2303 GIANERA STREET AIR QUALITY ASSESSMENT

Santa Clara, California

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Introduction

The purpose of this report is to address the potential air quality and health risk impacts associated with the construction and operation of a proposed residential project located at 2303 Gianera Street in Santa Clara, California. Air quality impacts would be associated with the demolition of the existing uses at the site, construction of the new building and infrastructure, and operation of the project. Air pollutant emissions associated with construction and operation of the project were estimated using appropriate computer models. In addition, the potential project health risks and the impact of existing toxic air contaminant (TAC) sources affecting the nearby and proposed sensitive receptors were evaluated. The analysis was conducted following guidance provided by the Bay Area Air Quality Management District (BAAQMD).[1]

Project Description

The 0.39-acre project site is currently developed with a single-family house, one accessory structure, and a shed. The project proposes to demolish the existing single-family house and accessory structures to subdivide the project site to construct eight three-story townhouse units. Each unit would contain a two-car garage and rear yard. Construction is proposed to begin in January 2025 and be completed by November 2025.

Setting

The project is located in the City of Santa Clara, in Santa Clara County, 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 except for ground-level ozone, respirable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$).

Air Pollutants of Concern

High ozone concentrations in the air basin 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 ozone concentrations. Controlling the emissions of these precursor pollutants is the focus of the Bay Area's attempts to reduce ambient ozone concentrations. The highest ozone concentrations in the Bay Area occur in the eastern and southern inland valleys that are downwind of air pollutant sources. High ozone concentrations aggravate respiratory and cardiovascular diseases, reduced lung function, and increase coughing and chest discomfort.

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

[1] Bay Area Air Quality Management District, *2022 CEQA Guidelines*, April 2023.

Toxic Air Contaminants

TACs are a broad class of compounds known to cause morbidity or mortality, often because they cause cancer. 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 [DPM] near a freeway). Because chronic exposure of TACs can result in adverse health effects, they 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 from diesel exhaust exposure 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. Health risks from TACs are estimated using the Office of Environmental Health Hazard Assessment (OEHHA) risk assessment guidelines, which were published in February of 2015 and incorporated in BAAQMD's current CEQA guidance.[2]

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 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. For cancer risk assessments, infants and small children are the most sensitive receptors, since they are more susceptible to cancer causing TACs. Residential locations are assumed to include infants and small children. The closest existing sensitive receptors to the project site are located in the single- and multi- family residences adjacent to the east and west, as well as single-family residences to the south of the project site. This project would introduce new sensitive receptors (i.e., residents) to the area.

Regulatory Setting

Federal Regulations

The United States Environmental Protection Agency (EPA) sets nationwide emission standards for mobile sources, which include on-road (highway) motor vehicles such trucks, buses, and automobiles, and non-road (off-road) vehicles and equipment used in construction, agricultural, industrial, and mining activities (such as bulldozers and loaders). The EPA also sets nationwide

[2] 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.

fuel standards. California also has the ability to set motor vehicle emission standards and standards for fuel used in California, as long as they are the same or more stringent than the federal standards.

In the past decade the EPA has established a number of emission standards for on- and non-road heavy-duty diesel engines used in trucks and other equipment. This was done in part because diesel engines are a significant source of NO_X and particulate matter (PM_{10} and $PM_{2.5}$) and because the EPA has identified DPM as a probable carcinogen. Implementation of the heavy-duty diesel on-road vehicle standards and the non-road diesel engine standards are estimated to reduce particulate matter and NO_X emissions from diesel engines up to 95 percent in 2030 when the heavy-duty vehicle fleet is completely replaced with newer heavy-duty vehicles that comply with these emission standards.[3]

In concert with the diesel engine emission standards, the EPA has also substantially reduced the amount of sulfur allowed in diesel fuels. The sulfur contained in diesel fuel is a significant contributor to the formation of particulate matter in diesel-fueled engine exhaust. The new standards reduced the amount of sulfur allowed by 97 percent for highway diesel fuel (from 500 parts per million by weight [ppmw] to 15 ppmw), and by 99 percent for off-highway diesel fuel (from about 3,000 ppmw to 15 ppmw). The low sulfur highway fuel (15 ppmw sulfur), also called ultra-low sulfur diesel (ULSD), is currently required for use by all vehicles in the U.S.

All of the above federal diesel engine and diesel fuel requirements have been adopted by California, in some cases with modifications making the requirements more stringent or the implementation dates sooner.

State Regulations

To address the issue of diesel emissions in the state, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.[4] In addition to requiring more stringent emission standards for new on-road and off-road mobile sources and stationary diesel-fueled engines to reduce particulate matter emissions by 90 percent, a significant component of the plan involves application of emission control strategies to existing diesel vehicles and equipment. Many of the measures of the Diesel Risk Reduction Plan have been approved and adopted, including the federal on-road and non-road diesel engine emission standards for new engines, as well as adoption of regulations for low sulfur fuel in California.

CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy-duty diesel trucks that represent the bulk of DPM emissions from California highways. CARB regulations require on-road diesel trucks to be retrofitted with particulate matter controls or replaced to meet 2010 or later engine standards that have much lower DPM and $PM_{2.5}$ emissions. This regulation will substantially reduce these emissions between 2013 and 2023. While new trucks and buses will meet strict federal standards, this measure is intended to accelerate the rate

[3] USEPA, 2000. *Regulatory Announcement, Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements*. EPA420-F-00-057. December.
[4] California Air Resources Board, 2000. Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. October.

at which the fleet either turns over so there are more cleaner vehicles on the road or is retrofitted to meet similar standards. With this regulation, older, more polluting trucks would be removed from the roads sooner.

CARB has also adopted and implemented regulations to reduce DPM and NO_X emissions from in-use (existing) and new off-road heavy-duty diesel vehicles (e.g., loaders, tractors, bulldozers, backhoes, off-highway trucks, etc.). The regulations apply to diesel-powered off-road vehicles with engines 25 horsepower (hp) or greater. The regulations are intended to reduce particulate matter and NO_X exhaust emissions by requiring owners to turn over their fleet (replace older equipment with newer equipment) or retrofit existing equipment in order to achieve specified fleet-averaged emission rates. Implementation of this regulation, in conjunction with stringent federal off-road equipment engine emission limits for new vehicles, will significantly reduce emissions of DPM and NO_X.

Bay Area Air Quality Management District (BAAQMD)

BAAQMD has jurisdiction over an approximately 5,600-square mile area, commonly referred to as the San Francisco Bay Area (Bay Area). The District's boundary encompasses the nine San Francisco Bay Area counties, including Alameda County, Contra Costa County, Marin County, San Francisco County, San Mateo County, Santa Clara County, Napa County, southwestern Solano County, and southern Sonoma County.

BAAQMD is the lead agency in developing plans to address attainment and maintenance of the National Ambient Air Quality Standards and California Ambient Air Quality Standards. The District also has permit authority over most types of stationary equipment utilized for the proposed project. The BAAQMD is responsible for permitting and inspection of stationary sources; enforcement of regulations, including setting fees, levying fines, and enforcement actions; and ensuring that public nuisances are minimized.

BAAQMD's Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposures to outdoor TACs in the Bay Area.[5] The program examines TAC emissions from point sources, area sources, and on-road and off-road mobile sources with an emphasis on diesel exhaust, which is a major contributor to airborne health risk in California. The CARE program is an on-going program that encourages community involvement and input. The technical analysis portion of the CARE program has been implemented in three phases that includes an assessment of the sources of TAC emissions, modeling and measurement programs to estimate concentrations of TAC, and an assessment of exposures and health risks. Throughout the program, information derived from the technical analyses has been used to develop emission reduction activities in areas with high TAC exposures and high density of sensitive populations. Risk reduction activities associated with the CARE program are focused on the most at-risk communities in the Bay Area. Seven areas have been identified by BAAQMD as impacted communities. They include Eastern San Francisco, Richmond/San Pablo, Western Alameda, San José, Vallejo, Concord, and Pittsburgh/Antioch. The project site is not located within any of the BAAQMD CARE areas.

[5] See BAAQMD: https://www.baaqmd.gov/community-health/community-health-protection-program/community-air-risk-evaluation-care-program.

Overburdened communities are areas located (i) within a census tract identified by the California Communities Environmental Health Screening Tool (CalEnviroScreen), Version 4.0 implemented by OEHHA, as having an overall score at or above the 70th percentile, or (ii) within 1,000 feet of any such census tract.[6] The BAAQMD has identified several overburdened areas within its boundaries. However, the project site is not within an overburdened area and the Project site is scored at the 44th percentile on CalEnviroScreen.[7]

BAAQMD CEQA Air Quality Guidelines

In June 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under CEQA. In 2023, the BAAQMD revised the *California Environmental Quality Act* (*CEQA) Air Quality Guidelines* that include significance thresholds to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The current BAAQMD guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process consistent with CEQA requirements including thresholds of significance, mitigation measures, and background air quality information. They include assessment methodologies for criteria air pollutants, air toxics, odors, and GHG emissions as shown in Table 1.[8] Air quality impacts and health risks are considered potentially significant if they exceed these thresholds.

The BAAQMD recommends all projects include a "basic" set of best management practices (BMPs) to manage fugitive dust and consider impacts from dust (i.e., fugitive PM_{10} and $PM_{2.5}$) to be less than significant if BMPs are implemented (listed below). BAAQMD strongly encourages enhanced BMPs for construction sites near schools, residential areas, other sensitive land uses, or if air quality impacts were found to be significant.

[6] See BAAQMD: https://www.baaqmd.gov/~/media/dotgov/files/rules/reg-2-permits/2021-amendments/documents/20210722_01_appendixd_mapsofoverburdenedcommunities-pdf.pdf?la=en.
[7] OEHAA, CalEnviroScreen 4.0 Maps https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40
[8] Bay Area Air Quality Management District, *2022 CEQA Guidelines.* April 2023.

Table 1. BAAQMD CEQA 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 (BMPs)*		Not Applicable	
Health Risks and Hazards	**Single Sources/ Individual Project**		**Combined Sources (Cumulative from all sources within 1000-foot zone of influence)**	
Excess Cancer Risk	>10 in a million	OR Compliance with Qualified Community Risk Reduction Plan	>100 in a million	OR Compliance with Qualified Community Risk Reduction Plan
Hazard Index	>1.0		>10.0	
Incremental annual $PM_{2.5}$	>0.3 µg/m^3		>0.8 µg/m^3	

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.
* BAAQMD strongly recommends implementing all feasible fugitive dust management practices especially when construction projects are located near sensitive communities, including schools, residential areas, or other sensitive land uses.

Source: Bay Area Air Quality Management District, 2022

City of Santa Clara 2010 – 2035 General Plan.

On November 16, 2010, the City of Santa Clara adopted the *City of Santa Clara 2010 – 2035 General Plan.*[9] It updated portions of the Plan on December 9, 2014 and included the City's Climate Action Plan (CAP) as an appendix to the Plan. The City's CAP was updated on June 7, 2022.

The current general plan includes goals, policies, and actions to reduce air pollutants and exposure to toxic air containments. The following goals, policies, and actions are applicable to the proposed project and this assessment:

5.10.2 Air Quality Goals

5.10.2-G1 Improved air quality in Santa Clara and the region.

5.10.2-G2 Reduced greenhouse gas emissions that meet the State and regional goals and requirements to combat climate change.

[9] City of Santa Clara, 2010. *City of Santa Clara 2010 – 2035 General Plan*. November. Web: https://www.santaclaraca.gov/home/showdocument?id=56139

5.10.2 Air Quality Policies

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

5.10.2-P4 Encourage measures to reduce greenhouse gas emissions to reach 30 percent below 1990 levels by 2020.

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

AIR QUALITY IMPACTS AND MITIGATION MEASURES

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

BAAQMD, with assistance from the Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC), implements specific plans to meet the applicable federal and State laws, regulations, and programs. The most recent and comprehensive plan is the *Bay Area 2017 Clean Air Plan*.[10] The primary goals of the Clean Air Plan are to attain air quality standards, reduce population exposure and protect public health, and reduce GHG emissions and protect the climate. The BAAQMD has also recently updated its CEQA guidelines to assist lead agencies in evaluating the significance of air quality impacts. In formulating compliance strategies, BAAQMD relies on planned land uses established by local general plans. Land use planning affects vehicle travel, which in turn affects region-wide emissions of air pollutants and GHGs.

The 2017 Clean Air Plan, adopted by BAAQMD in April 2017, includes control measures that are intended to reduce air pollutant emissions in the Bay Area either directly or indirectly. Guidance provided in the BAAQMD CEQA guidelines recommends that Plans show consistency with the control measures listed within the Clean Air Plan. At the project-level, there are no consistency measures or thresholds provided in BAAQMD's CEQA guidance. The proposed project would not conflict with the latest Clean Air planning efforts since 1) project would have emissions below the BAAQMD thresholds (see Impact below), 2) the project would be considered urban infill, 3) the project would be located near employment centers, and 4) the project would be located near transit with regional connections.

Impact AIR-2: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

The Bay Area is considered a non-attainment area for ground-level O_3 and $PM_{2.5}$ under both the NAAQS and the CAAQS. The area is also considered non-attainment for PM_{10} under the CAAQS, but not the NAAQS. The area has attained both State and Federal ambient air quality standards for CO. As part of an effort to attain and maintain ambient air quality standards for O_3, $PM_{2.5}$ and PM_{10}, the BAAQMD has established thresholds of significance for these air pollutants and their

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

precursors. The O_3 precursor pollutant thresholds are for ROG and NOx, while PM_{10}, and $PM_{2.5}$ have specific thresholds. The thresholds apply to both construction period emissions and operational period emissions.

Construction Period Emissions

The California Emissions Estimator Model (CalEEMod) Version 2022 was used to estimate emissions from on-site construction activity, construction vehicle trips, and evaporative emissions. The project land use types and size were input to CalEEMod. The CalEEMod model output along with construction inputs are included in *Attachment 1*.

CalEEMod Inputs

Land Uses

The proposed project land uses were entered into CalEEMod as described in Table 2.

Table 2. Summary of Project Land Use Inputs

Project Land Uses	Size	Units	Square Feet (sf)	Acreage
Condo/Townhouse	8	Dwelling Unit	23,600	0.39
Parking Lot	2	Parking Space	-	

Construction Inputs

CalEEMod computes annual emissions for construction that are based on the project type, size, and acreage. The model 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. The construction build-out scenario, including equipment quantities, average hours per day, total number of workdays, and schedule, were based on information provided by the project applicant (included in *Attachment 1*). The applicant's construction schedule provided a start date of January 2025, and the project would be built out over a period of approximately 11 months, or 222 construction workdays. The earliest full year of operation was assumed to be 2026.

Construction Traffic Emissions

Construction would produce traffic in the form of worker trips and truck traffic. The traffic-related emissions are based on worker and vendor trip estimates produced by CalEEMod and haul trips that were computed based on provided demolition material to be exported, soil imported and/or exported to the site, and the amount of concrete and asphalt truck trips to and from the site. CalEEMod provides daily estimates of worker and vendor trips for each applicable phase. Daily haul trips for demolition and grading were developed by CalEEMod using the provided demolition and soil import/export volumes. The number of total concrete and asphalt round haul trips were provided for the project and converted to daily one-way trips, assuming two trips per delivery.

Summary of Computed Construction Period Emissions

Average daily construction emissions were estimated for the total duration of the project (222 days) since construction would be less than one year. Table 3 shows the average daily project emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust during construction. As indicated in Table 3, the predicted daily project construction emissions would not exceed the BAAQMD significance thresholds.

Table 3. Construction Period Emissions

Year	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Construction Emissions Total (Tons)				
2025	0.20	0.31	0.01	0.01
Average Daily Construction Emissions (pounds/day)				
2025 (222 construction workdays)	1.83	2.76	0.12	0.11
BAAQMD Thresholds (pounds per day)	*54* lbs./day	*54* lbs./day	*82* lbs./day	*54* lbs./day
Exceed Threshold?	No	No	No	No

Construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site deposit mud on local streets, which is an additional source of airborne dust after it dries. The BAAQMD recommends all projects include a "basic" set of best management practices (BMPs) to manage fugitive dust and considers impacts from dust (i.e., fugitive PM_{10} and $PM_{2.5}$) to be less-than-significant if BMPs are implemented to reduce these emissions. Santa Clara General Plan Policy 5.10.2-P6 would implement the BAAQMD basic BMPs to control dust during construction.

Santa Clara General Plan Policy 5.10.2-P6: **BMPs for Construction Dust Suppression.**

During any construction period ground disturbance, the applicant shall ensure that the project contractor implement measures to control dust. 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. The contractor shall implement the following best management practices 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 possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

6. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.

7. All trucks and equipment, including their tires, shall be washed off prior to leaving the site.

8. Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a 6- to 12-inch layer of compacted layer of wood chips, mulch, or gravel.

9. Publicly visible signs shall be posted with the telephone number and name of the 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 General Air Pollution Complaints number shall also be visible to ensure compliance with applicable regulations.

Effectiveness of Santa Clara General Plan Goal 5.10.2-P6

The measures above are consistent with BAAQMD-recommended basic BMPs for reducing fugitive dust contained in the BAAQMD CEQA Air Quality Guidelines. For this analysis, only the basic set of BMPs are required as the unmitigated fugitive dust emissions from construction are below the BAAQMD single-source threshold.

Operational Period Emissions

ROG, NO_x, and Particulate Matter (PM) air pollutant emissions from the project would be generated primarily from autos driven by future residents. Evaporative emissions from architectural coatings and maintenance products (classified as consumer products) are also typical ROG emission sources from these types of uses. The CalEEMod model was used to estimate emissions from operation of the proposed project assuming full build-out.

CalEEMod Inputs

Land Uses

The project land uses were input to CalEEMod as described above for the construction period modeling.

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 year of full operation would be 2026 if construction begins in 2025. Emissions associated with build-out later than 2026 would be lower.

Traffic Information

CalEEMod allows the user to enter specific vehicle trip generation rates. However, project specific traffic information was not provided for this project. As a result, the CalEEMod default trip generation rates were utilized to calculate emissions from project traffic. The project would produce approximately 59 daily trips. The default trip lengths and trip types specified by CalEEMod were used.

Energy

CalEEMod defaults for energy use were used, which include the 2019 Title 24 Building Standards. Emissions modeling includes those indirect emissions from electricity consumption. The CalEEMod default CO_2 intensity factor for Silicon Valley Power is 386.68 pounds of CO_2 per megawatt of electricity produced.

Wood-Burning Devices

CalEEMod default inputs assume new residential construction would include wood-burning fireplaces and stoves. The project would not include wood-burning devices, as these devices are prohibited by BAAQMD Regulation 6, Rule 3.[11] As discussed above, natural gas infrastructure is prohibited in new residential buildings. Therefore, the number of woodstoves and fireplaces in CalEEMod were set to zero.

Other Inputs

Default model assumptions for emissions associated with solid waste generation were used. Wastewater treatment was changed to 100-percent aerobic conditions to represent the use of city services (i.e., the project would not send wastewater to septic tanks or facultative lagoons).

Existing Uses

The project site is currently developed with a single-family home and two accessory structures. An existing use CalEEMod run was not developed since the emissions at the existing site are expected to be negligible and unimpactful to the findings of this analysis.

[11] Bay Area Air Quality Management District, https://www.baaqmd.gov/~/media/dotgov/files/rules/regulation-6-rule-3/documents/20191120_r0603_final-pdf.pdf?la=en

Summary of Computed Operational Period Emissions

Annual emissions were predicted using CalEEMod. The daily emissions were calculated assuming 365 days of operation. Table 4 shows average daily emissions of ROG, NO_X, total PM_{10}, and total $PM_{2.5}$ during operation of the project. The operational period emissions would not exceed the BAAQMD significance thresholds.

Table 4. Operational Period Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
2026 Project Operational Emissions (*tons/year*)	0.14	0.02	0.05	0.01
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Thresholds?	No	No	No	No
2026 Project Operational Emissions (*lbs./day*)	0.78	0.12	0.25	0.06
BAAQMD Thresholds (lbs./day)	*54 lbs.*	*54 lbs.*	*82 lbs.*	*54 lbs.*
Exceed Threshold?	No	No	No	No

Notes: [1] Assumes 365-day operation.

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

This project would introduce new sources of TACs during construction (i.e., on-site construction and truck hauling emissions) and operation (i.e., mobile sources). Project construction activity would generate dust and equipment exhaust that would affect nearby sensitive receptors. The project would not include stationary sources of air pollutants or TACs. The project would generate some traffic consisting of mostly light-duty gasoline-powered vehicles, which would produce TAC and air pollutant emissions.

Project impacts to existing sensitive receptors were addressed for temporary construction activities and long-term operational conditions. There are also several sources of existing TACs and localized air pollutants in the vicinity of the project. The impact of existing sources of TACs was assessed in terms of the cumulative risk which includes the project contribution, as well as the risk on the new sensitive receptors introduced by the project.

Health Risk Methodology

Health risk impacts were addressed by predicting increased cancer risk, the increase in annual $PM_{2.5}$ concentrations, and by computing the Hazard Index (HI) for non-cancer health risks. The risk impacts from the project are the risks from construction sources. These sources include on-site construction activity and construction truck hauling. To evaluate the increased cancer risks from the project, a 30-year exposure period was used, per BAAQMD guidance,[12] with the sensitive receptors being exposed to project construction emissions during this timeframe.

The project increased cancer risk is computed by summing the project construction cancer risk over the entire construction period. Unlike the increased maximum cancer risk, the annual $PM_{2.5}$ concentration and HI values are not additive but based on the annual maximum values for the

[12]BAAQMD, 2022. Appendix E of the *BAAQMD CEQA Guidelines*. April 2023.

entirety of the project. The project maximally exposed individual (MEI) is identified as the sensitive receptor that is most impacted by the project's construction and operation.

The methodology for computing health risks impacts is contained in Appendix E of the BAAQMD CEQA Guidelines. TAC and $PM_{2.5}$ emissions are calculated, a dispersion model used to estimate ambient pollutant concentrations, and cancer risks and HI calculated using DPM concentrations.

Modeled Sensitive Receptors

Receptors for this assessment included locations where sensitive populations would be present for extended periods of time (i.e., chronic exposures). This includes the existing residential receptors near the project site as shown in Figure 1. Residential receptors are assumed to include all receptor groups (i.e., third trimester, infants, children, and adults) with almost continuous exposure to project emissions. While there are additional sensitive receptors within 1,000 feet of the project site, the receptors chosen are adequate to identify maximum impacts from the project.

Health Risk from Project Construction

The primary health risk impact issues associated with construction projects are cancer risks associated with diesel exhaust (i.e., DPM), which is a known TAC, and exposure to high ambient concentrations of dust (i.e., $PM_{2.5}$). Both pose a potential health and nuisance impact to nearby receptors. A health risk assessment of the project construction activities was conducted that evaluated potential health effects to nearby sensitive receptors from construction emissions of DPM and $PM_{2.5}$.[13] This assessment included dispersion modeling to predict the offsite concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be estimated.

Construction Emissions

The CalEEMod model provided total uncontrolled annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles. Total DPM emissions were estimated to be 0.01 tons (26 pounds) and fugitive dust emissions ($PM_{2.5}$) to be 0.02 tons (33 pounds) from all construction stages. The on-road emissions are a result of haul truck travel during grading activities, worker travel, and vendor deliveries during construction. A trip length of half a mile was used to represent vehicle travel while at or near the construction site. It was assumed that the emissions from on-road vehicles traveling at or near the site would occur at the construction site.

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict DPM and $PM_{2.5}$ concentrations at sensitive receptors (i.e., 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

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

of emission activities for CEQA projects.[14] Emission sources for the construction site were grouped into two categories: exhaust emissions of DPM and fugitive $PM_{2.5}$ dust emissions.

Construction Sources

To represent the construction equipment exhaust emissions, an area source was used with an emission release height of 20 feet (6 meters).[15] The release height incorporates both the physical release height from the construction equipment (i.e., the height of the exhaust pipe) and plume rise after it leaves the exhaust pipe. Plume rise is due to both the high temperature of the exhaust and the high velocity of the exhaust gas. It should be noted that when modeling an area source, plume rise is not calculated by the AERMOD dispersion model as it would do for a point source (exhaust stack). Therefore, the release height from an area source used to represent emissions from sources with plume rise, such as construction equipment, was based on the height the exhaust plume is expected to achieve, not just the height of the top of the exhaust pipe.

For modeling fugitive $PM_{2.5}$ emissions, an area source with a near-ground level release height of 7 feet (2 meters) was used. Fugitive dust emissions at construction sites come from a variety of sources, including truck and equipment travel, grading activities, truck loading (with loaders) and unloading (rear or bottom dumping), loaders and excavators moving and transferring soil and other materials, etc. All of these activities result in fugitive dust emissions at various heights at the point(s) of generation. Once generated, the dust plumes will tend to rise as they move downwind across the site and exit the site at a higher elevation than when it was generated. For all these reasons, a 7-foot release height was used as the average release height across the construction site. Emissions from the construction equipment and on-road vehicle travel were distributed throughout the modeled area sources.

AERMOD Inputs and Meteorological Data

The modeling used a five-year data set (2013 - 2017) of hourly meteorological data from the San Jose International Airport was used with the AERMOD model. Construction emissions were modeled as occurring Monday through Friday between 8:00 a.m. to 6:00 p.m., per the project applicant's construction schedule. Annual DPM and $PM_{2.5}$ concentrations from construction activities during the 2025 period were calculated at nearby sensitive receptors using the model as shown in Figure 1. Receptor heights of 5 feet (1.5 meters) and 15 feet (4.5 meters) were used to represent the breathing height on the first and second floors of nearby existing single-family and multi-family residences.[16]

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[14] BAAQMD, 2023, *Appendix E of the 2022 BAAQMD CEQA Guidelines.* April.

[15] California Air Resource Board, 2007. *Proposed Regulation for In-Use Off-Road Diesel Vehicles, Appendix D: Health Risk Methodology.* April. Web: https://ww3.arb.ca.gov/regact/2007/ordiesl07/ordiesl07.htm

[16] Bay Area Air Quality Management District, 2012, Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0. May. Web: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf?la=en

Summary of Construction Health Risk Impacts

The maximum increased cancer risks were calculated using the modeled TAC concentrations combined with BAAQMD CEQA guidance for age sensitivity factors and exposure parameters. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing TACs. Third trimester, infant, child, and adult exposures were assumed to occur at all residences during the entire construction period.

Non-cancer health hazards and maximum $PM_{2.5}$ concentrations were also calculated. The maximum modeled annual $PM_{2.5}$ concentration was calculated based on combined exhaust and fugitive concentrations. The maximum computed HI value was based on the ratio of the maximum DPM concentration modeled and the chronic inhalation DPM reference exposure level of 5 $\mu g/m^3$.

The modeled maximum annual DPM and $PM_{2.5}$ concentrations were identified at nearby sensitive receptors to find the MEI. Results of this assessment indicated that the construction MEI was located at the same receptor on two different floors. The cancer risk MEI was located at a receptor east of the project site on the second floor (15 feet above the ground) of a multi-family residence. The annual $PM_{2.5}$ MEI was located at the same receptor but on the first floor (5 feet above the ground) east of the project site. The location of the MEI and nearby sensitive receptors are shown in Figure 1. Table 5 summarizes the maximum cancer risks, $PM_{2.5}$ concentrations, and HI for project related construction activities at the MEI. *Attachment 2* to this report includes the emission calculations used for the construction modeling and the cancer risk calculations.

Health Risks from Project Operation

The Project would not include stationary sources of TACs. Diesel powered vehicles are the primary concern with local traffic-generated TAC impacts. The project would generate 59 trips based on CalEEMod default traffic inputs. The project traffic would be dispersed on the roadway system with a majority of the trips being from light-duty vehicles (i.e., passenger automobiles). In addition, projects with the potential to cause or contribute to increased cancer risk from traffic include those that have high numbers of diesel-powered on road trucks or use off-road diesel equipment on site, such as a warehouse distribution center, a quarry, or a manufacturing facility, may potentially expose existing or future planned receptors to substantial cancer risk levels and/or health hazards. This is not a project of concern for mobile sources given the low trip quantity and type of trips generated by the project. Therefore, emissions from project traffic are considered negligible and not included within this analysis.

Summary of Project-Related Health Risks at the Off-Site Project MEI

For this project, the sensitive receptors identified as the construction MEI is also the project MEI. At that location, the MEI would be exposed to emissions from construction for less than one year. As shown in Table 5, the unmitigated cancer risk and annual $PM_{2.5}$ concentration from construction activities at the MEI location would exceed the BAAQMD single-source significance thresholds. However, with the inclusion of *Mitigation Measure AQ-1*, the project would no longer exceed the single-source thresholds.

Table 5. Construction Risk Impacts at the Off-Site MEI

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Construction	Unmitigated	**20.68 (infant)**	**0.32**	0.02
	Mitigated	4.82 (infant)	0.28	0.01
	BAAQMD Single-Source Threshold	***>10.0***	***>0.3***	***>1.0***
Exceed Threshold?	Unmitigated	***Yes***	***Yes***	*No*
	Mitigated	*No*	*No*	*No*

Figure 1. Location of Project Construction Site, Off-Site Sensitive Receptors, and Maximum TAC Impact

Cumulative Health Risks of all TAC Sources at the Off-Site Project MEI

Cumulative health risk assessments look at all substantial sources of TACs located within 1,000 feet of a project site (i.e., influence area) that can affect sensitive receptors. These sources include rail lines, highways, busy surface streets, and stationary sources identified by BAAQMD.

A review of the project area using BAAQMD's geographic information systems (GIS) screening tools indicated that one roadway (Lafayette Street) and three stationary sources within the 1,000-foot influence area could have cumulative health risk impacts at the MEI. Figure 2 shows the locations of the sources affecting the MEI within the influence area. Health risk impacts from these

sources upon the MEI are reported in Table 6. Details of the cumulative screening and health risk calculations are included in *Attachment 3.*

Figure 2. Project Site and Nearby TAC and $PM_{2.5}$ Sources

Local Roadways – Lafayette Street

The project site is located near one main throughway, Lafayette Street, and several neighborhood streets. Cancer risk, $PM_{2.5}$ concentrations, and HI associated with traffic on the nearby roadways were estimated using BAAQMD screening values provided via GIS data files (i.e., raster files). BAAQMD raster files provide screening-level cancer risk, $PM_{2.5}$ concentrations, and HI for roadways within the Bay Area and were produced using AERMOD and 20x20-meter emissions grid. The raster file uses EMFAC2021 data for vehicle emissions and fleet mix for roadways and includes Appendix E of the Air District's CEQA Air Quality Guidance for risk assessment assumptions. Note that BAAQMD's screening values are considered higher than values that would be obtained with refined modeling methods. Screening-level cancer risk, $PM_{2.5}$ concentration, and HI for the cumulative roadway impacts at the construction MEI, which is considerably heavily influenced by the close proximity to Lafayette Street, are listed in Table 6.

Local Railways – Union Pacific Railroad

The project site is located near the Union Pacific Railroad (UPRR). Cancer risk, $PM_{2.5}$ concentrations, and HI associated with trains on the nearby railway were estimated using BAAQMD screening values provided via GIS data files (i.e., raster files). BAAQMD raster files provide screening-level cancer risk, $PM_{2.5}$ concentrations, and HI for railways within the Bay Area and were produced using AERMOD and 20x20-meter emissions grid. The raster file uses Appendix E of the Air District's CEQA Air Quality Guidance for risk assessment assumptions. Note that BAAQMD's screening values are considered higher than values that would be obtained with refined modeling methods. Screening-level cancer risk, $PM_{2.5}$ concentration, and HI for the cumulative railway impacts at the construction MEI are listed in Table 6.

BAAQMD Permitted Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Permitted Stationary Sources 2021* GIS website,[17] which identifies the location of nearby stationary sources and their estimated risk and hazard impacts, including emissions and adjustments to account for OEHHA guidance. Three sources were identified using this tool, one generic source and two diesel-powered generators. The BAAQMD GIS website provided screening risks and hazards for the generic and diesel generator sources. Source #22144 was located over one mile away, therefore impacts would be negligible and impacts were not addressed for this source. The screening risk and hazard levels provided by BAAQMD for the appropriate sources were adjusted for distance using BAAQMD's *Distance Adjustment Multiplier Tool for Generic Sources and Backup Diesel Generators.*

Stationary Source #1771

A refined analysis of Stationary Source #1771 (City of Santa Clara – Gianera Generating Station Fossil Fuel Electric Power Generation) was conducted due to its high annual $PM_{2.5}$ screening impact. Note that BAAQMD reports screening values are not adjusted for source characteristics, distance, nor meteorology. The source is a municipally-owned 49.5-megawatt power plant that contains two natural gas-fired turbines, visible on Google Earth imagery. Emissions for this source were obtained from the California Emissions Inventory Data Analysis and Reporting System (CEIDARS).[18] CEIDARS provided year 2021 emissions of criteria pollutants for the facility. Based on the low emissions reported, it is assumed the source is used for peak-period power generation. Based on the latest available data, Gianera Generating Station is comprised of 2 generators that generated 6,685 megawatts in 2021 and 2.9 GWh during the 3-month period between September 2022 to December 2022[19]. The power plant appears to operate well below capacity.

[17] BAAQMD, https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=845658c19eae4594b9f4b805fb9d89a3
[18] Web: https://ww2.arb.ca.gov/applications/facility-search-engine
[19] GRIDINFO – Electricity Generation Insight see https://www.gridinfo.com/plant/gianera/7231 accessed April 23, 2024.

To estimate the potential $PM_{2.5}$ concentrations from operation of this source, the AERMOD dispersion model was used to compute the cancer risk and annual $PM_{2.5}$ concentration at the off-site receptors using the emissions data from CEIDARS. The same receptors, breathing heights, and meteorological data used in the construction dispersion modeling were used for the stationary source modeling. Each gas turbine was modeled as a point source in AERMOD. The height and diameter of each stack was measured using Google Earth satellite imagery. Other parameters, such as the exhaust flow rate and exhaust gas temperature, were based on BAAQMD default parameters for an emergency generator.[20] Annual average DPM and $PM_{2.5}$ concentrations were modeled assuming that turbines could operate at any time of the day (24 hours per day, 365 days per year). A 30-year exposure period was used in calculating cancer risks assuming the residents at the MEI would include infants through adults. Health risk impacts from this stationary source upon the MEI is reported in Table 6. The emissions and health risk calculations for the gas turbines are included in *Attachment 3*.

Summary of Cumulative Health Risk Impact at Construction MEI

Table 6 reports both the project and cumulative health risk impacts at the sensitive receptors most affected by construction (i.e., the MEI). The project would have an exceedance with respect to health risk caused by project construction activities since the cancer risk and annual $PM_{2.5}$ concentration exceed the BAAQMD single-source thresholds. However, with the implementation of *Mitigation Measure AQ-1*, the project's cancer risk and annual $PM_{2.5}$ concentration would no longer be in exceedance. In addition, the project does not exceed any BAAQMD cumulative-source thresholds.

Table 6. Impacts from Combined Sources at Project MEI

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Impacts				
Project Construction	Unmitigated	**20.68 (infant)**	**0.32**	0.02
	Mitigated	4.82 (infant)	0.28	0.01
BAAQMD Single-Source Threshold		***10.0***	***0.3***	***1.0***
Exceed Threshold?	Unmitigated	***Yes***	***Yes***	*No*
	Mitigated	*No*	*No*	*No*
Cumulative Impacts				
Cumulative Roadways – BAAQMD Raster Data		4.20	0.10	0.01
Cumulative Railways – BAAQMD Raster Data		4.82	0.01	0.01
City of Santa Clara Gianera Generating Station (Facility ID #1771, Fossil Fuel Electric Power Generation), MEI at 215 feet. AERMOD Modeled.		0.18	<0.01	<0.01
City of Santa Clara Gianera Storm Station (Facility ID #17392, Generator), MEI at 425 feet.		0.64	<0.01	<0.01
Cumulative Total	Unmitigated	30.52	<0.45	<0.06
	Mitigated	14.66	<0.41	<0.05
BAAQMD Cumulative Source Threshold		***100***	***0.8***	***10.0***
Exceed Threshold?	Unmitigated	*No*	*No*	*No*
	Mitigated	*No*	*No*	*No*

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

Mitigation Measure AQ-1: Use construction equipment that has low diesel particulate matter exhaust emissions.

Implement a feasible plan to reduce DPM emissions by 55 percent such that increased cancer risk and annual $PM_{2.5}$ concentrations from construction would be reduced below TAC significance levels as follows:

1. All construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall meet U.S. EPA Tier 4 interim emission standards for PM (PM_{10} and $PM_{2.5}$), if feasible, otherwise,

    a. If use of Tier 4 interim equipment is not available, alternatively use equipment that meets U.S. EPA emission standards for Tier 3 engines and include particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices that altogether achieve a 55 percent reduction in particulate matter exhaust in comparison to uncontrolled equipment; alternatively (or in combination).

2. Alternatively, the applicant may develop another construction operations plan demonstrating that the construction equipment used on-site would achieve a reduction in construction diesel particulate matter emissions by 55 percent or greater. Elements of the plan could include a combination of some of the following measures:
    - Implementation of No. 1 above to use Tier 4 interim engines or alternatively fueled equipment,
    - Installation of electric power lines during early construction phases to avoid use of diesel generators and compressors,
    - Use of electrically-powered equipment,
    - Forklifts and aerial lifts used for exterior and interior building construction shall be electric or propane/natural gas powered,
    - Change in construction build-out plans to lengthen phases, and
    - Implementation of different building techniques that result in less diesel equipment usage.

    Such a construction operations plan would be subject to review by an air quality expert and approved by the City prior to construction.

Effectiveness of Mitigation Measure AQ-1

CalEEMod was used to compute emissions associated with this mitigation measure assuming that all equipment met U.S. EPA Tier 4 interim engine standards and General Plan Policy 5.10.2-P6 for BMPs were applied. With this implemented, the project's construction cancer risk levels (assuming infant exposure) would be reduced by 77 percent to 4.82 per million. The project's annual $PM_{2.5}$ concentration would be reduced by 12 percent to 0.28 μ/m^3. As a result, the project's construction risks and hazards would be reduced below the BAAQMD single-source thresholds.

On-Site Health Risk Assessment for TAC Sources - New Project Residences

A health risk assessment was completed to assess the impact that the existing TAC sources would have on the new proposed sensitive receptors (residents) introduced by the project. The same existing TAC sources identified above were used.[21] Figure 3 shows the project site in relation to the nearby TAC sources. The on-site health risk assessment results are listed in Table 7. *Attachment 3* includes risk calculations for TAC source impacts upon the proposed on-site sensitive receptors.

Local Roadways – Lafayette Street

The roadway impacts on new project residents was conducted in the same manner as described above for the off-site MEI. The same BAAQMD raster data was utilized to screen cancer risks, annual $PM_{2.5}$ concentrations, and HI at the project site.

Local Railways – Union Pacific Railroad

The railway impacts on the new project residents was conducted in the same manner as described above for the off-site MEI. The same BAAQMD raster data was utilized to screen cancer risks, annual $PM_{2.5}$ concentrations, and HI at the project site.

BAAQMD Stationary Sources

The stationary source screening analysis for the new project sensitive receptors was conducted in the same manner as described above for evaluating the off-site MEI. For Stationary Source #1771, the cancer risk and $PM_{2.5}$ concentration were modeled at the new project receptors. A receptor height of 5 feet (1.5 meters) was used to represent the breathing height on the first floor of the town houses. A 30-year exposure period was used in calculating cancer risks assuming the new project residents would include infants through adults. The maximum modeled $PM_{2.5}$ concentration for the new on-site residential receptors occurred at a townhouse in the southwestern corner of the project site. Table 7 shows the health risk impacts from the stationary sources.

Summary of Cumulative Health Risks at the Project Site

Health risk impacts from the existing and TAC sources upon the project site are reported in Table 7. The risks from the singular TAC sources are compared against the BAAQMD single-source threshold. The risks from all the sources are then combined and compared against the BAAQMD cumulative-source threshold. As shown, existing sources of TAC emissions do not exceed the BAAQMD single-source or cumulative-source thresholds for cancer risk, annual $PM_{2.5}$ concentration, or HI at the project site.

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

Table 7. Impacts from Nearby Sources to Project Site Receptors

Source	Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Cumulative Roadways – BAAQMD Raster	5.61	0.14	0.02
Cumulative Railways – BAAQMD Raster	4.39	0.01	0.01
City of Santa Clara (Facility ID #1771, Gianera Generating Station Fossil Fuel Electric Power Generation), Project Site at 85 feet. AERMOD Modeled.	0.28	<0.01	<0.01
City of Santa Clara Gianera Storm Station (Facility ID #17392, Generator), Project Site at 325 feet.	0.99	<0.01	<0.01
BAAQMD Single-Source Threshold	***10.0***	***0.3***	***1.0***
Exceed Threshold?	*No*	*No*	*No*
Cumulative Total	11.27	<0.17	<0.05
BAAQMD Cumulative Source Threshold	***100***	***0.8***	***10.0***
Exceed Threshold?	*No*	*No*	*No*

Figure 3. Project Site, Nearby Cumulative Sources, and On-Site MEI

Supporting Documentation

Attachment 1 includes the CalEEMod outputs for project construction and operational criteria air pollutants. Also included are any modeling assumptions.

Attachment 2 includes the project health risk assessment. This includes the summary of the dispersion modeling and the cancer risk calculations for construction. The AERMOD dispersion modeling files for this assessment, which are quite voluminous, are available upon request and would be provided in digital format.

Attachment 3 includes the cumulative health risk screening, modeling results, and health risk calculations from sources affecting the project MEI and new project sensitive receptors.

Attachment 1: CalEEMod Input Assumptions and Outputs

Air Quality/Noise Construction Information Data Request

Project Name: 2303 Gianera Street DEFAULTS

Complete ALL Portions in Yellow

See Equipment Type TAB for type, horsepower and load factor

Project Size: 8 Dwelling Units; 0.39 total project acres disturbed

19,808.40 s.f. residential

0 s.f. retail

0 s.f. office/commercial

0 s.f. other, specify:

3792 s.f. parking garage; 16 private garages * spaces

NA s.f. parking lot; 2 spaces

Construction Days (i.e, M-F): Monday to Friday

Construction Hours: 8 am to 6 pm

Pile Driving? N

Project include on-site GENERATOR OR FIRE PUMP during project OPERATION (not construction)? N

IF YES (if BOTH separate values) -->

Kilowatts/Horsepower: _____

Fuel Type: _____

Location in project (Plans Desired if Available):

DO NOT MULTIPLY EQUIPMENT HOURS/DAY BY THE QUANTITY OF EQUIPMENT

Quantity	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	HP Annual Hours	Comments
	Demolition	**Start Date:**	**1/2/2025**	**Total phase:**	**17**			**Overall Import/Export Volumes**
		End Date:	**2/2/2025**					
1	Concrete/Industrial Saws	81	0.73	6	2	0.71	710	**Demolition Volume**
1	Excavators	158	0.38	6	4	1.41	1441	Square footage of buildings to be demolished
1	Rubber-Tired Dozers	247	0.4	6	5	1.76	2964	(*or* total tons to be hauled)
2	Tractors/Loaders/Backhoes	97	0.37	6	6	2.12	2584	**4,347** square feet *or*
	Other Equipment?							**?** Hauling volume (tons)
								Any pavement demolished and hauled? **10 tons**
	Site Preparation	**Start Date:**	**2/3/2025**	**Total phase:**	**5**			
		End Date:	**2/7/2025**					
1	Graders	187	0.41	7.5	1	1.5	575	
1	Rubber Tired Dozers	247	0.4	6	3	3.6	1778	
1	Tractors/Loaders/Backhoes	97	0.37	7	1	1.4	251	
	Other Equipment?							
	Grading / Excavation	**Start Date:**	**2/10/2025**	**Total phase:**	**25**			
		End Date:	**3/14/2025**					**Soil Hauling Volume**
1	Excavators	158	0.38	6.5	2	0.52	781	Export volume = **0** cubic yards?
1	Graders	187	0.41	7.5	2	0.6	1150	Import volume = **0** cubic yards?
1	Rubber Tired Dozers	247	0.4	7	25	7	17290	
1	Concrete/Industrial Saws	81	0.73	7	2	0.56	828	
1	Tractors/Loaders/Backhoes	97	0.37	7	25	7	6281	
	Other Equipment?							
	Trenching/Foundation	**Start Date:**	**3/17/2025**	**Total phase:**	**40**			
		End Date:	**5/9/2025**					
1	Tractor/Loader/Backhoe	97	0.37	7	5	0.88	1256	
1	Excavators	158	0.38	7	5	0.88	2101	
	Other Equipment?							
	Building - Exterior	**Start Date:**	**5/12/2025**	**Total phase:**	**100**			**Cement Trucks? 5 Total Round-Trips**
		End Date:	**10/3/2025**					
	Cranes	231	0.29	0	0	0	0	Electric? (Y/N) N Otherwise assumed diesel
2	Forklifts	89	0.2	7	100	7	24920	Liquid Propane (LPG)? (Y/N) N Otherwise Assumed diesel
	Generator Sets	84	0.74	0	0	0	0	Or temporary line power? (Y/N) Y
	Tractors/Loaders/Backhoes	97	0.37	0	0	0	0	
	Welders	46	0.45			0	0	
1	*Air Compressers*	78	0.48	7	100	7	26208	
	Building - Interior/Architectural Coating	**Start Date:**	**10/6/2025**	**Total phase:**	**20**			
		End Date:	**10/31/2025**					
1	Air Compressors	78	0.48	6	20	6	4493	
	Aerial Lift	62	0.31	0	0	0	0	
	Other Equipment?							
	Paving	**Start Date:**	**11/3/2025**	**Total phase:**	**5**			
		Start Date:	**11/7/2025**					
4	Cement and Mortar Mixers	9	0.56	7	3	4.2	423	
1	Pavers	130	0.42	7	1	1.4	382	**Asphalt? ___ cubic yards or 3 round trips?**
1	Paving Equipment	132	0.36	7	1	1.4	333	
1	Rollers	80	0.38	7	1	1.4	213	
1	Tractors/Loaders/Backhoes	97	0.37	7	2	2.8	502	
	Other Equipment?							
	Additional Phases	**Start Date:**		**Total phase:**				
		Start Date:						
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	

Equipment types listed in "Equipment Types" worksheet tab.

Equipment listed in this sheet is to provide an example of inputs

It is assumed that water trucks would be used during grading

Add or subtract phases and equipment, as appropriate

Modify horsepower or load factor, as appropriate

Complete one sheet for each project component

Construction Criteria Air Pollutants							
Unmitigated	ROG	NOX	PM10 Exhaust	PM2.5 Exhaust	PM2.5 Fugitive	**CO2e**	
Year	Tons					MT	
Construction Equipment							
2025	0.20	0.31	0.01	0.01	0.02	56.45	
	Total Construction Emissions						
Tons	0.20	0.31	0.01	0.01		56.45	
Pounds/Workdays	*Average Daily Emissions*					Workdays	
2025	1.83	2.76	0.12	0.11			**222**
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**			
	Total Construction Emissions						
Pounds	405.78	612.79	25.69	23.61		0.00	
Average	1.83	2.76	0.12	0.11		0.00	222.00
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**			

Operational Criteria Air Pollutants				
Unmitigated	ROG	NOX	Total PM10	Total PM2.5
Year	Tons			
Total	0.14	0.02	0.05	0.01
	Net Annual Operational Emissions			
Tons/year	0.14	0.02	0.05	0.01
Threshold - Tons/year	**10.0**	**10.0**	**15.0**	**10.0**
	Average Daily Emissions			
Pounds Per Day	0.78	0.12	0.25	0.06
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**

24-042 2303 Gianera St, Santa Clara BMPs T4i 2026 CONST Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	24-042 2303 Gianera St, Santa Clara BMPs T4i 2026 CONST
Construction Start Date	1/2/2025
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.00
Precipitation (days)	32.8
Location	2303 Gianera St, Santa Clara, CA 95054, USA
County	Santa Clara
City	Santa Clara
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	6706
EDFZ	1
Electric Utility	Silicon Valley Power
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.22

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Condo/Townhouse	8.00	Dwelling Unit	0.39	23,600	0.00	—	24.0	—
Parking Lot	2.00	Space	0.00	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Unmit.	0.31	2.37	0.10	0.06	0.16	0.09	0.01	0.11	506
Mit.	0.09	2.39	0.04	0.06	0.10	0.04	0.01	0.05	506
% Reduced	72%	-1%	59%	—	38%	59%	—	51%	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Unmit.	16.7	9.34	0.40	2.35	2.76	0.37	1.18	1.55	1,635
Mit.	16.6	4.37	0.04	2.35	2.39	0.04	1.18	1.21	1,635
% Reduced	1%	53%	89%	—	13%	89%	—	22%	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—
Unmit.	1.11	1.68	0.07	0.22	0.29	0.06	0.10	0.16	341
Mit.	0.97	1.25	0.02	0.22	0.24	0.02	0.10	0.12	341
% Reduced	13%	25%	74%	—	18%	73%	—	29%	—
Annual (Max)	—	—	—	—	—	—	—	—	—

Unmit.	0.20	0.31	0.01	0.04	0.05	0.01	0.02	0.03	56.5
Mit.	0.18	0.23	< 0.005	0.04	0.04	< 0.005	0.02	0.02	56.5
% Reduced	13%	25%	74%	—	18%	73%	—	29%	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—
2025	0.31	2.37	0.10	0.06	0.16	0.09	0.01	0.11	506
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—
2025	16.7	9.34	0.40	2.35	2.76	0.37	1.18	1.55	1,635
Average Daily	—	—	—	—	—	—	—	—	—
2025	1.11	1.68	0.07	0.22	0.29	0.06	0.10	0.16	341
Annual	—	—	—	—	—	—	—	—	—
2025	0.20	0.31	0.01	0.04	0.05	0.01	0.02	0.03	56.5

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—
2025	0.09	2.39	0.04	0.06	0.10	0.04	0.01	0.05	506
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—
2025	16.6	4.37	0.04	2.35	2.39	0.04	1.18	1.21	1,635
Average Daily	—	—	—	—	—	—	—	—	—

2025	0.97	1.25	0.02	0.22	0.24	0.02	0.10	0.12	341
Annual	—	—	—	—	—	—	—	—	—
2025	0.18	0.23	< 0.005	0.04	0.04	< 0.005	0.02	0.02	56.5

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Unmit.	0.83	0.13	< 0.005	0.28	0.29	< 0.005	0.07	0.07	441
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Unmit.	0.79	0.14	< 0.005	0.28	0.29	< 0.005	0.07	0.07	420
Average Daily (Max)	—	—	—	—	—	—	—	—	—
Unmit.	0.78	0.12	< 0.005	0.25	0.25	< 0.005	0.06	0.06	392
Annual (Max)	—	—	—	—	—	—	—	—	—
Unmit.	0.14	0.02	< 0.005	0.05	0.05	< 0.005	0.01	0.01	65.0

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Mobile	0.20	0.12	< 0.005	0.28	0.29	< 0.005	0.07	0.07	316
Area	0.64	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.22
Energy	0.00	0.00	0.00	—	0.00	0.00	—	0.00	109
Water	—	—	—	—	—	—	—	—	3.08
Waste	—	—	—	—	—	—	—	—	11.2

Refrig.	—	—	—	—	—	—	—	—	0.17
Total	0.83	0.13	< 0.005	0.28	0.29	< 0.005	0.07	0.07	441
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Mobile	0.19	0.14	< 0.005	0.28	0.29	< 0.005	0.07	0.07	297
Area	0.60	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Energy	0.00	0.00	0.00	—	0.00	0.00	—	0.00	109
Water	—	—	—	—	—	—	—	—	3.08
Waste	—	—	—	—	—	—	—	—	11.2
Refrig.	—	—	—	—	—	—	—	—	0.17
Total	0.79	0.14	< 0.005	0.28	0.29	< 0.005	0.07	0.07	420
Average Daily	—	—	—	—	—	—	—	—	—
Mobile	0.17	0.12	< 0.005	0.25	0.25	< 0.005	0.06	0.06	268
Area	0.62	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.60
Energy	0.00	0.00	0.00	—	0.00	0.00	—	0.00	109
Water	—	—	—	—	—	—	—	—	3.08
Waste	—	—	—	—	—	—	—	—	11.2
Refrig.	—	—	—	—	—	—	—	—	0.17
Total	0.78	0.12	< 0.005	0.25	0.25	< 0.005	0.06	0.06	392
Annual	—	—	—	—	—	—	—	—	—
Mobile	0.03	0.02	< 0.005	0.05	0.05	< 0.005	0.01	0.01	44.4
Area	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.10
Energy	0.00	0.00	0.00	—	0.00	0.00	—	0.00	18.1
Water	—	—	—	—	—	—	—	—	0.51
Waste	—	—	—	—	—	—	—	—	1.85
Refrig.	—	—	—	—	—	—	—	—	0.03
Total	0.14	0.02	< 0.005	0.05	0.05	< 0.005	0.01	0.01	65.0

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Mobile	0.20	0.12	< 0.005	0.28	0.29	< 0.005	0.07	0.07	316
Area	0.64	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.22
Energy	0.00	0.00	0.00	—	0.00	0.00	—	0.00	109
Water	—	—	—	—	—	—	—	—	3.08
Waste	—	—	—	—	—	—	—	—	11.2
Refrig.	—	—	—	—	—	—	—	—	0.17
Total	0.83	0.13	< 0.005	0.28	0.29	< 0.005	0.07	0.07	441
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Mobile	0.19	0.14	< 0.005	0.28	0.29	< 0.005	0.07	0.07	297
Area	0.60	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Energy	0.00	0.00	0.00	—	0.00	0.00	—	0.00	109
Water	—	—	—	—	—	—	—	—	3.08
Waste	—	—	—	—	—	—	—	—	11.2
Refrig.	—	—	—	—	—	—	—	—	0.17
Total	0.79	0.14	< 0.005	0.28	0.29	< 0.005	0.07	0.07	420
Average Daily	—	—	—	—	—	—	—	—	—
Mobile	0.17	0.12	< 0.005	0.25	0.25	< 0.005	0.06	0.06	268
Area	0.62	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.60
Energy	0.00	0.00	0.00	—	0.00	0.00	—	0.00	109
Water	—	—	—	—	—	—	—	—	3.08
Waste	—	—	—	—	—	—	—	—	11.2
Refrig.	—	—	—	—	—	—	—	—	0.17

Total	0.78	0.12	< 0.005	0.25	0.25	< 0.005	0.06	0.06	392
Annual	—	—	—	—	—	—	—	—	—
Mobile	0.03	0.02	< 0.005	0.05	0.05	< 0.005	0.01	0.01	44.4
Area	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.10
Energy	0.00	0.00	0.00	—	0.00	0.00	—	0.00	18.1
Water	—	—	—	—	—	—	—	—	0.51
Waste	—	—	—	—	—	—	—	—	1.85
Refrig.	—	—	—	—	—	—	—	—	0.03
Total	0.14	0.02	< 0.005	0.05	0.05	< 0.005	0.01	0.01	65.0

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.30	2.86	0.12	—	0.12	0.11	—	0.11	505
Demolition	—	—	—	0.20	0.20	—	0.03	0.03	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.17	0.01	—	0.01	0.01	—	0.01	30.5
Demolition	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	< 0.005	—	< 0.005	< 0.005	—	< 0.005	5.04
Demolition	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.00	0.10	0.10	0.00	0.02	0.02	101
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.22	< 0.005	0.04	0.05	< 0.005	0.01	0.01	172
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	0.01	0.01	0.00	< 0.005	< 0.005	6.13
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	10.4
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.02
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.72

3.2. Demolition (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.06	1.72	0.02	—	0.02	0.02	—	0.02	505
Demolition	—	—	—	0.20	0.20	—	0.03	0.03	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.10	< 0.005	—	< 0.005	< 0.005	—	< 0.005	30.5
Demolition	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	< 0.005	—	< 0.005	< 0.005	—	< 0.005	5.04
Demolition	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.00	0.10	0.10	0.00	0.02	0.02	101
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.22	< 0.005	0.04	0.05	< 0.005	0.01	0.01	172
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	0.01	0.01	0.00	< 0.005	< 0.005	6.13
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	10.4
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.02
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.72

3.3. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	4.85	0.22	—	0.22	0.20	—	0.20	780
Dust From Material Movement	—	—	—	1.19	1.19	—	0.60	0.60	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	< 0.005	—	< 0.005	< 0.005	—	< 0.005	10.7
Dust From Material Movement	—	—	—	0.02	0.02	—	0.01	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.77
Dust From Material Movement	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.00	0.06	0.06	0.00	0.01	0.01	60.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.84
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.14
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	2.14	0.01	—	0.01	0.01	—	0.01	780
Dust From Material Movement	—	—	—	1.19	1.19	—	0.60	0.60	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	< 0.005	—	< 0.005	< 0.005	—	< 0.005	10.7
Dust From Material Movement	—	—	—	0.02	0.02	—	0.01	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	0.01	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.77
Dust From Material Movement	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.00	0.06	0.06	0.00	0.01	0.01	60.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.84
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.14
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.98	9.30	0.40	—	0.40	0.37	—	0.37	1,534
Dust From Material Movement	—	—	—	2.25	2.25	—	1.15	1.15	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.64	0.03	—	0.03	0.03	—	0.03	105
Dust From Material Movement	—	—	—	0.15	0.15	—	0.08	0.08	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.12	0.01	—	0.01	< 0.005	—	< 0.005	17.4
Dust From Material Movement	—	—	—	0.03	0.03	—	0.01	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.00	0.10	0.10	0.00	0.02	0.02	101
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	0.01	0.01	0.00	< 0.005	< 0.005	6.97
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.15

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	4.33	0.03	—	0.03	0.03	—	0.03	1,534
Dust From Material Movement	—	—	—	2.25	2.25	—	1.15	1.15	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.30	< 0.005	—	< 0.005	< 0.005	—	< 0.005	105
Dust From Material Movement	—	—	—	0.15	0.15	—	0.08	0.08	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.05	< 0.005	—	< 0.005	< 0.005	—	< 0.005	17.4
Dust From Material Movement	—	—	—	0.03	0.03	—	0.01	0.01	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.00	0.10	0.10	0.00	0.02	0.02	101
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	0.01	0.01	0.00	< 0.005	< 0.005	6.97
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.15
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	2.32	0.10	—	0.10	0.09	—	0.09	424
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	2.32	0.10	—	0.10	0.09	—	0.09	424
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.67	0.03	—	0.03	0.03	—	0.03	122

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.12	0.01	—	0.01	< 0.005	—	< 0.005	20.2
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.00	0.05	0.05	0.00	0.01	0.01	50.1
Vendor	< 0.005	0.03	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	24.2
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	7.53
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.00	0.05	0.05	0.00	0.01	0.01	46.4
Vendor	< 0.005	0.03	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	24.1
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	7.52
Average Daily	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.00	0.01	0.01	0.00	< 0.005	< 0.005	13.5
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	6.94
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	2.16
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	2.23
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.15
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.36

3.8. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	2.34	0.04	—	0.04	0.04	—	0.04	424
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	2.34	0.04	—	0.04	0.04	—	0.04	424
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.67	0.01	—	0.01	0.01	—	0.01	122
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.12	< 0.005	—	< 0.005	< 0.005	—	< 0.005	20.2
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.00	0.05	0.05	0.00	0.01	0.01	50.1
Vendor	< 0.005	0.03	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	24.2
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	7.53
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.00	0.05	0.05	0.00	0.01	0.01	46.4
Vendor	< 0.005	0.03	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	24.1
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	7.52
Average Daily	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.00	0.01	0.01	0.00	< 0.005	< 0.005	13.5
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	6.94

Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	2.16
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	2.23
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.15
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.36

3.9. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	1.91	0.08	—	0.08	0.07	—	0.07	353
Paving	0.00	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	< 0.005	—	< 0.005	< 0.005	—	< 0.005	4.84
Paving	0.00	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.80
Paving	0.00	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.00	0.17	0.17	0.00	0.04	0.04	161
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.11	< 0.005	0.02	0.02	< 0.005	0.01	0.01	90.2
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	2.23
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.24
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.37
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.20

3.10. Paving (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	1.91	0.04	—	0.04	0.04	—	0.04	353
Paving	0.00	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	< 0.005	—	< 0.005	< 0.005	—	< 0.005	4.84

Paving	0.00	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.80
Paving	0.00	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.00	0.17	0.17	0.00	0.04	0.04	161
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.11	< 0.005	0.02	0.02	< 0.005	0.01	0.01	90.2
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	2.23
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.24
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.37
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.20

3.11. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.88	0.03	—	0.03	0.03	—	0.03	134
Architectural Coatings	16.6	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.05	< 0.005	—	< 0.005	< 0.005	—	< 0.005	7.34
Architectural Coatings	0.91	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.22
Architectural Coatings	0.17	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	0.01	0.01	0.00	< 0.005	< 0.005	9.27
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.51
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.09
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Architectural Coating (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	1.07	0.03	—	0.03	0.03	—	0.03	134
Architectural Coatings	16.6	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.06	< 0.005	—	< 0.005	< 0.005	—	< 0.005	7.34
Architectural Coatings	0.91	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.22
Architectural Coatings	0.17	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	0.01	0.01	0.00	< 0.005	< 0.005	9.27
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.51
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.09
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Trenching (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.21	0.01	—	0.01	0.01	—	0.01	47.7
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.21	0.01	—	0.01	0.01	—	0.01	47.7
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	< 0.005	—	< 0.005	< 0.005	—	< 0.005	5.23
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.87
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.00	0.04	0.04	0.00	0.01	0.01	43.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.00	0.04	0.04	0.00	0.01	0.01	40.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	4.46
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.74
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.14. Trenching (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.25	< 0.005	—	< 0.005	< 0.005	—	< 0.005	47.7
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.25	< 0.005	—	< 0.005	< 0.005	—	< 0.005	47.7
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	< 0.005	—	< 0.005	< 0.005	—	< 0.005	5.23
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.87
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.00	0.04	0.04	0.00	0.01	0.01	43.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.00	0.04	0.04	0.00	0.01	0.01	40.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	4.46
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.74
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.20	0.12	< 0.005	0.28	0.29	< 0.005	0.07	0.07	316
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.20	0.12	< 0.005	0.28	0.29	< 0.005	0.07	0.07	316
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.19	0.14	< 0.005	0.28	0.29	< 0.005	0.07	0.07	297
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.19	0.14	< 0.005	0.28	0.29	< 0.005	0.07	0.07	297
Annual	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.03	0.02	< 0.005	0.05	0.05	< 0.005	0.01	0.01	44.4
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Total	0.03	0.02	< 0.005	0.05	0.05	< 0.005	0.01	0.01	44.4

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.20	0.12	< 0.005	0.28	0.29	< 0.005	0.07	0.07	316
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.20	0.12	< 0.005	0.28	0.29	< 0.005	0.07	0.07	316
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.19	0.14	< 0.005	0.28	0.29	< 0.005	0.07	0.07	297
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.19	0.14	< 0.005	0.28	0.29	< 0.005	0.07	0.07	297
Annual	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.03	0.02	< 0.005	0.05	0.05	< 0.005	0.01	0.01	44.4
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.03	0.02	< 0.005	0.05	0.05	< 0.005	0.01	0.01	44.4

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	109
Parking Lot	—	—	—	—	—	—	—	—	0.00

Total	—	—	—	—	—	—	—	—	109
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	109
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	109
Annual	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	18.1
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	18.1

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	109
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	109
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	109
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	109
Annual	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	18.1
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	18.1

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Parking Lot	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Total	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Parking Lot	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Total	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Parking Lot	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Total	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Parking Lot	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Total	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00

Parking Lot	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Total	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Parking Lot	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Total	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Consumer Products	0.51	—	—	—	—	—	—	—	—
Architectural Coatings	0.09	—	—	—	—	—	—	—	—
Landscape Equipment	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.22
Total	0.64	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.22
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Consumer Products	0.51	—	—	—	—	—	—	—	—
Architectural Coatings	0.09	—	—	—	—	—	—	—	—
Total	0.60	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—

Hearths	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Consumer Products	0.09	—	—	—	—	—	—	—	—
Architectural Coatings	0.02	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.10
Total	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.10

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Consumer Products	0.51	—	—	—	—	—	—	—	—
Architectural Coatings	0.09	—	—	—	—	—	—	—	—
Landscape Equipment	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.22
Total	0.64	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.22
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Consumer Products	0.51	—	—	—	—	—	—	—	—
Architectural Coatings	0.09	—	—	—	—	—	—	—	—
Total	0.60	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00

Consumer Products	0.09	—	—	—	—	—	—	—	—
Architectural Coatings	0.02	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.10
Total	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.10

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	3.08
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	3.08
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	3.08
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	3.08
Annual	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	0.51
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	0.51

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	3.08
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	3.08
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	3.08
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	3.08
Annual	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	0.51
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	0.51

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	11.2
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	11.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	11.2
Parking Lot	—	—	—	—	—	—	—	—	0.00

Total	—	—	—	—	—	—	—	—	11.2
Annual	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	1.85
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	1.85

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	11.2
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	11.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	11.2
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	11.2
Annual	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	1.85
Parking Lot	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	1.85

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	0.17
Total	—	—	—	—	—	—	—	—	0.17
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	0.17
Total	—	—	—	—	—	—	—	—	0.17
Annual	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	0.03
Total	—	—	—	—	—	—	—	—	0.03

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	0.17
Total	—	—	—	—	—	—	—	—	0.17
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	0.17
Total	—	—	—	—	—	—	—	—	0.17
Annual	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	0.03
Total	—	—	—	—	—	—	—	—	0.03

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—

—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/2/2025	2/2/2025	5.00	22.0	—
Site Preparation	Site Preparation	2/3/2025	2/7/2025	5.00	5.00	—
Grading	Grading	2/10/2025	3/14/2025	5.00	25.0	—
Building Construction	Building Construction	5/12/2025	10/3/2025	5.00	105	—
Paving	Paving	11/3/2025	11/7/2025	5.00	5.00	—
Architectural Coating	Architectural Coating	10/6/2025	10/31/2025	5.00	20.0	—
Trenching	Trenching	3/17/2025	5/9/2025	5.00	40.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	2.00	2.12	84.0	0.37
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	1.76	367	0.40
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	0.71	33.0	0.73
Demolition	Excavators	Diesel	Average	1.00	1.41	36.0	0.38

Site Preparation	Graders	Diesel	Average	1.00	1.50	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	1.40	84.0	0.37
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	3.60	367	0.40
Grading	Graders	Diesel	Average	1.00	0.60	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	7.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Grading	Excavators	Diesel	Average	1.00	0.52	36.0	0.38
Grading	Concrete/Industrial Saws	Diesel	Average	1.00	0.56	33.0	0.73
Building Construction	Forklifts	Diesel	Average	2.00	7.00	82.0	0.20
Building Construction	Air Compressors	Diesel	Average	1.00	7.00	37.0	0.48
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	2.80	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	4.00	4.20	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	1.40	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	1.40	36.0	0.38
Paving	Paving Equipment	Diesel	Average	1.00	1.40	89.0	0.36
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Trenching	Tractors/Loaders/Backhoes	Diesel	Average	1.00	0.88	84.0	0.37
Trenching	Excavators	Diesel	Average	1.00	0.88	36.0	0.38

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	2.00	2.12	84.0	0.37
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Interim	1.00	1.76	367	0.40

Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Interim	1.00	0.71	33.0	0.73
Demolition	Excavators	Diesel	Tier 4 Interim	1.00	1.41	36.0	0.38
Site Preparation	Graders	Diesel	Tier 4 Interim	1.00	1.50	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	1.40	84.0	0.37
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Interim	1.00	3.60	367	0.40
Grading	Graders	Diesel	Tier 4 Interim	1.00	0.60	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Interim	1.00	7.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	7.00	84.0	0.37
Grading	Excavators	Diesel	Tier 4 Interim	1.00	0.52	36.0	0.38
Grading	Concrete/Industrial Saws	Diesel	Tier 4 Interim	1.00	0.56	33.0	0.73
Building Construction	Forklifts	Diesel	Tier 4 Interim	2.00	7.00	82.0	0.20
Building Construction	Air Compressors	Diesel	Tier 4 Interim	1.00	7.00	37.0	0.48
Paving	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	2.80	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	4.00	4.20	10.0	0.56
Paving	Pavers	Diesel	Tier 4 Interim	1.00	1.40	81.0	0.42
Paving	Rollers	Diesel	Tier 4 Interim	1.00	1.40	36.0	0.38
Paving	Paving Equipment	Diesel	Tier 4 Interim	1.00	1.40	89.0	0.36
Architectural Coating	Air Compressors	Diesel	Tier 4 Interim	1.00	6.00	37.0	0.48
Trenching	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	1.00	0.88	84.0	0.37
Trenching	Excavators	Diesel	Tier 4 Interim	1.00	0.88	36.0	0.38

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	12.5	11.7	LDA,LDT1,LDT2
Demolition	Vendor	—	8.40	HHDT,MHDT
Demolition	Hauling	2.29	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	12.5	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	5.76	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	0.86	8.40	HHDT,MHDT
Building Construction	Hauling	0.10	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	20.0	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	1.20	20.0	HHDT
Paving	Onsite truck	—	—	HHDT

Architectural Coating	—	—	—	—
Architectural Coating	Worker	1.15	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Trenching	—	—	—	—
Trenching	Worker	5.00	11.7	LDA,LDT1,LDT2
Trenching	Vendor	—	8.40	HHDT,MHDT
Trenching	Hauling	0.00	20.0	HHDT
Trenching	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	12.5	11.7	LDA,LDT1,LDT2
Demolition	Vendor	—	8.40	HHDT,MHDT
Demolition	Hauling	2.29	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.40	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	12.5	11.7	LDA,LDT1,LDT2
Grading	Vendor	—	8.40	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT

Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	5.76	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	0.86	8.40	HHDT,MHDT
Building Construction	Hauling	0.10	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	20.0	11.7	LDA,LDT1,LDT2
Paving	Vendor	—	8.40	HHDT,MHDT
Paving	Hauling	1.20	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	1.15	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Trenching	—	—	—	—
Trenching	Worker	5.00	11.7	LDA,LDT1,LDT2
Trenching	Vendor	—	8.40	HHDT,MHDT
Trenching	Hauling	0.00	20.0	HHDT
Trenching	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	47,791	15,930	0.00	0.00	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	4,347	—
Site Preparation	—	—	1.59	0.00	—
Grading	—	—	11.9	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Condo/Townhouse	—	0%
Parking Lot	0.00	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	387	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Condo/Townhouse	58.6	65.1	50.2	21,283	362	403	311	131,660
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Condo/Townhouse	58.6	65.1	50.2	21,283	362	403	311	131,660
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0

Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	0
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
47790.81	15,930	0.00	0.00	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Condo/Townhouse	102,715	387	0.0330	0.0040	0.00
Parking Lot	0.00	387	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Condo/Townhouse	102,715	387	0.0330	0.0040	0.00
Parking Lot	0.00	387	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Condo/Townhouse	290,131	0.00
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)

Condo/Townhouse	290,131	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Condo/Townhouse	5.94	—
Parking Lot	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Condo/Townhouse	5.94	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	12.2	annual days of extreme heat
Extreme Precipitation	2.50	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	10.5	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	16.8

AQ-PM	19.6
AQ-DPM	73.9
Drinking Water	50.2
Lead Risk Housing	12.0
Pesticides	0.00
Toxic Releases	38.1
Traffic	88.8
Effect Indicators	—
CleanUp Sites	99.3
Groundwater	93.5
Haz Waste Facilities/Generators	96.1
Impaired Water Bodies	43.8
Solid Waste	75.7
Sensitive Population	—
Asthma	17.8
Cardio-vascular	31.2
Low Birth Weights	62.9
Socioeconomic Factor Indicators	—
Education	26.9
Housing	25.3
Linguistic	48.7
Poverty	14.7
Unemployment	45.8

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract

Economic	—
Above Poverty	68.7925061
Employed	79.36609778
Median HI	89.15693571
Education	—
Bachelor's or higher	88.31002181
High school enrollment	100
Preschool enrollment	64.42961632
Transportation	—
Auto Access	56.16578981
Active commuting	48.06877967
Social	—
2-parent households	36.23764917
Voting	66.09778006
Neighborhood	—
Alcohol availability	46.61876043
Park access	62.01719492
Retail density	89.61888875
Supermarket access	23.44411651
Tree canopy	61.86321057
Housing	—
Homeownership	33.00397793
Housing habitability	71.61555242
Low-inc homeowner severe housing cost burden	73.55318876
Low-inc renter severe housing cost burden	86.48787373
Uncrowded housing	43.11561658
Health Outcomes	—

Insured adults	78.54484794
Arthritis	97.3
Asthma ER Admissions	87.5
High Blood Pressure	94.2
Cancer (excluding skin)	87.6
Asthma	98.2
Coronary Heart Disease	97.8
Chronic Obstructive Pulmonary Disease	98.8
Diagnosed Diabetes	93.4
Life Expectancy at Birth	91.5
Cognitively Disabled	94.6
Physically Disabled	87.9
Heart Attack ER Admissions	63.3
Mental Health Not Good	95.0
Chronic Kidney Disease	97.1
Obesity	97.1
Pedestrian Injuries	39.7
Physical Health Not Good	97.7
Stroke	97.8
Health Risk Behaviors	—
Binge Drinking	73.8
Current Smoker	92.2
No Leisure Time for Physical Activity	82.1
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	13.7
Children	14.8

Elderly	73.9
English Speaking	66.5
Foreign-born	91.6
Outdoor Workers	78.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	26.4
Traffic Density	75.6
Traffic Access	56.3
Other Indices	—
Hardship	22.1
Other Decision Support	—
2016 Voting	71.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	44.0
Healthy Places Index Score for Project Location (b)	81.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Provided number of units, parking spaces, building square feet, and total lot acreage from provided construction worksheet.
Construction: Construction Phases	Provided by filled out construction worksheet from applicant.
Construction: Off-Road Equipment	Equipment info provided by filled out construction worksheet.
Construction: Trips and VMT	Demolition = 10 tons of pavement demo'd and hauled (0.12 trips/day), Building Construction = 5 concrete truck round trips (0.1 trips/day), Paving = 3 asphalt truck round trips (1.2 trips/day).
Operations: Hearths	No hearths.
Operations: Energy Use	Santa Clara REACH Code - No natural gas in new construction, convert natural gas to electricity,
Operations: Water and Waste Water	Wastewater treatment 100% aerobic - no septic tanks or lagoons.

2. Emissions Summary - HRA

2.2 Construction Emissions by Year, Unmitigated

Year	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO_2e
Daily - Summer (Max)									
2025	0.3024168	2.3360800	0.1003418	0.0024398	0.1027817	0.0923151	0.0005887	0.0929039	429.9434009381864
Daily - Winter (Max)									
2025	16.749144	9.3094726	0.4033560	2.2559104	2.6592665	0.3710875	1.1518630	1.5229505	1540.7471902146228
Average Daily									
2025	1.1102601	1.6585571	0.0703745	0.1841872	0.2545617	0.0647434	0.0891961	0.1539395	290.65543066112815
Annual									
2025	0.2026224	0.3026866	0.0128433	0.0336141	0.0464575	0.0118156	0.0162782	0.0280939	48.12132348945023

2. Emissions Summary - HRA

2.3 Construction Emissions by Year, Mitigated

Year	ROG	NOx	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO_2e
Daily - Summer (Max)									
2025	0.0819061	2.3506196	0.0407142	0.0024398	0.0431540	0.0379723	0.0005887	0.0385610	429.9434009381864
Daily - Winter (Max)									
2025	16.642327	4.3435384	0.0434325	2.2559104	2.2900692	0.0402813	1.1518630	1.1855676	1540.7471902146228
Average Daily									
2025	0.9630166	1.2280597	0.0181687	0.1841872	0.2023560	0.0170957	0.0891961	0.1062919	290.6554306611281
Annual									
2025	0.1757505	0.2241209	0.0033158	0.0336141	0.0369299	0.0031199	0.0162782	0.0193982	48.12132348945022

5.3. Construction Vehicles - HRA

5.3.1 Unmitigated

Phase Nam	Trip Type	One-Way T	Miles per T	Vehicle Mix
Demolition				
Demolitior	Worker	12.5	0.5	LDA,LDT1,LDT2
Demolitior	Vendor		0.5	HHDT,MHDT
Demolitior	Hauling	2.29	0.5	HHDT
Demolitior	Onsite truc			HHDT
Site Preparation				
Site Prepar	Worker	7.5	0.5	LDA,LDT1,LDT2
Site Prepar	Vendor		0.5	HHDT,MHDT
Site Prepar	Hauling	0	0.5	HHDT
Site Prepar	Onsite truc			HHDT
Grading				
Grading	Worker	12.5	0.5	LDA,LDT1,LDT2
Grading	Vendor		0.5	HHDT,MHDT
Grading	Hauling	0	0.5	HHDT
Grading	Onsite truc			HHDT
Building Construction				
Building Cc	Worker	5.76	0.5	LDA,LDT1,LDT2
Building Cc	Vendor	0.8552	0.5	HHDT,MHDT
Building Cc	Hauling	0.1	0.5	HHDT
Building Cc	Onsite truc			HHDT
Paving				
Paving	Worker	20	0.5	LDA,LDT1,LDT2
Paving	Vendor		0.5	HHDT,MHDT
Paving	Hauling	1.2	0.5	HHDT
Paving	Onsite truc			HHDT
Architectural Coating				
Architectu	Worker	1.152	0.5	LDA,LDT1,LDT2
Architectu	Vendor		0.5	HHDT,MHDT
Architectu	Hauling	0	0.5	HHDT
Architectu	Onsite truc			HHDT
Trenching				
Trenching	Worker	5	0.5	LDA,LDT1,LDT2
Trenching	Vendor		0.5	HHDT,MHDT
Trenching	Hauling	0	0.5	HHDT
Trenching	Onsite truc			HHDT

5.3. Construction Vehicles - HRA

5.3.2 Mitigated

Phase Nam	Trip Type	One-Way T	Miles per T	Vehicle Mix
Demolition				
Demolitior	Worker	12.5	0.5	LDA,LDT1,LDT2
Demolitior	Vendor		0.5	HHDT,MHDT
Demolitior	Hauling	2.29	0.5	HHDT
Demolitior	Onsite truc			HHDT
Site Preparation				
Site Prepar	Worker	7.5	0.5	LDA,LDT1,LDT2
Site Prepar	Vendor		0.5	HHDT,MHDT
Site Prepar	Hauling	0	0.5	HHDT
Site Prepar	Onsite truc			HHDT
Grading				
Grading	Worker	12.5	0.5	LDA,LDT1,LDT2
Grading	Vendor		0.5	HHDT,MHDT
Grading	Hauling	0	0.5	HHDT
Grading	Onsite truc			HHDT
Building Construction				
Building Cc	Worker	5.76	0.5	LDA,LDT1,LDT2
Building Cc	Vendor	0.8552	0.5	HHDT,MHDT
Building Cc	Hauling	0.1	0.5	HHDT
Building Cc	Onsite truc			HHDT
Paving				
Paving	Worker	20	0.5	LDA,LDT1,LDT2
Paving	Vendor		0.5	HHDT,MHDT
Paving	Hauling	1.2	0.5	HHDT
Paving	Onsite truc			HHDT
Architectural Coating				
Architectu	Worker	1.152	0.5	LDA,LDT1,LDT2
Architectu	Vendor		0.5	HHDT,MHDT
Architectu	Hauling	0	0.5	HHDT
Architectu	Onsite truc			HHDT
Trenching				
Trenching	Worker	5	0.5	LDA,LDT1,LDT2
Trenching	Vendor		0.5	HHDT,MHDT
Trenching	Hauling	0	0.5	HHDT
Trenching	Onsite truc			HHDT

Attachment 2: Project Construction Dispersion Modeling Inputs and Risk Calculations

2303 Gianera Street, CA
Construction Health Impact Summary

Maximum Impacts at MEI Location - Without Mitigation

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM ($\mu g/m^3$)	Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million): Infant/Child	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2025	0.1163	0.1188	20.68	0.02	0.24
Total	-	-	**20.68**		-
Maximum	0.1163	0.1188	**-**	**0.02**	**0.24**

Maximum Impacts at MEI Location - With Mitigation

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM ($\mu g/m^3$)	Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million): Infant/Child	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2025	0.0271	0.1188	4.82	0.01	0.15
Total	-	-	**4.82**	-	-
Maximum	0.0271	0.1188	**-**	**0.01**	**0.15**

2303 Gianera Street, Santa Clara, CA

DPM Emissions and Modeling Emission Rates - Unmitigated

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2025	Construction	0.0128	CON_DPM	25.7	0.00704	8.87E-04	1,593	5.57E-07
Total		***0.0128***		***25.7***	***0.0070***	***0.0009***		

Construction Hours
hr/day = 10 (8am - 6pm)
days/yr = 365
hours/year = 3650

DPM Construction Emissions and Modeling Emission Rates - With Mitigation

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2025	Construction	0.0033	CON_DPM	6.6	0.00182	2.29E-04	1,593	1.44E-07
Total		***0.0033***		***6.6***	***0.0018***	***0.0002***		

Construction Hours
hr/day = 10 (8am - 6pm)
days/yr = 365
hours/year = 3650

2303 Gianera Street, Santa Clara, CA

PM2.5 Fugitive Dust Emissions for Modeling - Unmitigated

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2025	Construction	CON_FUG	0.0163	32.6	0.00892	1.12E-03	1,593	7.06E-07
Total			***0.0163***	***32.6***	***0.0089***	***0.0011***		

Construction Hours
hr/day = 10 (8am - 6pm)
days/yr = 365
hours/year = 3650

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

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2025	Construction	CON_FUG	0.0163	32.6	0.00892	1.12E-03	1,593	7.06E-07
Total			***0.0163***	***32.6***	***0.0089***	***0.0011***		

Construction Hours
hr/day = 10 (8am - 6pm)
days/yr = 365
hours/year = 3650

2303 Gianera Street, Santa Clara, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 4.5 meter receptor height

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

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
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 $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

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

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information			
			DPM Conc (ug/m3)		Age	Infant/Child	Modeled DPM Conc (ug/m3)		Age	Adult
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Sensitivity Factor**	**Cancer Risk (per million)**	**Year**	**Annual**	**Sensitivity Factor**	**Cancer Risk (per million)**
0	0.25	-0.25 - 0*	2025	0.1163	10	1.58	2025	0.1163	-	-
1	1	0 - 1	2025	0.1163	10	19.10	2025	0.1163	1	0.33
2	1	1 - 2		0.0000	10	0.00		0.0000	1	0.00
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						**20.68**				**0.33**

Maximum		
Hazard Index	**Fugitive PM2.5**	**Total PM2.5**
0.023	0.12	0.24

* Third trimester of pregnancy

2303 Gianera Street, Santa Clara, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 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 $(mg/kg\text{-}day)^{-1}$
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 ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

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

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information			
							Modeled			
Exposure Year	Exposure Duration (years)	Age	DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age Sensitivity Factor	Infant/Child Cancer Risk (per million)	DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age Sensitivity Factor	Adult Cancer Risk (per million)
0	0.25	-0.25 - 0*	2025	0.0676	10	0.92	2025	0.0676	-	-
1	1	0 - 1	2025	0.0676	10	11.10	2025	0.0676	1	0.19
2	1	1 - 2		0.0000	10	0.00		0.0000	1	0.00
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						**12.02**				**0.19**

* Third trimester of pregnancy

Maximum		
Hazard Index	**Fugitive PM2.5**	**Total PM2.5**
0.014	0.27	0.32

2303 Gianera Street, Santa Clara, CA - Construction Impacts - With Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 4.5 meter receptor height

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

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
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 ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

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

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information				Adult
							Modeled				
Exposure	Exposure Duration		DPM Conc (ug/m3)		Age Sensitivity	Infant/Child Cancer Risk	DPM Conc (ug/m3)		Age Sensitivity	Adult Cancer Risk
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)
0	0.25	-0.25 - 0*	2025	0.0271	10	0.37	2025	0.0271	-	-
1	1	0 - 1	2025	0.0271	10	4.45	2025	0.0271	1	0.08
2	1	1 - 2		0.0000	10	0.00		0.0000	1	0.00
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						**4.82**				**0.08**

Maximum		
Hazard Index	**Fugitive PM2.5**	**Total PM2.5**
0.005	0.12	0.15

* Third trimester of pregnancy

2303 Gianera Street, Santa Clara, CA - Construction Impacts - With Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 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 $(mg/kg\text{-}day)^{-1}$
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 ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

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

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information				Adult
							Modeled				
Exposure	Exposure Duration		DPM Conc (ug/m3)		Age Sensitivity	Infant/Child Cancer Risk	DPM Conc (ug/m3)		Age Sensitivity	Adult Cancer Risk
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)
0	0.25	-0.25 - 0*	2025	0.0158	10	0.21	2025	0.0158	-	-
1	1	0 - 1	2025	0.0158	10	2.59	2025	0.0158	1	0.05
2	1	1 - 2		0.0000	10	0.00		0.0000	1	0.00
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						**2.80**				**0.05**

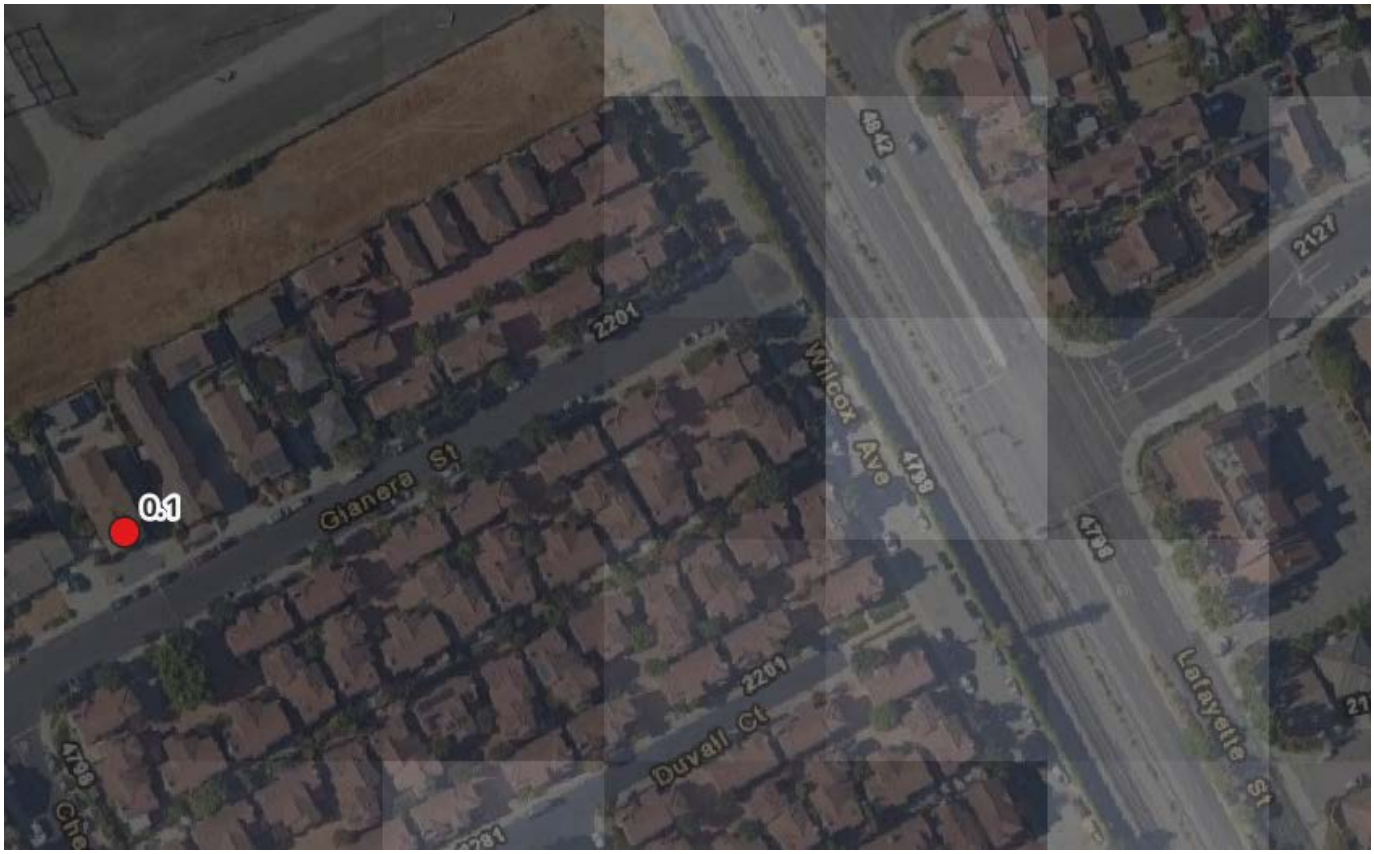
Maximum		
Hazard Index	**Fugitive PM2.5**	**Total PM2.5**
0.003	0.27	0.28

* Third trimester of pregnancy

Attachment 3: Cumulative Screening and Health Risk from Existing TAC Sources

BAAQMD Raster Roadway Cancer Risk at MEI

BAAQMD Raster Roadway Annual $PM_{2.5}$ Concentration at MEI

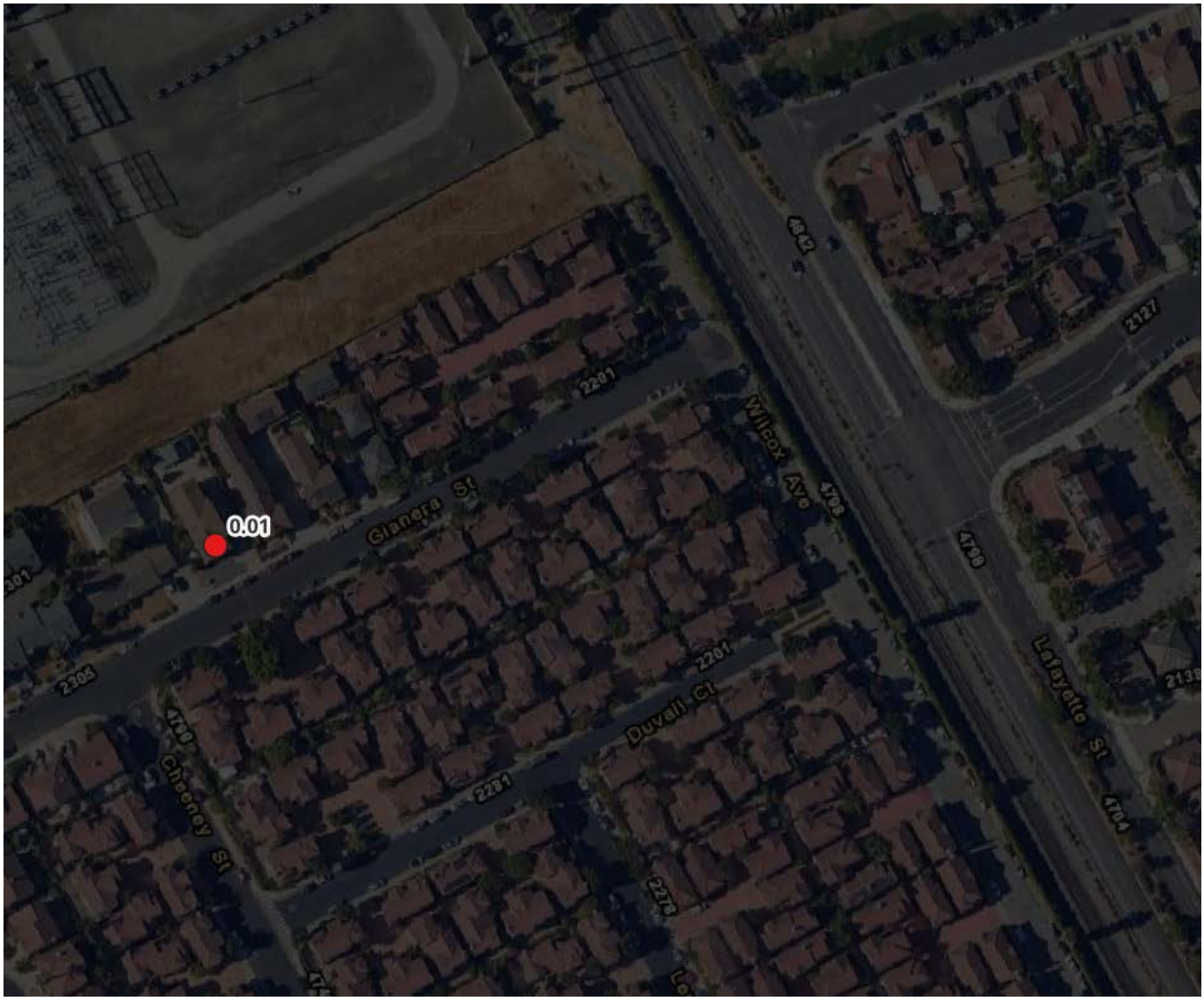


BAAQMD Raster Roadway Hazard Index at MEI

BAAQMD Raster Railway Cancer Risk at MEI

BAAQMD Raster Railway Annual $PM_{2.5}$ Concentration at MEI

BAAQMD Raster Railway Hazard Index at MEI

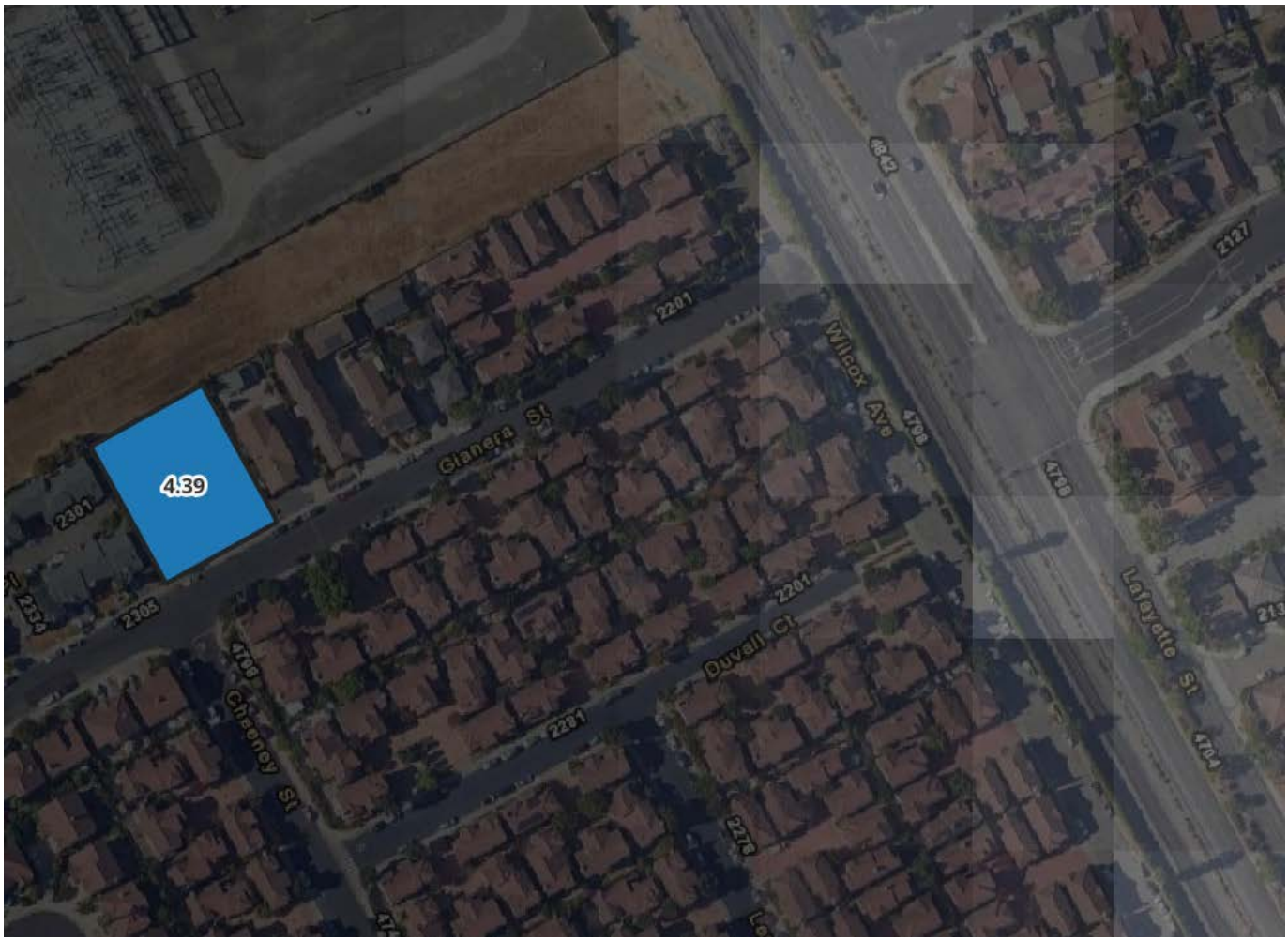


BAAQMD Raster Roadway Cancer Risk at Project Site

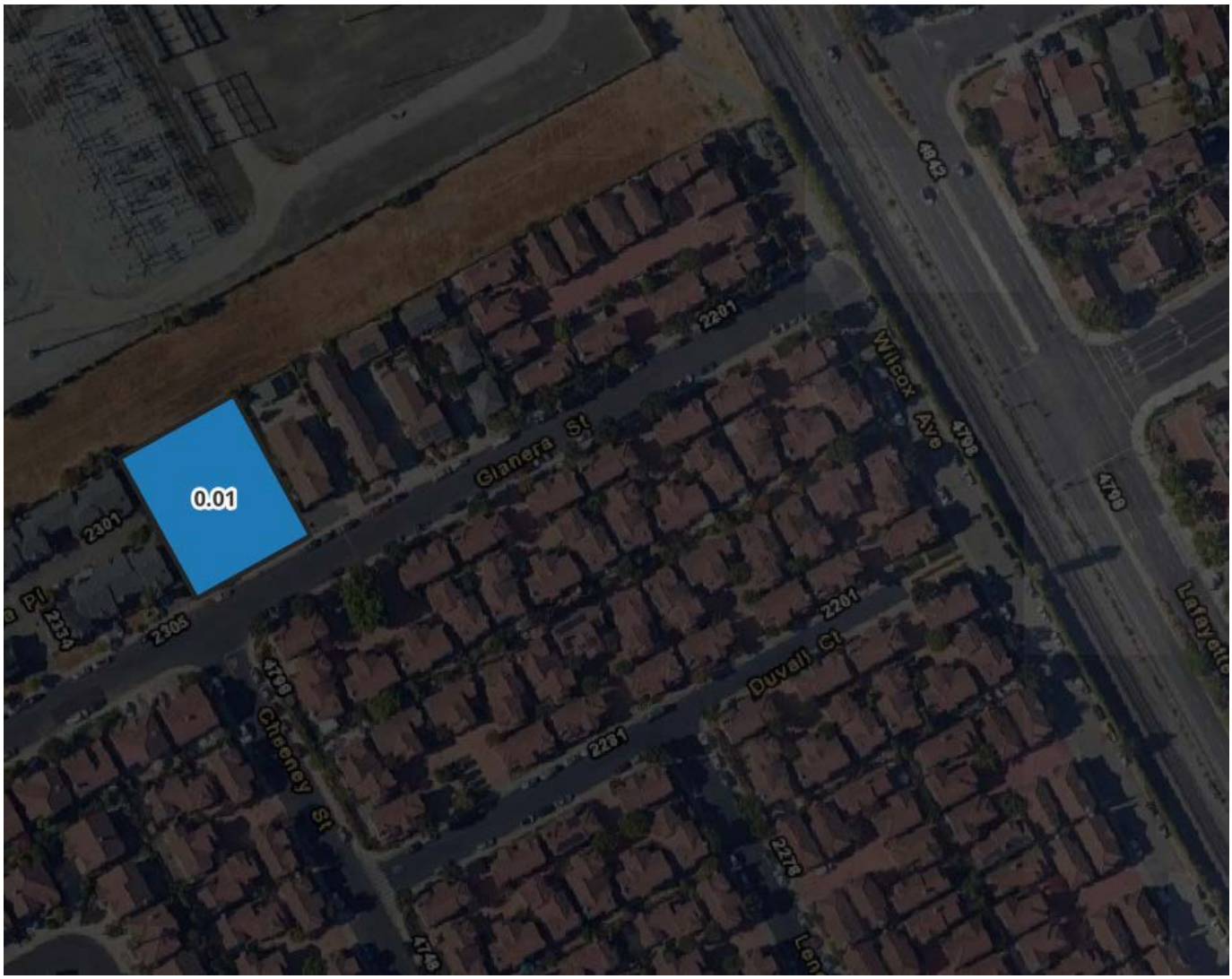
BAAQMD Raster Roadway Annual $PM_{2.5}$ Concentration at Project Site

BAAQMD Raster Roadway Hazard Index at Project Site

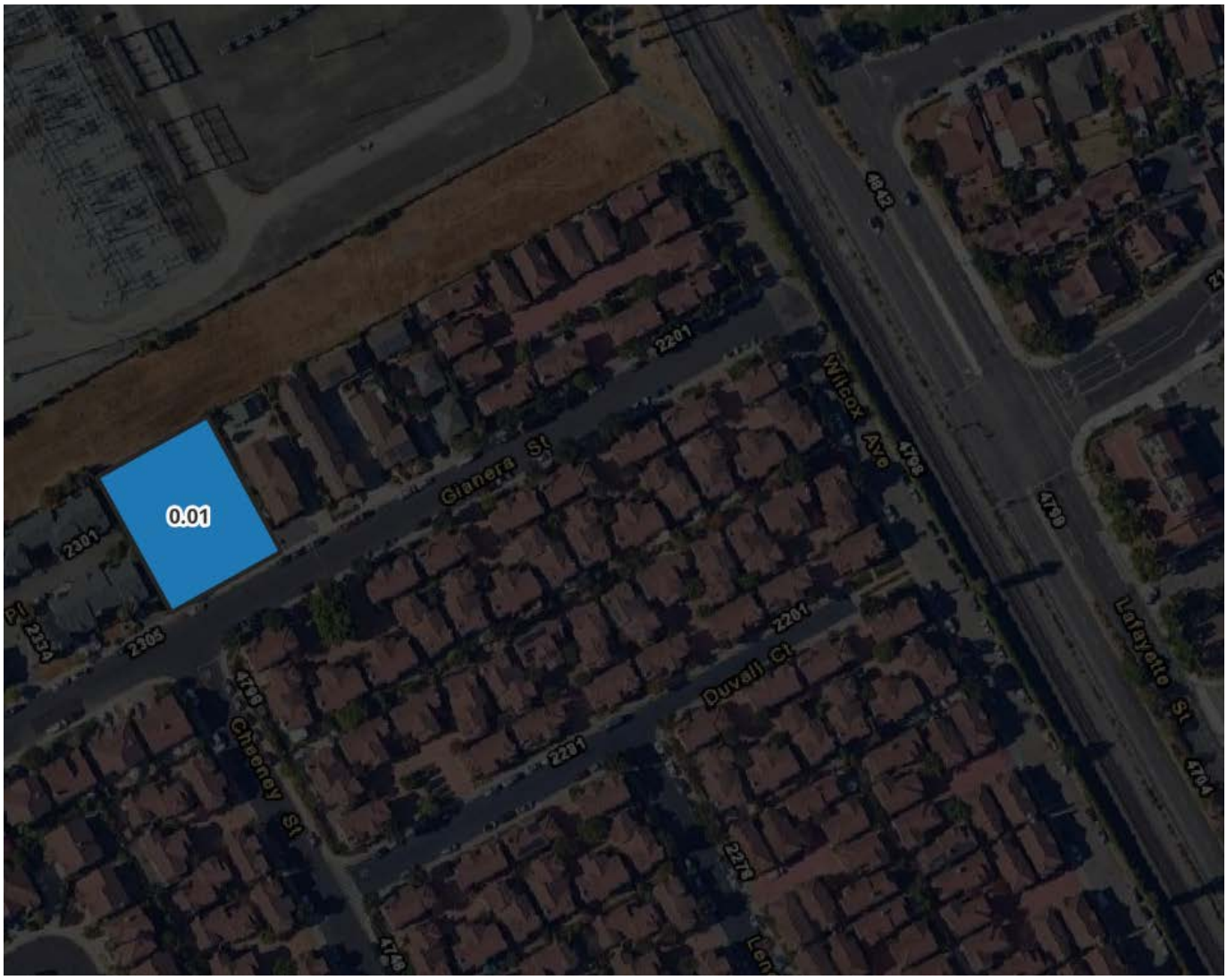
BAAQMD Raster Railway Cancer Risk at Project Site



BAAQMD Raster Railway Annual $PM_{2.5}$ Concentration at Project Site



BAAQMD Raster Railway Hazard Index at Project Site



2303 Gianera Street, Santa Carla, CA

Facility ID #1771 Turbine Impacts

Off-site Sensitive Receptors

MEI Location = 4.5 meter receptor height

DPM Emission Rates		
	DPM Emissions per Generator	
	Max Daily	Annual
Source Type	(lb/day)	(lb/year)
Power Plant (2) Gas Turbines	3.673	1340.71
CEIDARS 2021 PM Emissions	0.6704	tons/year

Modeling Information	
Model	AERMOD
Source	Turbines
Source Type	Point
Meteorological Data	2013 - 2017 San Francisco International Meteorological Data
Point Source Stack Parameters	
Generator Engine Size (hp)	Unknown
Stack Height (ft)	30.00
Stack Diameter (ft)	14.00
Exhaust Gas Flowrate (CFM)*	2527.73
Stack Exit Velocity (ft/sec)**	149.00
Exhaust Temperature (˚F)**	872.00
Emissions Rate (lb/hr)	0.153049

* AERMOD default

**BAAQMD default generator parameters

2303 Gianera Street, Santa Carla, CA - Cancer Risks from Facility ID #1771 Operation
Power Generating Gas Turbines
Impacts at Off-Site Receptors- 1.5m MEI Receptor Heights

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

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
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 $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

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

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information						
Exposure Year	**Exposure Duration (years)**	**Age**	**DPM Conc (ug/m3) Year**	**Annual**	**Age Sensitivity Factor**	**Infant/Child Cancer Risk (per million)**		**Hazard Index**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	2026	0.0002	10	0.003				
1	1	0 - 1	2026	0.0002	10	0.039		0.00005	0.0000	0.0002
2	1	1 - 2	2027	0.0002	10	0.039		0.00005	0.0000	0.0002
3	1	2 - 3	2028	0.0002	3	0.006		0.00005	0.0000	0.0002
4	1	3 - 4	2029	0.0002	3	0.006		0.00005	0.0000	0.0002
5	1	4 - 5	2030	0.0002	3	0.006		0.00005	0.0000	0.0002
6	1	5 - 6	2031	0.0002	3	0.006		0.00005	0.0000	0.0002
7	1	6 - 7	2032	0.0002	3	0.006		0.00005	0.0000	0.0002
8	1	7 - 8	2033	0.0002	3	0.006		0.00005	0.0000	0.0002
9	1	8 - 9	2034	0.0002	3	0.006		0.00005	0.0000	0.0002
10	1	9 - 10	2035	0.0002	3	0.006		0.00005	0.0000	0.0002
11	1	10 - 11	2036	0.0002	3	0.006		0.00005	0.0000	0.0002
12	1	11 - 12	2037	0.0002	3	0.006		0.00005	0.0000	0.0002
13	1	12 - 13	2038	0.0002	3	0.006		0.00005	0.0000	0.0002
14	1	13 - 14	2039	0.0002	3	0.006		0.00005	0.0000	0.0002
15	1	14 - 15	2040	0.0002	3	0.006		0.00005	0.0000	0.0002
16	1	15 - 16	2041	0.0002	3	0.006		0.00005	0.0000	0.0002
17	1	16-17	2042	0.0002	1	0.001		0.00005	0.0000	0.0002
18	1	17-18	2043	0.0002	1	0.001		0.00005	0.0000	0.0002
19	1	18-19	2044	0.0002	1	0.001		0.00005	0.0000	0.0002
20	1	19-20	2045	0.0002	1	0.001		0.00005	0.0000	0.0002
21	1	20-21	2046	0.0002	1	0.001		0.00005	0.0000	0.0002
22	1	21-22	2047	0.0002	1	0.001		0.00005	0.0000	0.0002
23	1	22-23	2048	0.0002	1	0.001		0.00005	0.0000	0.0002
24	1	23-24	2049	0.0002	1	0.001		0.00005	0.0000	0.0002
25	1	24-25	2050	0.0002	1	0.001		0.00005	0.0000	0.0002
26	1	25-26	2051	0.0002	1	0.001		0.00005	0.0000	0.0002
27	1	26-27	2052	0.0002	1	0.001		0.00005	0.0000	0.0002
28	1	27-28	2053	0.0002	1	0.001		0.00005	0.0000	0.0002
29	1	28-29	2054	0.0002	1	0.001		0.00005	0.0000	0.0002
30	1	29-30	2055	0.0002	1	0.001		0.00005	0.0000	0.0002
Total Increased Cancer Risk						**0.18**	**Max**	**0.00005**	**0.0000**	**0.0002**

* Third trimester of pregnancy

2303 Gianera Street, Santa Carla, CA - Cancer Risks from Facility ID #1771 Operation
Power Generating Gas Turbines
Impacts at On-Site Receptors- 1.5m MEI Receptor Heights

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

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
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 $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

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

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information						
Exposure Year	Exposure Duration (years)	Age	DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age Sensitivity Factor	Infant/Child Cancer Risk (per million)		Hazard Index	Fugitive PM2.5	Total PM2.5
0	0.25	-0.25 - 0*	2026	0.0004	10	0.005				
1	1	0 - 1	2026	0.0004	10	0.061		0.00007	0.0000	0.0004
2	1	1 - 2	2027	0.0004	10	0.061		0.00007	0.0000	0.0004
3	1	2 - 3	2028	0.0004	3	0.010		0.00007	0.0000	0.0004
4	1	3 - 4	2029	0.0004	3	0.010		0.00007	0.0000	0.0004
5	1	4 - 5	2030	0.0004	3	0.010		0.00007	0.0000	0.0004
6	1	5 - 6	2031	0.0004	3	0.010		0.00007	0.0000	0.0004
7	1	6 - 7	2032	0.0004	3	0.010		0.00007	0.0000	0.0004
8	1	7 - 8	2033	0.0004	3	0.010		0.00007	0.0000	0.0004
9	1	8 - 9	2034	0.0004	3	0.010		0.00007	0.0000	0.0004
10	1	9 - 10	2035	0.0004	3	0.010		0.00007	0.0000	0.0004
11	1	10 - 11	2036	0.0004	3	0.010		0.00007	0.0000	0.0004
12	1	11 - 12	2037	0.0004	3	0.010		0.00007	0.0000	0.0004
13	1	12 - 13	2038	0.0004	3	0.010		0.00007	0.0000	0.0004
14	1	13 - 14	2039	0.0004	3	0.010		0.00007	0.0000	0.0004
15	1	14 - 15	2040	0.0004	3	0.010		0.00007	0.0000	0.0004
16	1	15 - 16	2041	0.0004	3	0.010		0.00007	0.0000	0.0004
17	1	16-17	2042	0.0004	1	0.001		0.00007	0.0000	0.0004
18	1	17-18	2043	0.0004	1	0.001		0.00007	0.0000	0.0004
19	1	18-19	2044	0.0004	1	0.001		0.00007	0.0000	0.0004
20	1	19-20	2045	0.0004	1	0.001		0.00007	0.0000	0.0004
21	1	20-21	2046	0.0004	1	0.001		0.00007	0.0000	0.0004
22	1	21-22	2047	0.0004	1	0.001		0.00007	0.0000	0.0004
23	1	22-23	2048	0.0004	1	0.001		0.00007	0.0000	0.0004
24	1	23-24	2049	0.0004	1	0.001		0.00007	0.0000	0.0004
25	1	24-25	2050	0.0004	1	0.001		0.00007	0.0000	0.0004
26	1	25-26	2051	0.0004	1	0.001		0.00007	0.0000	0.0004
27	1	26-27	2052	0.0004	1	0.001		0.00007	0.0000	0.0004
28	1	27-28	2053	0.0004	1	0.001		0.00007	0.0000	0.0004
29	1	28-29	2054	0.0004	1	0.001		0.00007	0.0000	0.0004
30	1	29-30	2055	0.0004	1	0.001		0.00007	0.0000	0.0004
Total Increased Cancer Risk						**0.28**	**Max**	**0.00007**	**0.0000**	**0.0004**

* Third trimester of pregnancy

Bay Area Air Quality Management District

Risk & Hazard Stationary Source Inquiry Form

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

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

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

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

Table A: Requester Contact Information

Date of Request	**4/5/2024**
Contact Name	Jordyn Bauer
Affiliation	Illingworth & Rodkin, Inc.
Phone	707-794-0400 x106
Email	jbauer@illingworthrodkin.com
Project Name	2303 Gianera St
Address	2303 Gianera St
City	Santa Clara
County	Santa Clara County
Type (residential, commercial, mixed use, industrial, etc.)	Residential
Project Size (# of units or building square feet)	8

Comments:

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

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

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

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

4. Identify stationary sources within at least a 1000ft radius of project site. Verify that the location of the source on the map matches with the source's address in the Information Table, by using the Google Earth address search box to confirm the source's address location. Please report any mapping errors to the District.

5. List the stationary source information in Table B lue section only.

6. Note that a small percentage of the stationa ve Health Risk Screening Assessment (HRSA) data INSTEAD of screening level data. These sources will be noted by an asterisk next to the Plant Name (Map B on right). If HRSA values are presented, these values have already been modeled and cannot be adjusted further.

7. Email this completed form to District staff. District staff will provide the most recent risk, hazard, and PM2.5 data that are available for the source(s). If this information or data are not available, source emissions data will be provided. Staff will respond to inquiries within three weeks.

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

Submit forms, maps, and questions to Matthew Hanson at 415-749-8733, or mhanson@baaqmd.gov

Table B: Google Earth data

Distance from Receptor (feet) or MEI[1]	Plant No.	Facility Name	Address	Cancer Risk[2]	Hazard Risk[2]	$PM_{2.5}$[2]	Source No.[3]	Type of Source[4]	Fuel Code[5]	Status/Comments	Distance Adjustment Multiplier	Adjusted Cancer Risk Estimate	Adjusted Hazard Risk	Adjusted PM2.5
Project MEI														
490	1771	City of Santa Clara	2339 Gianera Street	7.963	0.058	6.887		No Data		2021 Dataset	AERMOD	0.18	0.00005	0.0002
425	17392	City of Santa Clara Gianera Sto	2337 Gianera Street	3.969	0.001	0.005		Generator		2021 Dataset	0.16	0.64	0.00016	0.0008

Footnotes:

1. Maximally exposed individual

Distance from Receptor (feet) or MEI[1]	FACID (Plant No.)	Distance Adjustment Multiplier	Adjusted Cancer Risk Estimate	Adjusted Hazard Risk	Adjusted PM2.5
Project Site					
85	1771	AERMOD	0.28	0.0001	0.0004
325	17392	0.25	0.99	0.0003	0.0013

2. These Cancer Risk, Hazard Index, and PM2.5 columns represent the values in the Google Earth Plant Information Table.
3. Each plant may have multiple permits and sources.
4. Permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc.
5. Fuel codes: 98 = diesel, 189 = Natural Gas.
6. If a Health Risk Screening Assessment (HRSA) was completed for the source, the application number will be listed here.

8. Engineer who completed the HRSA. For District purposes only.
9. All HRSA completed before 1/5/2010 need to be multiplied by an age sensitivity factor of 1.7.
10. The HRSA "Chronic Health" number represents the Hazard Index.
11. Further information about common sources:
    a. Sources that only include diesel internal combustion engines can be adjusted using the BAAQMD's Diesel Multiplier worksheet.
    b. The risk from natural gas boilers used for space heating when <25 MM BTU/hr would have an estimated cancer risk of one in a million or less, and a chronic hazard index of 0.003 or
    c. BAAQMD Reg 11 Rule 16 required that all co-residential (sharing a wall, floor, ceiling or is in the same building as a residential unit) dry cleaners cease use of perc on July 1, 2010.
    Therefore, there is no cancer risk, hazard or PM2.5 concentrations from co-residential dry cleaning businesses in the BAAQMD.
    d. Non co-residential dry cleaners must phase out use of perc by Jan. 1, 2023. Therefore, the risk from these dry cleaners does not need to be factored in over a 70-year period, but instead should reflect
    e. Gas stations can be adjusted using BAAQMD's Gas Station Distance Mulitplier worksheet.
    f. Unless otherwise noted, exempt sources are considered insignificant. See BAAQMD Reg 2 Rule 1 for a list of exempt sources.
    g. This spray booth is considered to be insignificant.

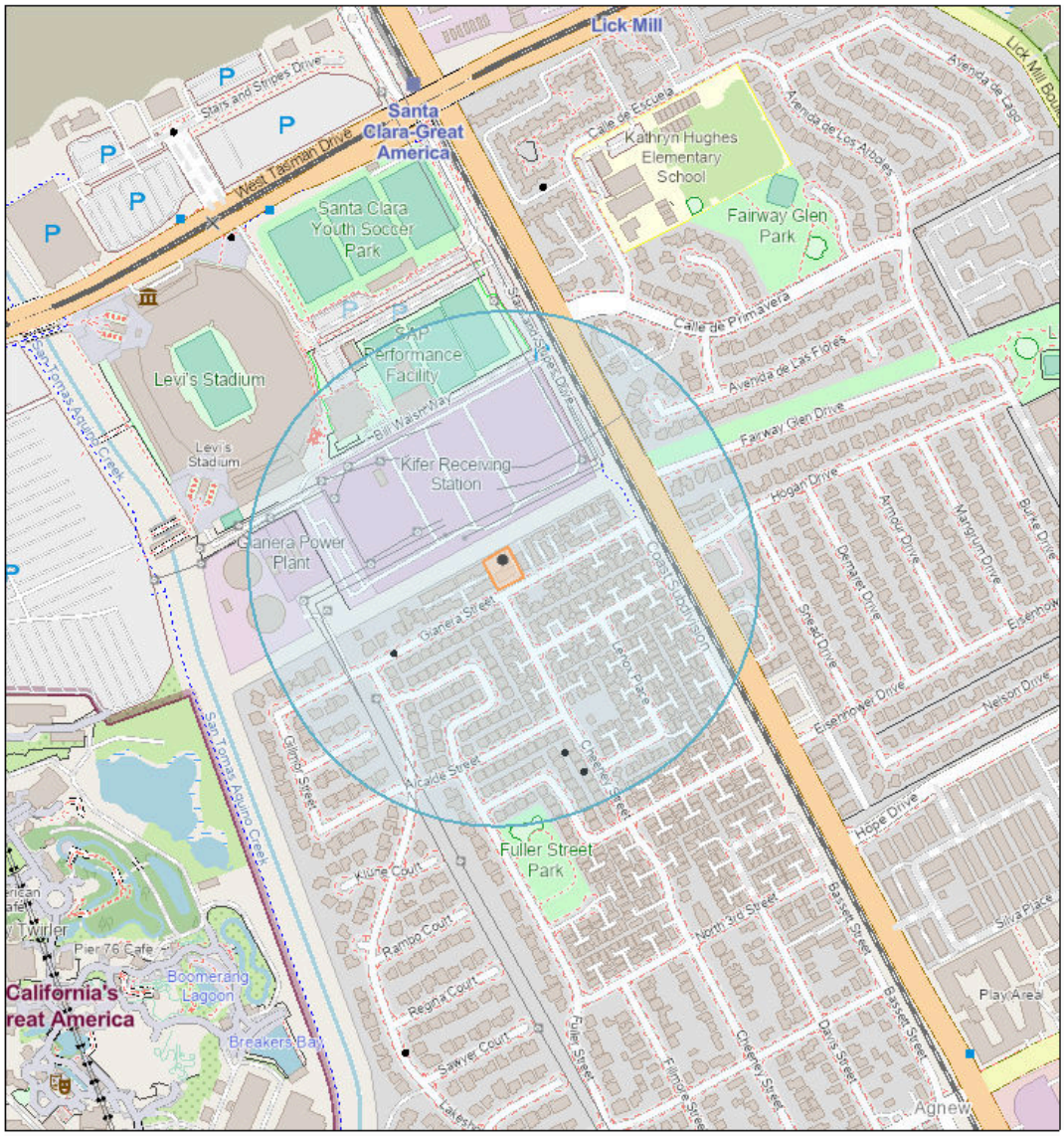
Date last updated:
03/13/2018

Screening Report

Area of Interest (AOI) Information

Area : 3,683,965.24 ft²

Mar 27 2024 13:53:54 Pacific Daylight Time



Summary

Name	Count	Area(ft²)	Length(ft)
Permitted Stationary Sources	3	N/A	N/A

Permitted Stationary Sources

#	Facility_I	Facility_N	Address	City	State
1	1771	City of Santa Clara	2339 Gianera Street	Santa Clara	CA
2	17392	City of Santa Clara Gianera Storm Station	2337 Gianera Street	Santa Clara	CA
3	22144	Irvine Company Office Properties	2600 Great America Way Bldg 1 & 2	Santa Clara	CA

#	Zip	County	Latitude	Longitude	Details
1	95050	Santa Clara	37.398828	-121.964654	*No Data*
2	95054	Santa Clara	37.399982	-121.967154	Generator
3	95054	Santa Clara	37.398604	-121.964369	Generator

#	NAICS	NAICS_Sect	NAICS_Subs	NAICS_Indu	Cancer_Ris
1	221112	Utilities	Utilities	Fossil Fuel Electric Power Generation	7.963000
2	221320	Utilities	Utilities	Sewage Treatment Facilities	3.969000
3	531120	Real Estate and Rental and Leasing	Real Estate	Lessors of Nonresidential Buildings (except Miniwarehouses)	6.592000

#	Chronic_Ha	PM25	Count
1	0.058000	6.887000	1
2	0.001000	0.005000	1
3	0.002000	0.009000	1

NOTE: A larger buffer than 1000 feet may be warranted depending on proximity to significant sources.