	0.0000		0.0000	0.0000	24.0423	0.0000	24.0423	1.4209	0.0000	59.5637
Water						0.0000	0.0000		0.0000	0.0000	0.9159	1.8794	2.7952	3.3400e-003	2.0300e-003	3.4839
Total	0.6698	2.4941	4.8731	0.0135	1.0503	0.0141	1.0644	0.2826	0.0133	0.2959	24.9581	1,400.5845	1,425.5427	1.4995	5.3900e-003	1,464.6360

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5694	2.4709	4.8526	0.0134	1.0503	0.0124	1.0627	0.2826	0.0116	0.2942	0.0000	1,233.3706	1,233.3706	0.0608	0.0000	1,234.8897
Unmitigated	0.5694	2.4709	4.8526	0.0134	1.0503	0.0124	1.0627	0.2826	0.0116	0.2942	0.0000	1,233.3706	1,233.3706	0.0608	0.0000	1,234.8897

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Supermarket	2,082.99	3,618.09	3391.08	2,831,279	2,831,279

Total	2,082.99	3,618.09	3,391.08	2,831,279	2,831,279
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4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Supermarket	9.50	7.30	7.30	6.50	74.50	19.00	34	30	36

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.594113	0.036394	0.166849	0.102253	0.024126	0.006070	0.030484	0.028024	0.003137	0.001706	0.004997	0.000880	0.000967
Parking Lot	0.594113	0.036394	0.166849	0.102253	0.024126	0.006070	0.030484	0.028024	0.003137	0.001706	0.004997	0.000880	0.000967
Supermarket	0.594113	0.036394	0.166849	0.102253	0.024126	0.006070	0.030484	0.028024	0.003137	0.001706	0.004997	0.000880	0.000967

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	140.1405	140.1405	0.0140	2.9000e-003	141.3549
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	140.1405	140.1405	0.0140	2.9000e-003	141.3549
NaturalGas Mitigated	2.5500e-003	0.0231	0.0194	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	25.1920	25.1920	4.8000e-004	4.6000e-004	25.3417

NaturalGas Unmitigated	2.5500e-003	0.0231	0.0194	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	25.1920	25.1920	4.8000e-004	4.6000e-004	25.3417
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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas s Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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
Supermarket	472080	2.5500e-003	0.0231	0.0194	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	25.1920	25.1920	4.8000e-004	4.6000e-004	25.3417
Total		2.5500e-003	0.0231	0.0194	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	25.1920	25.1920	4.8000e-004	4.6000e-004	25.3417

Mitigated

	NaturalGas s Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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
Supermarket	472080	2.5500e-003	0.0231	0.0194	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	25.1920	25.1920	4.8000e-004	4.6000e-004	25.3417
Total		2.5500e-003	0.0231	0.0194	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	25.1920	25.1920	4.8000e-004	4.6000e-004	25.3417

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	195724	25.7459	2.5700e-003	5.3000e-004	25.9690
Parking Lot	8015	1.0543	1.1000e-004	2.0000e-005	1.0634
Supermarket	861630	113.3404	0.0113	2.3400e-003	114.3225
Total		140.1405	0.0140	2.8900e-003	141.3549

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	195724	25.7459	2.5700e-003	5.3000e-004	25.9690
Parking Lot	8015	1.0543	1.1000e-004	2.0000e-005	1.0634
Supermarket	861630	113.3404	0.0113	2.3400e-003	114.3225
Total		140.1405	0.0140	2.8900e-003	141.3549

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	0.0979	1.0000e-005	1.0500e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0400e-003	2.0400e-003	1.0000e-005	0.0000	2.1700e-003
Unmitigated	0.0979	1.0000e-005	1.0500e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0400e-003	2.0400e-003	1.0000e-005	0.0000	2.1700e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0121					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0857					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-004	1.0000e-005	1.0500e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0400e-003	2.0400e-003	1.0000e-005	0.0000	2.1700e-003
Total	0.0979	1.0000e-005	1.0500e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0400e-003	2.0400e-003	1.0000e-005	0.0000	2.1700e-003

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0121					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0857					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-004	1.0000e-005	1.0500e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0400e-003	2.0400e-003	1.0000e-005	0.0000	2.1700e-003
Total	0.0979	1.0000e-005	1.0500e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0400e-003	2.0400e-003	1.0000e-005	0.0000	2.1700e-003

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2.7952	3.3400e-003	2.0300e-003	3.4839
Unmitigated	2.7952	3.3400e-003	2.0300e-003	3.4839

7.2 Water by Land Use

Unmitigated

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

Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Supermarket	2.58863 / 0.0800608	2.7952	3.3400e-003	2.0300e-003	3.4839
Total		2.7952	3.3400e-003	2.0300e-003	3.4839

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Supermarket	2.58863 / 0.0800608	2.7952	3.3400e-003	2.0300e-003	3.4839
Total		2.7952	3.3400e-003	2.0300e-003	3.4839

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			

Mitigated	24.0423	1.4209	0.0000	59.5637
Unmitigated	24.0423	1.4209	0.0000	59.5637

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Supermarket	118.44	24.0423	1.4209	0.0000	59.5637
Total		24.0423	1.4209	0.0000	59.5637

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Supermarket	118.44	24.0423	1.4209	0.0000	59.5637
Total		24.0423	1.4209	0.0000	59.5637

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

38 Degrees North, Phase 2 - GHG Commercial Only 2030 - Sonoma-San Francisco County, Annual

38 Degrees North, Phase 2 - GHG Commercial Only 2030 Sonoma-San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	60.00	Space	0.00	33,400.00	0
Parking Lot	33.00	Space	0.00	22,900.00	0
Supermarket	21.00	1000sqft	1.04	21,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	75
Climate Zone	4			Operational Year	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 290 rate

Land Use - from Construction worksheet

Construction Phase - From Construction worksheet

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on Construction equipment list

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construcion sheet - not including water truck

Trips and VMT - Grading is for on-site hauling

Grading - Based on construction equipment list

Vehicle Trips - TIA = SM 99.19,172.29,161.48

Woodstoves - no wood burning

Energy Use -

Water And Wastewater - wtp

Construction Off-road Equipment Mitigation - Tier 4i and BMPs

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblLandUse	LandUseSquareFeet	24,000.00	33,400.00
tblLandUse	LandUseSquareFeet	13,200.00	22,900.00
tblLandUse	LotAcreage	0.54	0.00
tblLandUse	LotAcreage	0.30	0.00
tblLandUse	LotAcreage	0.48	1.04
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	HaulingTripNumber	0.00	2,875.00
tblTripsAndVMT	HaulingTripNumber	0.00	162.00
tblVehicleTrips	ST_TR	177.59	172.29
tblVehicleTrips	SU_TR	166.44	161.48
tblVehicleTrips	WD_TR	102.24	99.19
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00

tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 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	0.0979	1.0000e-005	1.0400e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0400e-003	2.0400e-003	1.0000e-005	0.0000	2.17E-03
Energy	2.5500e-003	0.0231	0.0194	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	165.3325	165.3325	0.0145	3.3600e-003	166.6966
Mobile	0.3588	2.1239	2.9953	0.0112	1.0490	8.2800e-003	1.0573	0.2820	7.7100e-003	0.2898	0.0000	1,035.5247	1,035.5247	0.0447	0.0000	1,036.64
Waste						0.0000	0.0000		0.0000	0.0000	24.0423	0.0000	24.0423	1.4209	0.0000	59.5637
Water						0.0000	0.0000		0.0000	0.0000	0.9159	1.8794	2.7952	3.3400e-003	2.0300e-003	3.4839
Total	0.4592	2.1471	3.0158	0.0113	1.0490	0.0100	1.0591	0.2820	9.4700e-003	0.2915	24.9581	1,202.7386	1,227.6967	1.4834	5.3900e-003	1,266.39

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	0.0979	1.0000e-005	1.0400e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0400e-003	2.0400e-003	1.0000e-005	0.0000	2.1700e-003
Energy	2.5500e-003	0.0231	0.0194	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	165.3325	165.3325	0.0145	3.3600e-003	166.6966

Mobile	0.3588	2.1239	2.9953	0.0112	1.0490	8.2800e-003	1.0573	0.2820	7.7100e-003	0.2898	0.0000	1,035.5247	1,035.5247	0.0447	0.0000	1,036.6409
Waste						0.0000	0.0000		0.0000	0.0000	24.0423	0.0000	24.0423	1.4209	0.0000	59.5637
Water						0.0000	0.0000		0.0000	0.0000	0.9159	1.8794	2.7952	3.3400e-003	2.0300e-003	3.4839
Total	0.4592	2.1471	3.0158	0.0113	1.0490	0.0100	1.0591	0.2820	9.4700e-003	0.2915	24.9581	1,202.7386	1,227.6967	1.4834	5.3900e-003	1,266.3872

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3588	2.1239	2.9953	0.0112	1.0490	8.2800e-003	1.0573	0.2820	7.7100e-003	0.2898	0.0000	1,035.5247	1,035.5247	0.0447	0.0000	1,036.6409
Unmitigated	0.3588	2.1239	2.9953	0.0112	1.0490	8.2800e-003	1.0573	0.2820	7.7100e-003	0.2898	0.0000	1,035.5247	1,035.5247	0.0447	0.0000	1,036.6409

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Supermarket	2,082.99	3,618.09	3391.08	2,831,279	2,831,279

Total	2,082.99	3,618.09	3,391.08	2,831,279	2,831,279
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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-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Supermarket	9.50	7.30	7.30	6.50	74.50	19.00	34	30	36

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.625329	0.031298	0.162135	0.089092	0.014618	0.004632	0.032111	0.030354	0.003196	0.001373	0.004305	0.000897	0.000662
Parking Lot	0.625329	0.031298	0.162135	0.089092	0.014618	0.004632	0.032111	0.030354	0.003196	0.001373	0.004305	0.000897	0.000662
Supermarket	0.625329	0.031298	0.162135	0.089092	0.014618	0.004632	0.032111	0.030354	0.003196	0.001373	0.004305	0.000897	0.000662

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	140.1405	140.1405	0.0140	2.9000e-003	141.3549
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	140.1405	140.1405	0.0140	2.9000e-003	141.3549
NaturalGas Mitigated	2.5500e-003	0.0231	0.0194	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	25.1920	25.1920	4.8000e-004	4.6000e-004	25.3417
NaturalGas Unmitigated	2.5500e-003	0.0231	0.0194	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	25.1920	25.1920	4.8000e-004	4.6000e-004	25.3417

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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
Supermarket	472080	2.5500e-003	0.0231	0.0194	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	25.1920	25.1920	4.8000e-004	4.6000e-004	25.3417
Total		2.5500e-003	0.0231	0.0194	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	25.1920	25.1920	4.8000e-004	4.6000e-004	25.3417

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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
Supermarket	472080	2.5500e-003	0.0231	0.0194	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	25.1920	25.1920	4.8000e-004	4.6000e-004	25.3417
Total		2.5500e-003	0.0231	0.0194	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	25.1920	25.1920	4.8000e-004	4.6000e-004	25.3417

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	195724	25.7459	2.5700e-003	5.3000e-004	25.9690
Parking Lot	8015	1.0543	1.1000e-004	2.0000e-005	1.0634
Supermarket	861630	113.3404	0.0113	2.3400e-003	114.3225
Total		140.1405	0.0140	2.8900e-003	141.3549

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	195724	25.7459	2.5700e-003	5.3000e-004	25.9690
Parking Lot	8015	1.0543	1.1000e-004	2.0000e-005	1.0634
Supermarket	861630	113.3404	0.0113	2.3400e-003	114.3225
Total		140.1405	0.0140	2.8900e-003	141.3549

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	0.0979	1.0000e-005	1.0400e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0400e-003	2.0400e-003	1.0000e-005	0.0000	2.1700e-003
Unmitigated	0.0979	1.0000e-005	1.0400e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0400e-003	2.0400e-003	1.0000e-005	0.0000	2.1700e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0121					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0857					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-004	1.0000e-005	1.0400e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0400e-003	2.0400e-003	1.0000e-005	0.0000	2.1700e-003
Total	0.0979	1.0000e-005	1.0400e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0400e-003	2.0400e-003	1.0000e-005	0.0000	2.1700e-003

Mitigated

[illegible]

Landscaping	1.0000e-004	1.0000e-005	1.0400e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0400e-003	2.0400e-003	1.0000e-005	0.0000	2.1700e-003
Total	0.0979	1.0000e-005	1.0400e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0400e-003	2.0400e-003	1.0000e-005	0.0000	2.1700e-003

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2.7952	3.3400e-003	2.0300e-003	3.4839
Unmitigated	2.7952	3.3400e-003	2.0300e-003	3.4839

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Supermarket	2.58863 / 0.0800608	2.7952	3.3400e-003	2.0300e-003	3.4839
Total		2.7952	3.3400e-003	2.0300e-003	3.4839

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Supermarket	2.58863 / 0.0800608	2.7952	3.3400e-003	2.0300e-003	3.4839
Total		2.7952	3.3400e-003	2.0300e-003	3.4839

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	24.0423	1.4209	0.0000	59.5637
Unmitigated	24.0423	1.4209	0.0000	59.5637

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Supermarket	118.44	24.0423	1.4209	0.0000	59.5637
Total		24.0423	1.4209	0.0000	59.5637

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Supermarket	118.44	24.0423	1.4209	0.0000	59.5637
Total		24.0423	1.4209	0.0000	59.5637

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

38 Degrees North, Phase 2 - GHG Commercial Only 2035 - Sonoma-San Francisco County, Annual

38 Degrees North, Phase 2 - GHG Commercial Only 2035 Sonoma-San Francisco County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	60.00	Space	0.00	33,400.00	0
Parking Lot	33.00	Space	0.00	22,900.00	0
Supermarket	21.00	1000sqft	1.04	21,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	75
Climate Zone	4			Operational Year	2035
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 290 rate

Land Use - from Construction worksheet

Construction Phase - From Construction worksheet

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on Construction equipment list

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construction sheet

Off-road Equipment - Based on construcion sheet - not including water truck

Trips and VMT - Grading is for on-site hauling

Grading - Based on construction equipment list

Vehicle Trips - TIA = SM 99.19,172.29,161.48

Woodstoves - no wood burning

Energy Use -

Water And Wastewater - wtp

Construction Off-road Equipment Mitigation - Tier 4i and BMPs

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblLandUse	LandUseSquareFeet	24,000.00	33,400.00
tblLandUse	LandUseSquareFeet	13,200.00	22,900.00
tblLandUse	LotAcreage	0.54	0.00
tblLandUse	LotAcreage	0.30	0.00
tblLandUse	LotAcreage	0.48	1.04
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	HaulingTripNumber	0.00	2,875.00
tblTripsAndVMT	HaulingTripNumber	0.00	162.00
tblVehicleTrips	ST_TR	177.59	172.29
tblVehicleTrips	SU_TR	166.44	161.48
tblVehicleTrips	WD_TR	102.24	99.19
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00

tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 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	0.0979	1.0000e-005	1.0400e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0400e-003	2.0400e-003	1.0000e-005	0.0000	2.17E-03
Energy	2.5500e-003	0.0231	0.0194	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	165.3325	165.3325	0.0145	3.3600e-003	166.6966
Mobile	0.2668	2.0165	2.3577	0.0105	1.0489	5.9900e-003	1.0549	0.2820	5.5700e-003	0.2875	0.0000	975.2961	975.2961	0.0393	0.0000	976.2782
Waste						0.0000	0.0000		0.0000	0.0000	24.0423	0.0000	24.0423	1.4209	0.0000	59.5637
Water						0.0000	0.0000		0.0000	0.0000	0.9159	1.8794	2.7952	3.3400e-003	2.0300e-003	3.4839
Total	0.3672	2.0396	2.3782	0.0106	1.0489	7.7500e-003	1.0566	0.2820	7.3300e-003	0.2893	24.9581	1,142.5101	1,167.4682	1.4780	5.3900e-003	1,206.0246

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	0.0979	1.0000e-005	1.0400e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0400e-003	2.0400e-003	1.0000e-005	0.0000	2.1700e-003

Energy	2.5500e-003	0.0231	0.0194	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	165.3325	165.3325	0.0145	3.3600e-003	166.6966
Mobile	0.2668	2.0165	2.3577	0.0105	1.0489	5.9900e-003	1.0549	0.2820	5.5700e-003	0.2875	0.0000	975.2961	975.2961	0.0393	0.0000	976.2782
Waste						0.0000	0.0000		0.0000	0.0000	24.0423	0.0000	24.0423	1.4209	0.0000	59.5637
Water						0.0000	0.0000		0.0000	0.0000	0.9159	1.8794	2.7952	3.3400e-003	2.0300e-003	3.4839
Total	0.3672	2.0396	2.3782	0.0106	1.0489	7.7500e-003	1.0566	0.2820	7.3300e-003	0.2893	24.9581	1,142.5101	1,167.4682	1.4780	5.3900e-003	1,206.0246

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2668	2.0165	2.3577	0.0105	1.0489	5.9900e-003	1.0549	0.2820	5.5700e-003	0.2875	0.0000	975.2961	975.2961	0.0393	0.0000	976.2782
Unmitigated	0.2668	2.0165	2.3577	0.0105	1.0489	5.9900e-003	1.0549	0.2820	5.5700e-003	0.2875	0.0000	975.2961	975.2961	0.0393	0.0000	976.2782

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		

Parking Lot	0.00	0.00	0.00		
Supermarket	2,082.99	3,618.09	3391.08	2,831,279	2,831,279
Total	2,082.99	3,618.09	3,391.08	2,831,279	2,831,279

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-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Supermarket	9.50	7.30	7.30	6.50	74.50	19.00	34	30	36

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.631952	0.030215	0.161142	0.086119	0.011578	0.004283	0.033032	0.031556	0.003254	0.001262	0.004128	0.000903	0.000577
Parking Lot	0.631952	0.030215	0.161142	0.086119	0.011578	0.004283	0.033032	0.031556	0.003254	0.001262	0.004128	0.000903	0.000577
Supermarket	0.631952	0.030215	0.161142	0.086119	0.011578	0.004283	0.033032	0.031556	0.003254	0.001262	0.004128	0.000903	0.000577

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	140.1405	140.1405	0.0140	2.9000e-003	141.3549
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	140.1405	140.1405	0.0140	2.9000e-003	141.3549
NaturalGas Mitigated	2.5500e-003	0.0231	0.0194	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003	0.0000	25.1920	25.1920	4.8000e-004	4.6000e-004	25.3417

NaturalGas Unmitigated	2.5500e- 003	0.0231	0.0194	1.4000e- 004		1.7600e- 003	1.7600e- 003		1.7600e- 003	1.7600e- 003	0.0000	25.1920	25.1920	4.8000e- 004	4.6000e- 004	25.3417
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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGa s Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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
Supermarket	472080	2.5500e- 003	0.0231	0.0194	1.4000e- 004		1.7600e- 003	1.7600e- 003		1.7600e- 003	1.7600e- 003	0.0000	25.1920	25.1920	4.8000e- 004	4.6000e- 004	25.3417
Total		2.5500e- 003	0.0231	0.0194	1.4000e- 004		1.7600e- 003	1.7600e- 003		1.7600e- 003	1.7600e- 003	0.0000	25.1920	25.1920	4.8000e- 004	4.6000e- 004	25.3417

Mitigated

	NaturalGa s Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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
Supermarket	472080	2.5500e- 003	0.0231	0.0194	1.4000e- 004		1.7600e- 003	1.7600e- 003		1.7600e- 003	1.7600e- 003	0.0000	25.1920	25.1920	4.8000e- 004	4.6000e- 004	25.3417
Total		2.5500e- 003	0.0231	0.0194	1.4000e- 004		1.7600e- 003	1.7600e- 003		1.7600e- 003	1.7600e- 003	0.0000	25.1920	25.1920	4.8000e- 004	4.6000e- 004	25.3417

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	195724	25.7459	2.5700e-003	5.3000e-004	25.9690
Parking Lot	8015	1.0543	1.1000e-004	2.0000e-005	1.0634
Supermarket	861630	113.3404	0.0113	2.3400e-003	114.3225
Total		140.1405	0.0140	2.8900e-003	141.3549

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	195724	25.7459	2.5700e-003	5.3000e-004	25.9690
Parking Lot	8015	1.0543	1.1000e-004	2.0000e-005	1.0634
Supermarket	861630	113.3404	0.0113	2.3400e-003	114.3225
Total		140.1405	0.0140	2.8900e-003	141.3549

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	0.0979	1.0000e-005	1.0400e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0400e-003	2.0400e-003	1.0000e-005	0.0000	2.1700e-003
Unmitigated	0.0979	1.0000e-005	1.0400e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0400e-003	2.0400e-003	1.0000e-005	0.0000	2.1700e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0121					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0857					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-004	1.0000e-005	1.0400e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0400e-003	2.0400e-003	1.0000e-005	0.0000	2.1700e-003
Total	0.0979	1.0000e-005	1.0400e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0400e-003	2.0400e-003	1.0000e-005	0.0000	2.1700e-003

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0121					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0857					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-004	1.0000e-005	1.0400e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0400e-003	2.0400e-003	1.0000e-005	0.0000	2.1700e-003
Total	0.0979	1.0000e-005	1.0400e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0400e-003	2.0400e-003	1.0000e-005	0.0000	2.1700e-003

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2.7952	3.3400e-003	2.0300e-003	3.4839
Unmitigated	2.7952	3.3400e-003	2.0300e-003	3.4839

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000

Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Supermarket	2.58863 / 0.0800608	2.7952	3.3400e-003	2.0300e-003	3.4839
Total		2.7952	3.3400e-003	2.0300e-003	3.4839

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Supermarket	2.58863 / 0.0800608	2.7952	3.3400e-003	2.0300e-003	3.4839
Total		2.7952	3.3400e-003	2.0300e-003	3.4839

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	24.0423	1.4209	0.0000	59.5637

Unmitigated	24.0423	1.4209	0.0000	59.5637
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8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Supermarket	118.44	24.0423	1.4209	0.0000	59.5637
Total		24.0423	1.4209	0.0000	59.5637

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Supermarket	118.44	24.0423	1.4209	0.0000	59.5637
Total		24.0423	1.4209	0.0000	59.5637

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Attachment 3: Construction Health Risk Calculations

38 Degrees North - Phase 2, Santa Rosa, CA

DPM Construction Emissions and Modeling Emission Rates

Construction		DPM	Source	No.	DPM Emissions			Emissions per Point Source
Year	Activity	(ton/year)	Type	Sources	(lb/yr)	(lb/hr)	(g/s)	(g/s)
2020	Construction	0.0705	Point	158	141.0	0.03219	4.06E-03	2.57E-05
2021-2022*	Construction	0.1170	Point	158	233.9	0.05340	6.73E-03	4.26E-05

hr/day = 12 (7am - 7pm)
days/yr = 365
hours/year = 4380

*includes two months from the year 2022 (January to February)

PM2.5 Fugitive Dust Construction Emissions for Modeling

Construction		Area	PM2.5 Emissions				Modeled	DPM Emission
Year	Activity	Source	(ton/year)	(lb/yr)	(lb/hr)	(g/s)	Area (m ²)	Rate g/s/m ²
2020	Construction	CON_FUG	0.05290	105.8	0.02416	3.04E-03	39,153	7.77E-08
2021-2022*	Construction	CON_FUG	0.03808	76.2	0.01739	2.19E-03	39,153	5.60E-08

hr/day = 12 (7am - 7pm)
days/yr = 365
hours/year = 4380

*includes two months from the year 2022 (January to February)

DPM Construction Emissions and Modeling Emission Rates - With Mitigation

Construction		DPM	Source	No.	DPM Emissions			Emissions per Point Source
Year	Activity	(ton/year)	Type	Sources	(lb/yr)	(lb/hr)	(g/s)	(g/s)
2020	Construction	0.0085	Point	158	17.0	0.00389	4.90E-04	3.10E-06
2021-2022*	Construction	0.0174	Point	158	34.9	0.00796	1.00E-03	6.35E-06

hr/day = 12 (7am - 7pm)
days/yr = 365
hours/year = 4380

*includes two months from the year 2022 (January to February)

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

Construction		Area	PM2.5 Emissions				Modeled	DPM Emission
Year	Activity	Source	(ton/year)	(lb/yr)	(lb/hr)	(g/s)	Area (m ²)	Rate g/s/m ²
2020	Construction	CON_FUG	0.01310	26.2	0.00598	7.54E-04	39,153	1.93E-08
2021-2022*	Construction	CON_FUG	0.01245	24.9	0.00568	7.16E-04	39,153	1.83E-08

hr/day = 12 (7am - 7pm)
days/yr = 365
hours/year = 4380

*includes two months from the year 2022 (January to February)

38 Degrees North - Phase 2, Santa Rosa, CA
Construction Health Impacts Summary

Maximum Impacts at Construction MEI Location - Unmitigated

Emissions Year						
	Maximum Concentrations		Cancer Risk (per million)		Hazard Index	Maximum Annual PM2.5 Concentration
	Exhaust PM10/DPM (µg/m³)	Fugitive PM2.5 (µg/m³)				
			Child	Adult	(-)	(µg/m³)
2020	0.1538	0.3612	27.44	0.44	0.031	0.51
2021-2022*	0.1132	0.1708	18.59	0.33	0.023	0.28
Total	-	-	46.0	0.8	-	-
Maximum	0.1538	0.3612	-	-	0.031	0.51

*includes two months in 2022 (January and February)

Maximum Impacts at Construction MEI Location - With Mitigation

Emissions Year						
	Maximum Concentrations		Cancer Risk (per million)		Hazard Index (-)	Maximum Annual PM2.5 Concentration (µg/m³)
	Exhaust PM10/DPM (µg/m³)	Fugitive PM2.5 (µg/m³)				
			Child	Adult		
2020	0.0124	0.0424	2.22	0.04	0.002	0.05
2021-2022*	0.0201	0.0145	3.30	0.06	0.004	0.05
Total	-	-	5.5	0.1	-	-
Maximum	0.0201	0.0424	-	-	0.004	0.05

*includes two months in 2022 (January and February)

38 Degrees North - Phase 2, Santa Rosa, CA

Maximum DPM Cancer Risk Calculations From Construction - Unmitigated Emissions

Impacts at Off-Site Receptors -4.5 meter

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

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

ASF = Age sensitivity factor for specified age group

ED = Exposure duration (years)

AT = Averaging time for lifetime cancer risk (years)

FAH = Fraction of time spent at home (unitless)

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

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

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

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

10⁻⁶ = Conversion factor

Values

Age → Parameter	Infant/Child				Adult
	3rd Trimester	0 - 2	2 - 9	2 - 16	16 - 30
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Age	Infant/Child - Exposure Information			Infant/Child Cancer Risk (per million)	Adult - Exposure Information			Adult Cancer Risk (per million)	Fugitive PM2.5	Total PM2.5
			DPM Conc (ug/m3)		Age Sensitivity Factor		Modeled		Age Sensitivity Factor			
			DPM Conc (ug/m3)				DPM Conc (ug/m3)					
			Year	Annual			Year	Annual				
0	0.25	-0.25 - 0*	2020	0.1538	10	2.18	2020	0.1538	-	-		
1	1	0 - 1	2020	0.1538	10	25.25	2020	0.1538	1	0.44	0.3612	0.515
2	1	1 - 2	2021-2022**	0.1132	10	18.59	2021-2022**	0.1132	1	0.33	0.1708	0.283
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00		
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00		
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00		
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00		
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00		
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00		
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00		
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00		
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00		
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00		
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00		
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00		
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00		
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00		
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00		
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00		
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00		
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00		
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00		
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00		
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00		
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00		
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00		
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00		
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00		
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00		
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00		
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00		
Total Increased Cancer Risk						46.0			0.77			

* Third trimester of pregnancy

**Includes two months from 2022 (January and February)

38 Degrees North - Phase 2, Santa Rosa, CA

Maximum DPM Cancer Risk Calculations From Construction - Mitigated Emissions

Impacts at Off-Site Receptors-1.5 meter

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

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

ASF = Age sensitivity factor for specified age group

ED = Exposure duration (years)

AT = Averaging time for lifetime cancer risk (years)

FAH = Fraction of time spent at home (unitless)

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

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

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

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

10⁻⁶ = Conversion factor

Values

Age --> Parameter	Infant/Child				Adult
	3rd Trimester	0 - 2	2 - 9	2 - 16	16 - 30
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Age	Infant/Child - Exposure Information			Infant/Child Cancer Risk (per million)	Adult - Exposure Information			Adult Cancer Risk (per million)	Fugitive PM2.5	Total PM2.5
			DPM Conc (ug/m3)		Sensitivity Factor		Modeled		Sensitivity Factor			
			Year	Annual			Year	Annual				
0	0.25	-0.25 - 0*	2020	0	10	0.18	2020	0.0124	-	-		
1	1	0 - 1	2020	0	10	2.04	2020	0.0124	1	0.04	0.0424	0.051
2	1	1 - 2	2021-2022**	0	10	3.30	2021-2022**	0.0201	1	0.06	0.0145	0.045
3	1	2 - 3		0	3	0.00		0.0000	1	0.00		
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00		
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00		
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00		
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00		
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00		
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00		
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00		
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00		
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00		
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00		
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00		
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00		
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00		
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00		
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00		
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00		
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00		
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00		
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00		
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00		
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00		
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00		
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00		
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00		
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00		
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00		
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00		
Total Increased Cancer Risk						5.5				0.09		

* Third trimester of pregnancy

**Includes two months from 2022 (January and February)

38 Degrees North - Phase 2, Santa Rosa, CA

Maximum DPM Cancer Risk Calculations From Construction - Unmitigated Emissions

Impacts at Off-Site Receptors located at Kawana Springs Apartments-1.5 meter receptor height

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

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

ASF = Age sensitivity factor for specified age group

ED = Exposure duration (years)

AT = Averaging time for lifetime cancer risk (years)

FAH = Fraction of time spent at home (unitless)

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

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

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

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

10⁻⁶ = Conversion factor

Values

Age --> Parameter	Infant/Child				Adult
	3rd Trimester	0 - 2	2 - 9	2 - 16	16 - 30
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Age	Infant/Child - Exposure Information			Infant/Child Cancer Risk (per million)	Adult - Exposure Information			Adult Cancer Risk (per million)
			DPM Conc (ug/m3)		Age Sensitivity Factor		Modeled		Age Sensitivity Factor	
			Year	Annual			DPM Conc (ug/m3)			
0	0.25	-0.25 - 0*	2020	0.0995	10	1.35	2020	0.0995	-	-
1	1	0 - 1	2020	0.0995	10	16.34	2020	0.0995	1	0.29
2	1	1 - 2	2021-2022**	0.1054	10	17.31	2021-2022**	0.1054	1	0.30
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00
Total Increased Cancer Risk						35.0				0.59

* Third trimester of pregnancy

** Includes two months from 2022 (January and February)

Fugitive
PM2.5

Total
PM2.5

0.5802 0.674

0.1064 0.295

Attachment 4: Screening Community Risk Calculations

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

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

INSTRUCTIONS:

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

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

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

Notes and References listed below the Search Boxes

Search Parameters

County

Sonoma

Roadway Direction

East-West

Side of the Roadway

South

Distance from Roadway

450

feet

Annual Average Daily Traffic (ADT)

17,240

Results

Sonoma County

EAST-WEST DIRECTIONAL ROADWAY

PM_{2.5} annual average

0.031 (µg/m³)

Cancer Risk

1.31 (per million)

Kawana Springs Road, Off-site MEI

Background Plus Project Traffic Volumes
Data for Sonoma County based on meteorological data collected from Santa Rosa in 2005

Adjusted for 2015
OEHHA and EMFAC2014
for 2018

0.90

(per million)

Note that EMFAC2014 predicts DSL PM_{2.5} aggregate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehicles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 ADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using CALINE4 CalSghcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

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

INSTRUCTIONS:

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

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

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

Notes and References listed below the Search Boxes

Search Parameters

County

Sonoma

Roadway Direction

East-West

Side of the Roadway

South

Distance from Roadway

420

feet

Annual Average Daily Traffic (ADT)

17,240

Results

Sonoma County

EAST-WEST DIRECTIONAL ROADWAY

PM_{2.5} annual average

0.032 (µg/m³)

Cancer Risk

1.37 (per million)

Kawana Springs Road, Off-site MEI

Background Plus Project Traffic Volumes
Data for Sonoma County based on meteorological data collected from Santa Rosa in 2005

Adjusted for 2015
OEHHA and EMFAC2014
for 2018

0.94

(per million)

Note that EMFAC2014 predicts DSL PM_{2.5} aggregate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehicles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 ADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using CALINE4 CalSghcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

Roadway Screening Analysis Calculator

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

INSTRUCTIONS:

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

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

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

Notes and References listed below the Search Boxes

Search Parameters

County	Sonoma
Roadway Direction	North-South
Side of the Roadway	East
Distance from Roadway	280 feet
Annual Average Daily Traffic (ADT)	18,370

Results

Sonoma County

NORTH-SOUTH DIRECTIONAL ROADWAY**PM_{2.5} annual average****0.088** ($\mu\text{g}/\text{m}^3$)**Cancer Risk****3.55** (per million)**Petaluma Hill Road, Off-Site MEI**

Background Plus Project Traffic Volumes from Traffic Report
Data for Sonoma County based on meteorological data collected from Santa Rosa in 2005

**Adjusted for 2015
OEHH and EMFAC2014
for 2018****2.44**

(per million)

Note that EMFAC2014 predicts DSL PM_{2.5} aggregate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehicles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 ADOT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using CALINE4 CalQtor air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHH toxicity values adopted in 2013.

Roadway Screening Analysis Calculator

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

INSTRUCTIONS:

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

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

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

Notes and References listed below the Search Boxes

Search Parameters

County	Sonoma
Roadway Direction	North-South
Side of the Roadway	East
Distance from Roadway	50 feet
Annual Average Daily Traffic (ADT)	18,370

Results

Sonoma County

NORTH-SOUTH DIRECTIONAL ROADWAY**PM_{2.5} annual average****0.270** ($\mu\text{g}/\text{m}^3$)**Cancer Risk****10.54** (per million)**Petaluma Hill Road, Project Site**

Background Plus Project Traffic Volumes from Traffic Report
Data for Sonoma County based on meteorological data collected from Santa Rosa in 2005

**Adjusted for 2015
OEHH and EMFAC2014
for 2018****7.25**

(per million)

Note that EMFAC2014 predicts DSL PM_{2.5} aggregate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehicles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 ADOT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using CALINE4 CalQtor air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHH toxicity values adopted in 2013.

Roadway Screening Analysis Calculator

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

INSTRUCTIONS:

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

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

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

Notes and References listed below the Search Boxes

Search Parameters

County	Sonoma
Roadway Direction	East-West
Side of the Roadway	North
Distance from Roadway	740 feet
Annual Average Daily Traffic (ADT)	1,500

ResultsSonoma County**EAST-WEST DIRECTIONAL ROADWAY****PM_{2.5} annual average**0.004 (µg/m³)**Cancer Risk**

0.16 (per million)

Farmers Lane Extension, Off-site MEI

Correspondence with W-Trans

Data for Sonoma County based on meteorological data collected from Santa Rosa in 2005

Adjusted for 2015
OEHHA and EMFAC2014
for 2018

0.11

(per million)

Note that EMFAC2014 predicts DSL PM_{2.5} aggregate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehicles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 ADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using CALINE4 CalSghcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

Roadway Screening Analysis Calculator

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

INSTRUCTIONS:

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

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

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

Notes and References listed below the Search Boxes

Search Parameters

County	Sonoma
Roadway Direction	East-West
Side of the Roadway	North
Distance from Roadway	50 feet
Annual Average Daily Traffic (ADT)	1,500

ResultsSonoma County**EAST-WEST DIRECTIONAL ROADWAY****PM_{2.5} annual average**0.023 (µg/m³)**Cancer Risk**

0.88 (per million)

Farmers Lane Extension, Project

Correspondence with W-Trans

Data for Sonoma County based on meteorological data collected from Santa Rosa in 2005

Adjusted for 2015
OEHHA and EMFAC2014
for 2018

0.61

(per million)

Note that EMFAC2014 predicts DSL PM_{2.5} aggregate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehicles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 ADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using CALINE4 CalSghcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.



BAY AREA AIR QUALITY MANAGEMENT DISTRICT

*REQUEST SENT TO BAAQMD

Risk & Hazard Stationary Source Inquiry Form

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

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

[Click here for guidance on conducting risk & hazard screening, including roadways & freeways, refer to the District's Risk & Hazard Analysis flow chart.](#)

[Click here for District's Recommended Methods for Screening and Modeling Local Risks and Hazards document.](#)

Table A: Requester Contact Information

Date of Request	6/3/2019
Contact Name	Mimi McNamara
Affiliation	Mingworth & Rodkin
Phone	707-753-4561
Email	mimcnamara@mingworthrodkin.com
Project Name	38 Degrees North
Address	2660 Petaluma Hill Road
City	Santa Rosa
County	Sonoma County
Type (residential, commercial, mixed use, industrial, etc.)	Residential/Commercial
Project Size (# of units or building square feet)	172 multi-family units

Comments: Please include a daily emissions file for Plant #11340

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

1. Complete all the contact and project information requested in **Table A**. Incomplete forms will not be processed. Please include a project site map.
2. Download and install the free program Google Earth, <http://www.google.com/earth/download/ge/>, and then download the county-specific Google Earth stationary source application files from the District's website, <http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methods.aspx>. The small points on the map represent stationary sources permitted by the District (Map A on right). These permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc. Click on a point to view the source's Information Table, including the name, location, and preliminary estimated cancer risk, hazard index, and PM_{2.5} concentration.
3. Find the project site in Google Earth by inputting the site's address in the Google Earth search box.
4. Identify stationary sources within at least a 1000ft radius of project site. Verify that the location of the source on the map matches with the source's address in the Information Table, by using the Google Earth address search box to confirm the source's address location. Please report any mapping errors to the District.
5. List the stationary source information in **Table B** blue section only.
6. Note that a small percentage of the stationary sources have Health Risk Screening Assessment (HRSA) data INSTEAD of screening level data. These sources will be noted by an asterisk next to the Plant Name (Map B on right). If HRSA values are presented, these values have already been modeled and cannot be adjusted further.
7. Email this completed form to District staff. District staff will provide the most recent risk, hazard, and PM_{2.5} data that are available for the source(s). If this information or data are not available, source emissions data will be provided. Staff will respond to inquiries within three weeks.

Note that a public records request received for the same stationary source information will cancel the processing of your SSIF request.

Submit forms, maps, and questions to Areana Flores at 415-749-4636, or aflores@baaqmd.gov

Table B: Google Earth data

Distance from Receptor (feet) or MEI ¹	FACID (Plant No.)	FNAME	FSTREET	Cancer Risk ⁴	Hazard Risk ²	PM _{2.5} ³	Source No. ⁵	Type of Source ⁶	Fuel Code ⁷	Status/Comments
TBD	17919	City of Santa Rosa Utilities Dept.	1825 Kawana Springs Rd	1.11963201	0.00193099	0.001414		Generator		
TBD	11340	Flyers #479/3017	455 Yolanda Avenue	26.4855467	0.13075275			Gas Dispensing Facility		
TBD	23123	Flyers #479	455 Yolanda Avenue	1.55011849	0.00775446					

Footnotes:

1. Maximally exposed individual
2. These Cancer Risk, Hazard Index, and PM_{2.5} columns represent the values in the Google Earth Plant Information Table.
3. Each plant may have multiple permits and sources.
4. Permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc.
5. Fuel codes: 98 = diesel, 100 = Natural Gas.
6. If a Health Risk Screening Assessment (HRSA) was completed for the source, the application number will be listed here.
7. The date that the HRSA was completed.
8. Engineer who completed the HRSA for District purposes only.
9. All HRSA completed before 1/5/2010 need to be multiplied by an age sensitivity factor of 1.7.
10. The HRSA "Chronic Health" number represents the Hazard Index.
11. Further information about common sources:
 - a. Sources that only include diesel internal combustion engines can be adjusted using the BAAQMD's Diesel Multiplier worksheet.
 - b. The risk from natural gas boilers used for space heating when <25 MM BTU/hr would have an estimated cancer risk of one in a million or less, and a chronic hazard index of 1.
 - c. BAAQMD Reg 11 Rule 16 required that all co-residential (sharing a wall, floor, ceiling or is in the same building as a residential unit) dry cleaners cease use of perc on July 1, 2010. Therefore, there is no cancer risk, hazard or PM_{2.5} concentrations from co-residential dry cleaning businesses in the BAAQMD.
 - d. Non co-residential dry cleaners must phase out use of perc by Jan. 1, 2023. Therefore, the risk from these dry cleaners does not need to be factored in over a 70-year period, but instead use of perc is phased out.
 - e. Gas stations can be adjusted using BAAQMD's Gas Station Distance Multiplier worksheet.
 - f. Unless otherwise noted, exempt sources are considered insignificant. See BAAQMD Reg 2 Rule 1 for a list of exempt sources.
 - g. This spray booth is considered to be insignificant.

Date last updated:
01/13/2018



BAY AREA AIR QUALITY MANAGEMENT DISTRICT

*BAAQMD RESPONSE

Risk & Hazard Stationary Source Inquiry Form

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Date of Request	6/3/2019
Contact Name	Mimi McNamara
Affiliation	Illingworth & Rodkin
Phone	707-753-4561
Email	mimimcnamara@illingworth-rodkin.com
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Address	2660 Petaluma Hill Road
City	Santa Rosa
County	Sonoma County
Type (residential, commercial, mixed use, industrial, etc.)	Residential/Commercial
Project Size (# of units or building square feet)	172 multi-family units
Comments: Please include a daily emissions file for Plant #11340	

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5. List the stationary source information in [Table B](#) blue section only.
6. Note that a small percentage of the stationary sources have Health Risk Screening Assessment (HRS) data INSTEAD of screening level data. These sources will be noted by an asterisk next to the Plant Name (Map B on right). If HRS values are presented, these values have already been modeled and cannot be adjusted further.
7. Email this completed form to District staff. District staff will provide the most recent risk, hazard, and PM2.5 data that are available for the source(s). If this information or data are not available, source emissions data will be provided. Staff will respond to inquiries within three weeks.

Note that a public records request received for the same stationary source information will cancel the processing of your SSIF request.

Submit forms, maps, and questions to Areana Flores at 415-749-4616, or aflores@baaqmd.gov

Table B: Google Earth data

Distance from Receptor (feet) or MI ¹	FACID (Plant No.)	FNAME	FSTREET	Cancer Risk ²	Hazard Risk ³	PM _{2.5} ²	Source No. ⁴	Type of Source ⁴	Fuel Code ⁵	Status/Comments
TBD	17919	City of Santa Rosa Utilities Dept	1825 Kawana Springs Rd	1.11963201	0.00193059	0.001414	\$1	Generator		Emissions attached. Use health risk calculator.
TBD	11340	Flyers #479/3017	455 Yolanda Avenue	26.4855467	0.13075275		\$1	Gas Dispensing Facility		Annual max throughput: 1.5 million gallons
TBD	23123	Flyers #479	455 Yolanda Avenue	1.55011849	0.00775446		\$23, \$24, \$25	GDF		Annual max throughput: \$23: 2.5 million gallons; \$24: 590,000 gallons; \$25: 2.5 million gallons

Footnotes:

1. Maximally exposed individual
2. These Cancer Risk, Hazard index, and PM2.5 columns represent the values in the Google Earth Plant Information Table.
3. Each plant may have multiple permits and sources.
4. Permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc.
5. Fuel codes: 98 = diesel, 189 = Natural Gas.
6. If a Health Risk Screening Assessment (HRS) was completed for the source, the application number will be listed here.
7. The date that the HRS was completed.
8. Engineer who completed the HRS. For District purposes only.
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 - f. Unless otherwise noted, exempt sources are considered insignificant. See BAAQMD Reg 2 Rule 1 for a list of exempt sources.
 - g. This spray booth is considered to be insignificant.

Date last updated:
03/13/2018