PARK HABITAT PROJECT CONSTRUCTION COMMUNITY RISK ASSESSMENT

San José, California

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Introduction

The purpose of this report is to address the potential community risk impacts associated with the construction of the proposed Park Habitat project located at 180 Park Avenue in downtown San José, California. The air quality impacts from this project would be associated with construction of the new buildings. Air pollutant emissions associated with construction of the project were predicted using appropriate computer models. In addition, the potential project construction health risk impacts and the impact of existing toxic air contaminant (TAC) sources affecting the nearby sensitive receptors were evaluated. The analysis was conducted following guidance provided by the Bay Area Air Quality Management District (BAAQMD).[1] BAAQMD recommends using a 1,000-foot screening radius around the project site for purposes of identifying community health risk from existing sources of TACs.

Project Description

In April 2016, *Illingworth & Rodkin, Inc*. drafted an air quality assessment for the Park Habitat (previously called Museum Place) mixed-use project[2] in San José, California. Since the original assessment, project construction information has been updated and off-site sensitive receptors have been located within the project's air quality influence area. The primary difference is an accelerated construction schedule that includes nighttime work. This report is an addendum to the original 2016 air quality assessment and analyzes the health risk impacts of a 24 hour per day, 7 day per week construction cycle that was not evaluated in the original assessment. The accelerated schedule will result in greater construction air quality impacts. These impacts are addressed in this report.

The project site is currently occupied by Parkside Hall where The Tech Museum of Innovation hosts exhibits. The project proposes to demolish Parkside Hall and construct a 21-story mixed use building including 1,192,912 square feet of office space which includes expansion space for The Tech Museum of Innovation, 22,135 square feet of retail space including a gym, and a 994-space enclosed parking garage.[3] Construction is proposed to begin in October of 2021 and be completed in November of 2024.

Setting

The project is located 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 with the exception of ground-level ozone, respirable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$).

[1] Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017.
[2] Illingworth & Rodkin, Inc., "Museum Place Environmental Noise and Vibration Assessment," April 14, 2016.
[3] The project land uses have been updated since this analysis. The square footages of the office, museum expansion, and retail land uses have changed. Additionally, the number of parking spaces has changed. These project modifications would result in a small increase in construction emissions and risks, and would not change the project's impacts, as discussed further in the report.

Air Pollutants of Concern

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

Particulate matter is another problematic air pollutant of the Bay Area. Particulate matter is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less (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 levels aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

Toxic Air Contaminants

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

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

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, 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 sensitive receptors to the project site are in the multi-family residences north and east of the project site. This project would not 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 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.[4]

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.[5] 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

[4] USEPA, 2000. *Regulatory Announcement, Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements*. EPA420-F-00-057. December.

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

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 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.[6] The program examines TAC emissions from point sources, area sources, and on-road and off-road mobile

[6] See BAAQMD: https://www.baaqmd.gov/community-health/community-health-protection-program/community-air-risk-evaluation-care-program , accessed 2/18/2021.

sources with an emphasis on diesel exhaust, which is a major contributor to airborne health risk in California. The CARE program is an on-going program that encourages community involvement and input. The technical analysis portion of the CARE program is being implemented in three phases that includes an assessment of the sources of TAC emissions, modeling and measurement programs to estimate concentrations of TAC, and an assessment of exposures and health risks. Throughout the program, information derived from the technical analyses will be used to focus emission reduction measures in areas with high TAC exposures and high density of sensitive populations. Risk reduction activities associated with the CARE program are focused on the most at-risk communities in the Bay Area. The BAAQMD has identified six communities as impacted: Concord, Richmond/San Pablo, Western Alameda County, San José, Redwood City/East Palo Alto, and Eastern San Francisco. The project site is not within a CARE area.

The BAAQMD California Environmental Quality Act (*CEQA) Air Quality Guidelines*[7] were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process consistent with CEQA requirements including thresholds of significance, mitigation measures, and background air quality information. They also include assessment methodologies for air toxics, odors, and greenhouse gas emissions. *Attachment 1* includes detailed community risk modeling methodology.

San José Envision 2040 General Plan

The San José Envision 2040 General Plan includes goals, policies, and actions to reduce exposure of the City's sensitive population to exposure of air pollution and toxic air contaminants or TACs. The following goals, policies, and actions are applicable to the proposed project and this assessment:

Applicable Goals – Air Pollutant Emission Reduction

Goal MS-10 Minimize emissions from new development.

Applicable Policies – Air Pollutant Emission Reduction

MS-10.1 Assess projected air emissions from new development in conformance with the Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines and relative to state and federal standards. Identify and implement feasible air emission reduction measures.

MS-10.2 Consider the cumulative air quality impacts from proposed developments for proposed land use designation changes and new development, consistent with the region's Clean Air Plan and State law.

MS-10.3 Promote the expansion and improvement of public transportation services and facilities, where appropriate, to both encourage energy conservation and reduce air pollution.

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

Applicable Goals – Toxic Air Contaminants

Goal MS-11 Minimize exposure of people to air pollution and toxic air contaminants such as ozone, carbon monoxide, lead, and particulate matter.

Applicable Policies – Toxic Air Contaminants

MS-11.2 For projects that emit toxic air contaminants, require project proponents to prepare health risk assessments in accordance with BAAQMD-recommended procedures as part of environmental review and employ effective mitigation to reduce possible health risks to a less than significant level. Alternatively, require new projects (such as, but not limited to, industrial, manufacturing, and processing facilities) that are sources of TACs to be located an adequate distance from residential areas and other sensitive receptors.

MS-11.4 Encourage the installation of appropriate air filtration at existing schools, residences, and other sensitive receptor uses adversely affected by pollution sources.

MS-11.5 Encourage the use of pollution absorbing trees and vegetation in buffer areas between substantial sources of TACs and sensitive land uses.

Actions – Toxic Air Contaminants

MS-11.7 Consult with BAAQMD to identify stationary and mobile TAC sources and determine the need for and requirements of a health risk assessment for proposed developments.

MS-11.8 For new projects that generate truck traffic, require signage which reminds drivers that the State truck idling law limits truck idling to five minutes.

Applicable Goals – Construction Air Emissions

Goal MS-13 Minimize air pollutant emissions during demolition and construction activities

Applicable Policies – Construction Air Emissions

MS-13.1 Include dust, particulate matter, and construction equipment exhaust control measures as conditions of approval for subdivision maps, site development and planned development permits, grading permits, and demolition permits. At minimum, conditions shall conform to construction mitigation measures recommended in the current BAAQMD CEQA Guidelines for the relevant project size and type.

Applicable Actions – Construction Air Emissions

MS-13.4 Adopt and periodically update dust, particulate, and exhaust control standard measures for demolition and grading activities to include on project plans as conditions of approval based upon construction mitigation measures in the BAAQMD CEQA Guidelines.

Downtown Strategy 2040 Plan

The San José Downtown Strategy (DTS) 2040 Plan[8] is an urban design plan that guides development activities planned within the Downtown area. This strategy would increase the amount of new commercial office by an additional three million sf (approximately 10,000 jobs with the new total being 14.2 million sf of commercial by the year 2040. The residential capacity would be increased up to 4,360 units. The amount of new retail development (1.4 million sf) and hotel room (3,600 rooms) capacities of the DTS 2000 would be maintained. The integrated Final Environmental Impact Report was published December 2018.

The DTS identified less-than-significant construction period emissions if development projects are in conformance with 2017 BAAQMD CEQA Guidelines, GP Policy MS-13.1, and current City requirements that include various levels of construction emissions control measures. All projects are required to implement the following control measures:

City requirements, all projects will be required to implement the following control measures:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible.
- Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
- Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take

[8] City of San José, *Downtown Strategy 2040 FILE NO. PP15-102* , Web: https://www.sanjoseca.gov/your-government/departments/planning-building-code-enforcement/planning-division/environmental-planning/environmental-review/active-eirs/downtown-strategy-2040#:~:text=The%20proposed%20Downtown%20Strategy%202040,Plan%204%2DYear%20Review%20recommendations.

corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Future projects developed under the DTS that incorporate these measures and are below the screening levels would not result in a significant impact related to construction emissions of regional criteria pollutants. Projects that exceed the screening levels would be required to complete additional project level analysis of construction-related emissions of criteria pollutants and may require additional measures to ensure that construction emissions would not exceed the threshold for average daily emissions.

Operational emissions of regional criteria air pollutants with measures included to reduce emissions under the DTS were identified as significant and unavoidable. To reduce operational emissions associated with vehicle travel, future development will be required to implement a transportation demand management (TDM) program, consistent with the Downtown Transportation Plan. The TDM programs may incorporate, but would not be limited to, the following Transportation Control Measures (TCMs):

- Rideshare Measures: Implement carpool/vanpool program (e.g., carpool ride matching for employees, assistance with vanpool formation, provision of vanpool vehicles, etc.)
- Transit Measures:
- Construct transit facilities such as bus turnouts/bus bulbs, benches, shelters, etc.
- Design and locate buildings to facilitate transit access (e.g., locate building entrances near transit stops, eliminate building setbacks, etc.)
- Services Measures:
- Provide on-site shops and services for employees, such as cafeteria, bank/ATM, dry cleaners, convenience market, etc.;
- Provide on-site childcare or contribute to off-site childcare within walking distance.
- Shuttle Measures:
- Establish mid-day shuttle service from work site to food service establishments/ commercial areas;
- Provide shuttle service to transit stations/multimodal centers
- Parking Measures:
- Provide preferential parking (e.g., near building entrance, sheltered area, etc.) for carpool and vanpool vehicles;
- Implement parking fees for single occupancy vehicle commuters;
- Implement parking cash-out program for employees (i.e., non-driving employees receive transportation allowance equivalent to value of subsidized parking);
- Bicycle and Pedestrian Measures:
- Provide secure, weather-protected bicycle parking for employees;
- Provide safe, direct access for bicyclists to adjacent bicycle routes;
- Provide showers and lockers for employees bicycling or walking to work;
- Provide secure short-term bicycle parking for retail customers or non-commute trips;

- Provide direct, safe, attractive pedestrian access from Planning Area to transit stops and adjacent development;
- Other Measures:
- Implement compressed work week schedule (e.g., 4 days/40 hours, 9 days/80 hours);
- Implement home-based telecommuting program.

During project-level supplemental review of future individual development projects, the measures will be evaluated for consistency with the DTS 2040 and General Plan policies. All feasible and applicable measures will be required as part of project design or as conditions of approval.

Significance Thresholds

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

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	Not Applicable	
Health Risks and Hazards	**Single Sources Within 1,000-foot Zone of Influence**	**Combined Sources (Cumulative from all sources within 1000-foot zone of influence)**	
Excess Cancer Risk	10 per one million	100 per one million	
Hazard Index	1.0	10.0	
Incremental annual $PM_{2.5}$	0.3 $\mu g/m^3$	0.8 $\mu g/m^3$	

Construction Community Risk Impacts and Mitigation Measures

Project impacts related to increased community risk can occur either by generating emissions of TACs and air pollutants and by introducing a new sensitive receptor in proximity to an existing source of TACs. Temporary project construction activity would generate emissions of DPM from equipment and trucks and also generate dust on a temporary basis that could affect nearby sensitive receptors. A construction community health risk assessment was prepared to address project construction impacts on the surrounding off-site sensitive receptors.

Community risk impacts are addressed by predicting increased lifetime cancer risk, the increase in annual $PM_{2.5}$ concentrations, and computing the Hazard Index (HI) for non-cancer health risks. Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. These exhaust emissions pose health risks for sensitive receptors such as surrounding residents. The primary community risk impact issues associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. 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 $PM_{2.5}$.[9] This assessment included dispersion modeling to predict the offsite and onsite concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be evaluated. The methodology for computing community risks impacts is contained in *Attachment 1*.

Construction Period Emissions

The California Emissions Estimator Model (CalEEMod) Version 2020.4.0 was used to estimate emissions from on-site construction activity, construction vehicle trips, and evaporative emissions. The project land use types and size, and anticipated construction schedule were input to CalEEMod. The CARB EMission FACtors 2021 (EMFAC2021) model was used to predict emissions from construction traffic, which includes worker travel, vendor trucks, and haul trucks.[10] The CalEEMod model output along with construction inputs are included in *Attachment 2* and EMFAC2021 vehicle emissions modeling outputs are included in *Attachment 3*.

CalEEMod Modeling

Land Use Inputs marginally

The proposed project land uses[11] were entered into CalEEMod as described in Table 2.

[9] DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.
[10] See CARB's EMFAC2021 Emissions Inventory at https://arb.ca.gov/emfac/emissions-inventory.
[11] The project land uses have been updated since this analysis. The office square footage would increase to 1,203,352-sf, the retail square footage would decrease to 10,103-sf, and the museum expansion would increase to 60,836-sf, for a net unmodeled uses area of 59,239-sf. However, construction activities (i.e., schedule, equipment quantities, hours used) and the project footprint (i.e., acreage) would not change with the new project land uses. While construction emissions would marginally increase from these land uses changes, the project's construction criteria pollutant emissions and the community risk impacts with the inclusion of the proposed mitigation measures described in the analysis are below the significance thresholds and a small increase would not cause the emissions and impacts to exceed the thresholds.

Table 2. Summary of Project Land Use Inputs

Project Land Uses	Size	Units	Square Feet (sf)	Acreage
General Office Building	1192.91	1,000-sf	1,192,912	2.54
Enclosed Parking with Elevator	994	Parking Spaces	397,600	
Regional Shopping Center	22.14	1,000-sf	22,140	

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 CalEEMod model generates a default set of construction assumptions for "typical construction site scenarios"; however, these are not appropriate for a project like this that involves demolition, excavation, and extensive vertical construction on a relatively small site.[12] For this project, the construction build-out scenario, including equipment list and schedule, were based on data provided by the project applicant. The construction equipment worksheets provided by the applicant included the schedule for each phase. Within each phase, the quantity of equipment to be used along with the average hours per day and total number of workdays was set to the default values in CalEEMod. Where CalEEMod does not provide default values, conservative values were estimated for equipment required and hours operated. Since different equipment would have different estimates of the working days per phase, the hours per day for each phase was computed by dividing the total number of hours that the equipment would be used by the total number of days in that phase. The construction schedule assumed that the earliest possible start date would be October 2021 and would be built out over a period of approximately 37 months, or 1,132 construction workdays on a 24/7 construction schedule. The earliest year of full operation was assumed to be 2025.

Construction Truck 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 the estimate of soil material imported and/or exported to the site and the estimate of cement and asphalt truck trips. CalEEMod provides daily estimates of worker and vendor trips for each applicable phase. The total trips for those were computed by multiplying the daily trip rate by the number of days in that phase. Haul trips for demolition and grading were estimated from the provided demolition and grading volumes by assuming each truck could carry 10 tons per load. The number of concrete and asphalt total round haul trips were provided for the project and converted to total one-way trips, assuming two trips per delivery.

[12] SCAQMD. 2005. S*ample Construction Scenarios for Projects Less than Five Acres in Size* February. Note that this is the supporting report used to develop CalEEMod default construction inputs (see Appendix E – Technical Source Documentation of the CalEEMod User's Guide).

The latest version of the CalEEMod model is based on the older version of the CARB EMFAC2017 motor vehicle emission factor model. This model has been superseded by the EMFAC2021 model; however, CalEEMod has not been updated to include EMFAC2021. Therefore, the construction traffic information was combined with EMFAC2021 motor vehicle emissions factors. EMFAC2021 provides aggregate emission rates in grams per mile for each vehicle type. The vehicle mix for this study was based on CalEEMod default assumptions, where worker trips are assumed to be comprised of light-duty autos (EMFAC category LDA) and light duty trucks (EMFAC category LDT1and LDT2). Vendor trips are comprised of delivery and large trucks (EMFAC category MHDT and HHDT) and haul trips, including cement trucks, are comprised of large trucks (EMFAC category HHDT). Travel distances are based on CalEEMod default lengths, which are 10.8 miles for worker travel, 7.3 miles for vendor trips and 20 miles for hauling (soil import/export). Since CalEEMod does not address cement trucks, these were treated as vendor travel distances. Each trip was assumed to include an idle time of 5 minutes. Emissions associated with vehicle starts were also included. On road emissions in Santa Clara County for the years 2021-2024 were used in these calculations. Table 3 provides the traffic inputs that were combined with the EMFAC2021 emission database to compute vehicle emissions. Daytime trips are displayed with nighttime trips in parentheses. All pavement demolition, soil export, and cement trips are assumed to occur during the daytime.

Table 3. Construction Traffic Data Used for EMFAC2021 Model Runs

CalEEMod Run/Land Uses and Construction Phase	Trips by Trip Type			Notes
	Total Worker[1]	Total Vendor[1]	Total Haul[2]	
Vehicle mix[1]	67.0% LDA 6.4% LDT1 26.6% LDT2	7.1% MHDT 92.9% HHDT	100% HHDT	
Trip Length (miles)	10.8	7.3	20.0	CalEEMod default distance with 5-min truck idle time.
Demolition	1,818 (808)	-	4,012 (0)	37,850 tons pavement demolition. CalEEMod default worker trips.
Shoring/Grading/Excav	5,600 (5,600)	-	22,825 (0)	182,600-cy soil export. CalEEMod default worker trips.
Below Slab Utility	960 (960)	50,688 (50,688)	-	CalEEMod default worker trips.
Foundation/Structure	16,890 (28,150)	-	-	6,200 cement round trips. CalEEMod default worker and vendor trips.
Building - Exterior	161,240 (161,240)	-	12,400 (0)	CalEEMod default worker trips.
Building - Interior	49,728 (49,728)	-	-	CalEEMod default worker trips.

Notes: [1] Based on 2021-2024 EMFAC2021 light-duty vehicle fleet mix for Santa Clara County.
[2] Includes grading trips estimated by CalEEMod based on amount of material to be removed.

Summary of Computed Construction Period Emissions

Average daily emissions were annualized for each year of construction by dividing the annual construction emissions and dividing those emissions by the number of active workdays during that

year. Table 4 shows the annualized average daily construction emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust during construction of the project. As indicated in Table 4, predicted annualized daily average project construction emissions of NOx would exceed the BAAQMD significance thresholds. ROG, PM_{10} and $PM_{2.5}$ emissions are not anticipated to exceed the thresholds.

Table 4. Construction Period Emissions

Year	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Construction Emissions Per Year (Tons)				
2021 + 2022 (Daytime + Nighttime)	1.26	12.13	0.57	0.46
2023 (Daytime + Nighttime)	4.02	14.50	0.68	0.58
2024 (Daytime + Nighttime)	5.20	7.78	0.37	0.30
Average Daily Construction Emissions Per Year (pounds/day)				
2021 + 2022 (447 construction workdays)	5.65	54.26	2.54	2.06
2023 (365 construction workdays)	22.02	79.46	3.71	3.18
2024 (320 construction workdays)	32.49	48.62	2.30	1.88
BAAQMD Thresholds (pounds per day)	*54* lbs./day	*54* lbs./day	*82* lbs./day	*54* lbs./day
Exceed Threshold?	No	**Yes**	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 would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD CEQA Air Quality Guidelines consider these impacts to be less than significant if best management practices are implemented to reduce these emissions. The DTS requires control measures to implement the standard BAAQMD CEQA Air Quality Guidelines best management practices to control dust and exhaust during construction. However, enhanced measures to control dust are required for this project's community health risk impact. *Mitigation Measure AQ-1 would implement BAAQMD's standard and enhanced best management practices*.

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

Measures to reduce fugitive dust (i.e., $PM_{2.5}$) emissions from construction are recommended to and ensure that health impacts to nearby sensitive receptors are minimized. During any construction period ground disturbance, the applicant shall ensure that the project contractor implements both basic and additional measures to control dust and exhaust. Implementation of the dust control 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. Since the construction emissions reported in Table 4 exceed the thresholds, enhanced measures recommended by BAAQMD shall be required. The contractor shall implement the following enhanced best management practices:

1. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.

2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 mph.
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
7. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.
8. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
9. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
10. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
11. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
12. All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
13. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.
14. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
15. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to two minutes. Clear signage shall be provided for construction workers at all access points.

Effectiveness of Mitigation Measure AQ-1

Mitigation Measure AQ-1 represents standard and enhanced mitigation measures that would achieve greater than an 80 percent reduction in on-site fugitive $PM_{2.5}$ emissions. These measures are consistent with recommendations in the BAAMQD CEQA Guidance for providing "best management practices" to control construction emissions.

Mitigation Measure AQ-2: **Use construction equipment that has low NOx and diesel particulate matter exhaust to minimize emissions**

A feasible plan to reduce emissions such that construction period NOx emissions, increased cancer risk, and annual $PM_{2.5}$ concentrations from construction would be reduced below significance levels is 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 emission standards, if feasible, otherwise,

    a. If use of Tier 4 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 an 83 percent reduction in particulate matter exhaust in comparison to uncontrolled equipment; alternatively (or in combination).

    b. Use of electrical or non-diesel fueled equipment.

2. Stationary cranes shall be powered by electricity.

3. Install electric line power during early construction phases to avoid use of diesel portable equipment, such as generators, air compressors, concrete saws, and welders.

4. Primary forklifts shall be powered by CNG

Alternatively, the applicant could develop a separate feasible plan that reduces on- and near-site construction NOx emissions by 33 percent and diesel particulate matter emissions by 83 percent or greater. Such a plan would have to be reviewed and approved by the City.

Effectiveness of Mitigation Measure AQ-2

Mitigation Measure AQ-2 would reduce NOx emissions from construction equipment by about 90 percent compared to uncontrolled emissions. Emissions from construction equipment were modeled in CalEEMod using the mitigation tab and assigning all the equipment as Tier 4 final. Use of some Tier 4 interim equipment would also meet the necessary emissions reductions[13]. Total NOx emissions would be reduced as follows:

- Year 2021+2022 from 54.3 to 13.9 pounds per day
- Year 2023 from 79.5 to 12.9 pounds per day
- Year 2024 from 48.6 to 15.8 pounds per day

The average daily emissions of NOx would be reduced below the threshold for NOx with this mitigation measure.

[13] Note that CalEEMod indicates a 70 percent reduction of NOx emissions for Tier 4 interim conditions, compared to a 89 percent reduction for Tier 4 final equipment.

Community Health Risk from Project Construction

Construction Emissions

The CalEEMod model and EMFAC2021 emissions provided total annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles, with total emissions from all construction stages as 1.29 tons (2,588 pounds). 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 one mile was used to represent vehicle travel while at or near the construction site. It was assumed that these emissions from on-road vehicles traveling at or near the site would occur at the construction site. Fugitive $PM_{2.5}$ dust emissions were calculated by CalEEMod as 0.04 tons (73 pounds) for the overall construction period.

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict concentrations of DPM and $PM_{2.5}$ concentrations at sensitive receptors in the vicinity of the project construction area. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.[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

Combustion equipment DPM exhaust emissions were modeled as a series of point sources with a nine-foot release height (construction equipment exhaust stack height) placed at 23 feet (7 meter) intervals throughout the construction site. This resulted in 181 individual point sources being used to represent mobile equipment DPM exhaust emissions in the construction area, with DPM emissions occurring throughout the project construction site. In addition, the following stack parameters were used: a vertical release, a stack diameter of 2.5 inches, an exhaust temperature of 918˚F, and an exit velocity of 309 feet per second. Since these are point sources, plume rise is calculated by the AERMOD dispersion model. Emissions from vehicle travel on- and off-site were also distributed among the point sources throughout the site. The locations of the point sources used for the modeling are identified in Figure 1.

For modeling fugitive $PM_{2.5}$ emissions, a near-ground level release height of 7 feet (2 meters) was used for the area source. 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 plume will tend to rise as it moves 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.

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

AERMOD Inputs and Meteorological Data

The modeling used a five-year data set (2013 - 2017) of hourly meteorological data from the San Jose Airport prepared for use with the AERMOD model by BAAQMD. Construction emissions were modeled as occurring in two, 12-hour intervals. One "daytime" interval occurring daily between 7:00 a.m. to 7:00 p.m., and a "nighttime" interval occurring daily from 7:00 p.m. to 7:00 a.m. Annual DPM and $PM_{2.5}$ concentrations from construction activities during the 2021-2024 period were calculated using the model. DPM and $PM_{2.5}$ concentrations were calculated at nearby sensitive receptors. Receptor heights of 15 feet (4.5 meters) and 25 feet (7.6 meters) were used to represent the breathing height on the second and third floors of nearby multi-family residences.[15]

Summary of Construction Community Risk Impacts

The maximum increased cancer risks were calculated using the modeled TAC concentrations combined with the Office of Environmental Health Hazard Assessment (OEHHA) guidance for age sensitivity factors and exposure parameters as recommended by BAAQMD (see *Attachment 1)*. Non-cancer health hazards and maximum $PM_{2.5}$ concentrations were also calculated and identified. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing TACs. Infant, child, and adult exposures were assumed to occur at all residences during the entire construction period.

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 refence exposure level of 5 $\mu g/m^3$.

The maximum-modeled annual DPM and $PM_{2.5}$ concentrations, which includes both the DPM and fugitive $PM_{2.5}$ concentrations, were identified at nearby sensitive receptors (as shown in Figure 1) to find the maximally exposed individuals (MEI). Results of this assessment indicated that the construction residential MEI was located at a multi-family residence southeast of the construction project site. Table 5 summarizes the maximum cancer risks, $PM_{2.5}$ concentrations, and health hazard indexes for project related construction activities affecting the construction MEI. *Attachment 4* to this report includes the emission calculations used for the construction area source modeling and the cancer risk calculations.

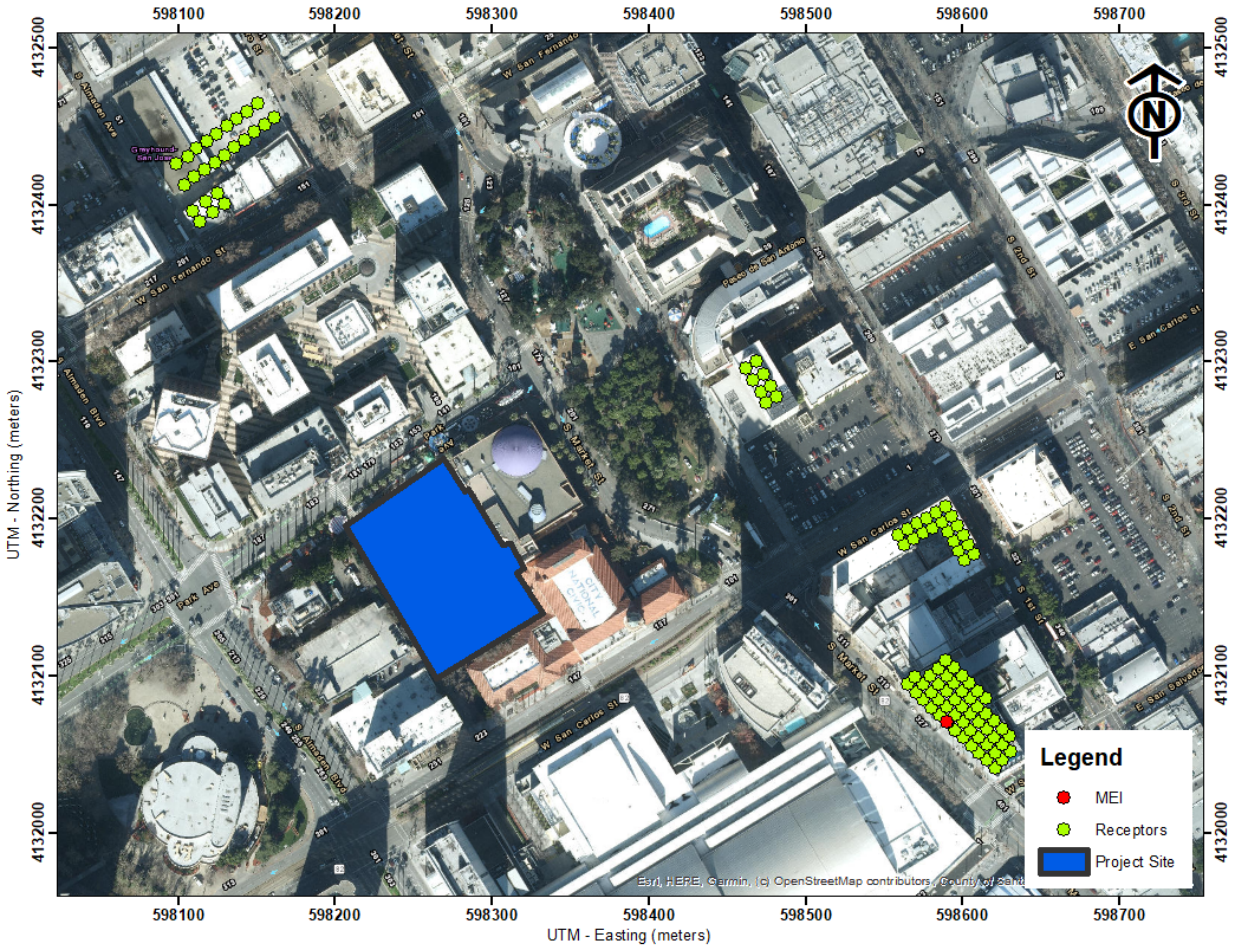
Table 5. Construction Risk Impacts at the Off-site MEI

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Impact				
Project Construction	Unmitigated	**57.3 (infant)**	0.24	0.04
	Mitigated*	3.4 (infant)	0.03	<0.01
BAAQMD Single-Source Threshold		***10***	***0.3***	***1.0***
Exceed Threshold?	Unmitigated	***Yes***	*No*	*No*
	Mitigated*	*No*	*No*	*No*

* Construction equipment with Tier 4 final engines, electric cranes and portable equipment, and enhanced Best Management Practices as Mitigation.

[15] 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

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



Cumulative Community Risks of all TAC Sources at the Offsite Project MEI

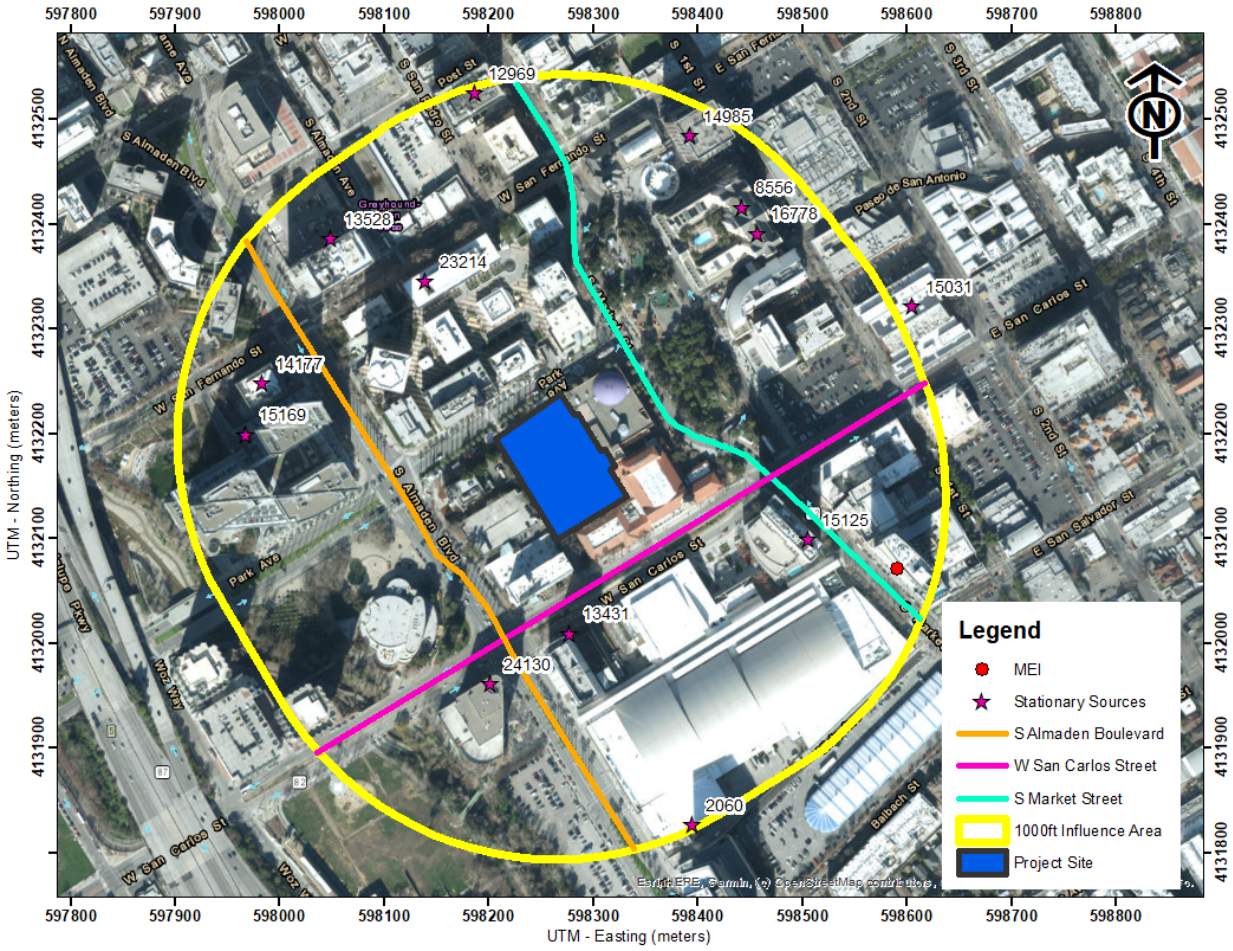
Community health risk assessments typically look at all substantial sources of TACs that can affect sensitive receptors that are located within 1,000 feet of a project site (i.e., influence area). These sources include rail lines, highways, busy surface streets, and stationary sources identified by BAAQMD.

A review of the project area indicated that three roadways within the influence area, S. Market Street, S. Almaden Boulevard, and W. San Carlos Street, would have traffic exceeding 10,000 vehicles per day. Since updated traffic information for this project was not available at the time of this study, roadway screening information from other nearby projects completed by *Illingworth & Rodkin, Inc.* in the downtown San Jose area were used. Average daily traffic data from the nearby projects were computed and entered into the *BAAMQD Roadway Screening Analysis Calculator* to calculate the roadways' estimated cancer risks and annual $PM_{2.5}$ concentrations.

A review of BAAQMD's stationary source geographic information systems (GIS) map tool identified thirteen stationary sources with the potential to affect the project site and MEI. Figure 2

shows the location of the sources affecting the MEI. Community risk impacts from these sources upon the MEI reported in Table 6. Details of the modeling and community risk calculations are included in *Attachment 5*.

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



Local Roadway: S. Almaden Boulevard, W. San Carlos Boulevard, and S. Market Street

For local roadways, BAAQMD has provided the *Roadway Screening Analysis Calculator* to assess impacts on a proposed project. Two adjustments were made to the cancer risk predictions made by this calculator: (1) adjustment for latest vehicle emissions rates and (2) adjustment of cancer risk to reflect new OEHHA guidance (see *Attachment 2*).

The calculator uses EMFAC2011 emission rates for the year 2014. Overall, emission rates will decrease by the time the project is constructed and occupied. The project would not be occupied prior to at least 2025. In addition, a new version of the emissions factor model, EMFAC2014 is available. This version predicts lower emission rates. An adjustment factor of 0.5 was developed by comparing emission rates of total organic gases (TOG) for running exhaust and running losses developed using EMFAC2011 for year 2014 and those from EMFAC2014 for 2018.

The predicted cancer risk was then adjusted using a factor of 1.3744 to account for new OEHHA guidance. This factor was provided by BAAQMD for use with their CEQA screening tools that are used to predict cancer risk.[16]

There were three local roadways with high traffic volumes near the project site which includes S. Almaden Boulevard, S. Market Street, and W. San Carlos Street. The average daily traffic (ADT) on S. Almaden Boulevard was estimated based on the average of peak a.m. and p.m. traffic volumes from the City View Plaza traffic report in an air quality study completed by *Illingworth & Rodkin, Inc*. The ADT on S. Market Street was estimated based on the average of peak a.m. and p.m. traffic volumes from the 490 S 1st Street traffic report in an air quality study completed by *Illingworth & Rodkin, Inc*. The ADT on W. San Carlos Street was estimated based on the average of peak a.m. and p.m. traffic volumes from the South Almaden Offices traffic report in an air quality study completed by *Illingworth & Rodkin, Inc*.

Using the *BAAQMD Roadway Screening Analysis Calculator* for Santa Clara County, S. Almaden Boulevard and S. Market Street were evaluated for north-south directional roadways and with the MEI at distances of approximately 40 feet east and 350 east of the roadways. W. San Carlos Street was evaluated for east-west directional roadway and with the MEI at a distance of 350 south of the roadway. The cancer risk and annual average $PM_{2.5}$ were estimated from these roadways at the construction MEI receptor on the second level above ground and are reported 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 2018* 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 new OEHHA guidance. Thirteen sources were identified using this tool with all thirteen being diesel-powered generators. A Stationary Source Information Form (SSIF) containing the identified sources was prepared and submitted to BAAQMD. BAAQMD provided input and clarification about the stationary sources.[18]

The screening level risks and hazards provided by BAAQMD for the stationary sources were adjusted for distance using BAAQMD's *Distance Adjustment Multiplier Tool for Diesel Internal Combustion Engines*. Community risk impacts from the stationary sources upon the MEI are reported in Table 6.

Construction Risk Impacts from Nearby Developments

From the City's website,[19] the following planned or approved projects are located within 1,000 feet of the proposed project:

[16] Correspondence with Alison Kirk, BAAQMD, November 23, 2015.
[17] BAAQMD, https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65
[18] Email correspondence with Areana Flores, MSc, Environmental Planner, BAAQMD, April 8, 2021.
[19] City of San Jose, Private / Key Economic Development Projects Map, Web: https://gis.sanjoseca.gov/maps/devprojects/

- **South Almaden Offices** – this project is located in the northwestern corner of the Almaden Boulevard/ Woz Way intersection, approximately 690 feet southwest of the project site. It propose the construction of a 15-17 story building with up to 1.8 million square feet of commercial office and parking. While the construction schedule is unknown at this time, construction could occur simultaneously.

- **City View Plaza** – this project is located at 150 Almaden Boulevard and would include construction of three 19-story buildings with up to 3.8 million square feet of office and commercial space. The City View Plaza project site is approximately 150 feet from the project site. This project has been approved, but construction has not started. While the construction schedule is unknown at this time, construction could occur simultaneously.

- **200 Park Avenue –** located at 200 Park Avenue, this project would include 1.1 million square feet of office use. It is currently under construction and adjoins the project site to the west. Completion of this construction project will be ongoing through the end of 2022, and therefore would occur simultaneously with the proposed project.

The mitigated construction risks and hazard impact values for certain developments were available from their air quality technical reports either conducted by *Illingworth & Rodin, Inc*. or on the City of San José Environmental Review website for Active EIRs,[20] Completed EIRs,[21] or Negative Declaration / Initial Studies.[22] For developments that did not have available construction impact results at the time of this study, it was assumed the construction risks would be less than the BAAQMD single-source thresholds for community risks and hazards. If the nearby developments were more than 500 feet from the project site, the construction risks were assumed to be half of the BAAQMD single-source thresholds due to the distance and dispersion between the source and receptors. For the purpose of this analysis, it was conservatively assumed the entire construction period from the proposed project would overlap with the nearby developments' construction schedule. This approach likely provides an overestimate of the community risk and hazard levels because it assumes that maximum impacts from the nearby development occurs concurrently with the proposed project at the proposed project's MEIs. The mitigated construction risks reported in that air quality assessment were included in the cumulative risks Table 6.

Summary of Cumulative Health Risk Impact at Construction MEI

Table 6 reports both the project and cumulative community risk impacts at the sensitive receptors most affected by construction (i.e., the MEI). The project would have an exceedance with respect to community risk caused by project construction activities, since the maximum unmitigated cancer risk exceed the BAAQMD single-source thresholds. The combined unmitigated cancer risk

[20] City of San José, *Active EIRs*, https://www.sanjoseca.gov/your-government/departments/planning-building-code-enforcement/planning-division/environmental-planning/environmental-review/active-eirs
[21] City of San José, *Completed EIRs*, https://www.sanjoseca.gov/your-government/departments/planning-building-code-enforcement/planning-division/environmental-planning/environmental-review/completed-eirs
[22] City of San José, *Negative Declaration / Initial Studies,* https://www.sanjoseca.gov/your-government/departments/planning-building-code-enforcement/planning-division/environmental-planning/environmental-review/negative-declaration-initial-studies

and annual $PM_{2.5}$ concentration would also exceed the BAAQMD cumulative-source threshold. With the implementation of *Mitigation Measure AQ-1 and AQ-2*, the project's cancer risk and $PM_{2.5}$ concentration would be lowered to a level below the single-source thresholds, and the combined cancer risk would be below the cumulative-source threshold. However, the combined annual $PM_{2.5}$ concentration, which includes unmitigated and mitigated impacts, could exceed its cumulative thresholds due to the concentration from the simultaneous construction of nearby developments. The cumulative threshold would be exceeded in the case where all construction activity occurs simultaneously. The HI, unmitigated and mitigated, does not exceed its cumulative threshold.

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	**57.3 (infant)**	0.24	0.04
	Mitigated	3.4 (infant)	0.03	<0.01
BAAQMD Single-Source Threshold		***10***	***0.3***	***1.0***
Exceed Threshold?	Unmitigated	***Yes***	*No*	*No*
	Mitigated	*No*	*No*	*No*
Cumulative Operational Sources				
S. Almaden Boulevard, ADT 17,920		0.68	0.02	-
S. Market Street, ADT 20,983		11.55	0.40	-
W. San Carlos Street, ADT 12,705		1.27	0.05	-
Team San Jose (Facility ID# 2060, Generator, Boiler (5), Fire Pump), MEI 1000+ feet		0.8	0.02	<0.01
Fairmont Hotel [Facility ID# 8556, Generator (2), Dry Cleaning Machine, Boiler (2)], MEI 1000+ feet		0.4	0.02	<0.01
Verizon Business (Facility ID# 12969, Generators), MEI 1000+ feet		1.85	<0.01	<0.01
San Jose Hilton & Towers (Facility ID#13431, Generators), MEI 1000+ feet		0.33	<0.01	<0.01
Pacific Bell (Facility ID#13528, Generators), MEI 1000+ feet		3.09	<0.01	<0.01
Pacific Gas and Electric (Facility ID# 14177, Generators), MEI 1000+ feet		0.07	<0.01	<0.01
Wells Fargo Bank (Facility ID#14985, Generators), MEI 1000+ feet		0.22	<0.01	<0.01
Robert F Peckham Federal Building (Facility ID# 800, Generator), MEI 800 feet		0.09	0.01	<0.01
San Jose Marriott Hotel [Facility ID# 15125, Generator, Tank, Boiler(2)], MEI 300 feet		0.32	0.03	<0.01
Adobe Systems, Inc (Facility ID# 15169, Generators), MEI 1000+ feet		5.66	0.01	<0.01
Owl Energy Resources Inc [Facility ID# 16778, Natural Gas Generator (2)], MEI 1000+ feet		0.57	0.11	<0.01
Level 3 Communications, LLC (Facility ID# 23214, Generators), MEI 1000+ feet		0.15	<0.01	<0.01
CPT 303 Almaden LLC (Facility ID# 24130, Generator, Fire Pump), MEI 1000+ feet		0.14	<0.01	<0.01
Cumulative Temporary Construction Sources				
South Almaden Offices Mitigated Construction Emissions – +1,000 feet west		<9.97	<0.43	<0.03
City View Plaza Mitigated Construction Emissions – +1,000 feet northwest		<15.01	<0.44	<0.01
200 Park Avenue Mitigated Construction Emissions – +1,000 feet northwest		<5.00	<0.15	<0.01
Combined Sources	Unmitigated	**114.45**	**<2.03**	<0.22
	Mitigated	60.55	**<1.82**	<0.19
BAAQMD Cumulative Source Threshold		***100***	***0.8***	***10.0***
Exceed Threshold?	Unmitigated	***Yes***	***Yes***	*No*
	Mitigated	*No*	***Yes***	*No*

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

See Mitigation Measure AQ-1, described above.

Mitigation Measure AQ-2: **Use construction equipment that has low diesel particulate matter exhaust to minimize emissions**

See Mitigation Measure AQ-2, described above.

Effectiveness of Mitigation Measure AQ-1 and AQ-2

CalEEMod was used to compute emissions associated with this mitigation measure assuming that all equipment met U.S. EPA Tier 4 engine standards, electric stationary cranes, generators, air compressors, concrete saws, and welders were used, and enhanced BAAQMD best management practices for construction were included. With these implemented, the project's construction cancer risk impact, assuming infant exposure, would be reduced by 94 percent to 3.4 chances per million. As a result, the project's construction cancer risk would be reduced below the BAAQMD single-source threshold. However even mitigated, the $PM_{2.5}$ concentration would still exceed the cumulative threshold.

Mitigation Measure AQ-1 and *AQ-2* represent the best available measures to reduce project construction period emissions. The $PM_{2.5}$ concentration from existing sources alone exceeds the cumulative threshold at 1.79 $\mu g/m^3$. Cumulative risks exceed the $PM_{2.5}$ concentration threshold because of the overwhelming influence of the potentially simultaneous nearby developments at the MEI. The project's mitigated $PM_{2.5}$ concentration only represents 2 percent of the total mitigated cumulative concentration. In addition, according to BAAQMD health risks would be less-than-significant to the MEI if the risks from the project are reduced below the single-source thresholds.[23] Therefore, the project would not substantially contribute to the total cumulative $PM_{2.5}$ concentration. The project would not be cumulatively considerable and no additional mitigation would be required on the part of the project to mitigate the exceedance of the cumulative source threshold for annual $PM_{2.5}$ concentration. Note that the project would apply best practices in reducing construction emissions, including those of $PM_{2.5}$.

[23] Correspondence with Areana Flores, MSc, Environmental Planner, BAAQMD, February 23, 2021.

Supporting Documentation

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

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

Attachment 3 includes the EMFAC2021 emissions modeling. The input files for these calculations are voluminous and are available upon request in digital format.

Attachment 4 is the construction health risk assessment. This includes the summary of the dispersion modeling and the cancer risk calculations for construction. AERMOD dispersion modeling files for this assessment, which are quite voluminous, are available upon request and would be provided in digital format

Attachment 5 includes the cumulative community risk calculations, modeling results, and health risk calculations from sources affecting the construction MEI and project site receptors.

Attachment 1: Health Risk Calculation Methodology

A health risk assessment (HRA) for exposure to Toxic Air Contaminates (TACs) requires the application of a risk characterization model to the results from the air dispersion model to estimate potential health risk at each sensitive receptor location. The State of California Office of Environmental Health Hazard Assessment (OEHHA) and California Air Resources Board (CARB) develop recommended methods for conducting health risk assessments. The most recent OEHHA risk assessment guidelines were published in February of 2015.[24] These guidelines incorporate substantial changes designed to provide for enhanced protection of children, as required by State law, compared to previous published risk assessment guidelines. CARB has provided additional guidance on implementing OEHHA's recommended methods.[25] This HRA used the 2015 OEHHA risk assessment guidelines and CARB guidance. The BAAQMD has adopted recommended procedures for applying the newest OEHHA guidelines as part of Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants.[26] Exposure parameters from the OEHHA guidelines and the recent BAAQMD HRA Guidelines were used in this evaluation.

Cancer Risk

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

The current OEHHA guidance recommends that cancer risk be calculated by age groups to account for different breathing rates and sensitivity to TACs. Specifically, they recommend evaluating risks for the third trimester of pregnancy to age zero, ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), and ages 16 to 70 (adult exposure). Age sensitivity factors (ASFs) associated with the different types of exposure are an ASF of 10 for the third trimester and infant exposures, an ASF of 3 for a child exposure, and an ASF of 1 for an adult exposure. Also associated with each exposure type are different breathing rates, expressed as liters per kilogram of body weight per day (L/kg-day) or liters per kilogram of body weight per 8-hour period for the case of worker or school child exposures. As recommended by the BAAQMD for residential exposures, 95th percentile breathing rates are used for the third trimester and infant exposures, and 80th percentile breathing rates for child and adult exposures. For children at schools and daycare facilities, BAAQMD recommends using the 95th percentile 8-hour breathing rates. Additionally, CARB and the BAAQMD recommend the use of a residential exposure duration of

[24] 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.
[25] CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.
[26] BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

30 years for sources with long-term emissions (e.g., roadways). For workers, assumed to be adults, a 25-year exposure period is recommended by the BAAQMD. For school children a 9-year exposure period is recommended by the BAAQMD.

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

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

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

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

Where:

C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
8HrBR = 8-hour breathing rate (L/kg body weight-8 hours)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

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

Parameter	*Exposure Type* →	Infant		Child	Adult
	Age Range →	3rd Trimester	0<2	2 < 16	16 - 30
DPM Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$		1.10E+00	1.10E+00	1.10E+00	1.10E+00
Daily Breathing Rate (L/kg-day) 80th Percentile Rate		273	758	572	261
Daily Breathing Rate (L/kg-day) 95th Percentile Rate		361	1,090	745	335
8-hour Breathing Rate (L/kg-8 hours) 95th Percentile Rate		-	1,200	520	240
Inhalation Absorption Factor		1	1	1	1
Averaging Time (years)		70	70	70	70
Exposure Duration (years)		0.25	2	14	14*
Exposure Frequency (days/year)		350	350	350	350*
Age Sensitivity Factor		10	10	3	1
Fraction of Time at Home (FAH)		0.85-1.0	0.85-1.0	0.72-1.0	0.73*
* An 8-hour breathing rate (8HrBR) is used for worker and school child exposures.					

Non-Cancer Hazards

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

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

Annual $PM_{2.5}$ Concentrations

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

Attachment 2: CalEEMod Modeling Inputs and Outputs

Air Quality/Noise Construction Information Data Request

Project Name: "Park Habitat" 180 Park Avenue

Complete ALL Portions in Yellow

See Equipment Type TAB for type, horsepower and load factor

Project Size

0 Dwelling Units — 2.54 36.39 total project acres disturbed

0 s.f. residential

22,135 — 21,165 s.f. retail + gym

1,192,912 — 908,522 s.f. office/commercial + tech museum

~~288,949~~ s.f. other, specify:

405,071 s.f. parking garage — 994 953 spaces

0 s.f. parking lot — 0 spaces

Construction Hours
Monday-Friday
Saturday — 24 hours/day

Pile Driving? No

Project include OPERATIONAL GENERATOR OR FIRE PUMP on-site? Y/N? __Y__

IF YES (if BOTH separate values) -->

Kilowatts/Horsepower: ____95_____

Fuel Type: _____T4_____

Location in project (Plans Desired if Available):

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

Quantity	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	Annual Hours	Comments
	Demolition	**Start Date:**	**10/11/2021**	**Total phase:**	**101**			**Overall Import/Export Volumes**
		End Date:	**1/20/2022**					
2	Concrete/Industrial Saws	81	0.73	12	26	3.1	624.0	**Demolition Volume**
3	Excavators	158	0.38	14	20	2.8	840.0	Square footage of buildings to be demolished
1	Rubber-Tired Dozers	247	0.4	12	31	3.7	372.0	(*or* total tons to be hauled)
1	Tractors/Loaders/Backhoes	97	0.37	10	31	3.1	310.0	**~50,000** square feet *or*
								__ Hauling volume (tons)
								Any pavement demolished and hauled? **~37,850 tons**
	Shoring / Grading / Excavation	**Start Date:**	**1/14/2022**	**Total phase:**	**200**			
		End Date:	**8/1/2022**					**Soil Hauling Volume**
3	Excavators	187	0.41	12	200	12.0	7200.0	Export volume = **182,600** cubic yards
3	Tractors/Loaders/Backhoes	97	0.37	12	200	12.0	7200.0	
2	Crane - Shoring Operation	390	0.29	10	135	6.8	2700.0	
3	Shoring Pile Rig	433	0.5	16	65	5.2	3120.0	Drill rigs; Non-vibrator/Non-hammer rigs
	Below Slab Utility	**Start Date:**	**5/7/2024**	**Total phase:**	**192**			
	(Under Gd Utilities)	**End Date:**	**11/15/2024**					
2	Tractor/Loader/Backhoes	97	0.37	18	13	1.2	468.0	
	Foundation/Structure	**Start Date:**	**8/2/2022**	**Total phase:**	**563**			
		End Date:	**2/16/2024**					
2	Tractor/Loader/Backhoe	97	0.37	14	185	4.6	5180.0	
3	Concrete Pump	220	0.42	14	93	2.3	3906.0	
2	Personnel/Material Hoist	88	0.34	14	370	9.2	10360.0	Electric? (Y/N) _Y_ Otherwise assumed diesel
3	Cranes	390	0.29	14	370	9.2	15540.0	Electric? (Y/N) _Y_ Otherwise assumed diesel
2	Welders	46	0.45	14	185	4.6	5180.0	Electric? (Y/N) _Y_ Otherwise assumed diesel
	Building - Exterior	**Start Date:**	**8/11/2023**	**Total phase:**	**290**			**Cement Trucks? 6,200 Total Round-Trips**
		End Date:	**5/27/2024**					
1	Cranes	240	0.29	18	290	18.0	5220.0	Electric? (Y/N) _Y_ Otherwise assumed diesel
4	Forklifts	110	0.2	18	290	18.0	20880.0	Liquid Propane (LPG)? (Y/N) _Y_ Otherwise Assumed diesel
1	Generator Sets	84	0.74	16	120	6.6	1920.0	Or temporary line power? (Y/N) _Y_
2	Personnel/Material Hoist	88	0.34	16	235	13.0	7520.0	Electric? (Y/N) _Y_ Otherwise assumed diesel
1	Tractors/Loaders/Backhoes	97	0.37	18	290	18.0	5220.0	
4	Welders	46	0.45	18	290	18.0	20880.0	
						0.0		
	Building - Interior (Arch. Coating)	**Start Date:**	**7/26/2023**	**Total phase:**	**448**			
		End Date:	**10/16/2024**					
2	Air Compressors	78	0.48	18	282	11.3	10152.0	
4	Aerial Lift	62	0.31	18	352	14.1	25344.0	

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 horepower or load factor, as appropriate

Complete one sheet for each project component

6198.666667

Air Quality/Noise Construction Information Data Request

Project Name: "Park Habitat" 180 Park Avenue

Complete ALL Portions in Yellow

See Equipment Type TAB for type, horsepower and load factor

Project Size

0 Dwelling Units

2.54 36.39 total project acres disturbed

0 s.f. residential

22,135 21,165 s.f. retail + gym

1,192,912 908,522 s.f. office/commercial + tech museum

~~288,949~~ s.f. other, specify:

405,071 s.f. parking garage 994 953 spaces

0 s.f. parking lot 0 spaces

Construction Hours
Monday-Friday 24 hours/day
Saturday

Pile Driving? No

Project include OPERATIONAL GENERATOR OR FIRE PUMP on-site? Y/N? __Y__

IF YES (if BOTH separate values) -->

Kilowatts/Horsepower: ____95_____

Fuel Type: _____T4_____

Location in project (Plans Desired if Available):

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

Quantity	Description	HP	Load Factor	*Night* Hours/Day	Total Work Days	Avg. Hours per day	Annual Hours	Comments
	Demolition	**Start Date:**	**10/11/2021**	**Total phase:**	**101**			**Overall Import/Export Volumes**
		End Date:	**1/20/2022**					
2	Concrete/Industrial Saws	81	0.73	0	26	0.0	0.0	**Demolition Volume**
3	Excavators	158	0.38	2	20	0.4	120.0	Square footage of buildings to be demolished
1	Rubber-Tired Dozers	247	0.4	0	31	0.0	0.0	(*or* total tons to be hauled)
1	Tractors/Loaders/Backhoes	97	0.37	0	31	0.0	0.0	**~50,000** square feet *or*
								__ Hauling volume (tons
								Any pavement demolished and hauled? **~37,850 tons**
	Shoring / Grading / Excavation	**Start Date:**	**1/14/2022**	**Total phase:**	**200**			
		End Date:	**8/1/2022**				0.0	**Soil Hauling Volume**
3	Excavators	187	0.41	8	200	8.0	4800.0	Export volume = **182,600** cubic yards
3	Tractors/Loaders/Backhoes	97	0.37	8	200	8.0	4800.0	
2	Crane - Shoring Operation	390	0.29	8	135	5.4	2160.0	
3	Shoring Pile Rig	433	0.5	8	65	2.6	1560.0	Drill rigs; Non-vibrator/Non-hammer rigs
	Below Slab Utility	**Start Date:**	**5/7/2024**	**Total phase:**	**192**			
		End Date:	**11/15/2024**					
2	Tractor/Loader/Backhoes	97	0.37	6	13	0.4	156.0	
	Foundation/Structure	**Start Date:**	**8/2/2022**	**Total phase:**	**563**			
		End Date:	**2/16/2024**					
2	Tractor/Loader/Backhoe	97	0.37	4	185	1.3	1480.0	
6	Redi-mix Trucks	220	0.42	10	185	3.3	11100.0	
5	Concrete Pump	220	0.42	10	93	1.7	4650.0	
2	Personnel/Material Hoist	88	0.34	10	370	6.6	7400.0	Electric? (Y/N) Y Otherwise assumed diesel
3	Cranes	390	0.29	10	370	6.6	11100.0	Electric? (Y/N) Y Otherwise assumed diesel
2	Welders	46	0.45	4	185	1.3	1480.0	Electric? (Y/N) Y Otherwise assumed diesel
	Building - Exterior	**Start Date:**	**8/11/2023**	**Total phase:**	**290**			**Cement Trucks? 6,200 Total Round-Trips**
		End Date:	**5/27/2024**					
1	Cranes	240	0.29	6	290	6.0	1740.0	Electric? (Y/N) Y Otherwise assumed diesel
4	Forklifts	110	0.2	6	290	6.0	6960.0	Liquid Propane (LPG)? (Y/N) Y Otherwise Assumed diesel
1	Generator Sets	84	0.74	4	120	1.7	480.0	Or temporary line power? (Y/N) Y
2	Personnel/Material Hoist	88	0.34	4	235	3.2	1880.0	Electric? (Y/N) Y Otherwise assumed diesel
1	Tractors/Loaders/Backhoes	97	0.37	6	290	6.0	1740.0	
4	Welders	46	0.45	6	290	6.0	6960.0	
	Building - Interior (Arch. Coating)	**Start Date:**	**7/26/2023**	**Total phase:**	**448**			
		End Date:	**10/16/2024**					
2	Air Compressors	78	0.48	6	282	3.8	3384.0	
4	Aerial Lift	62	0.31	6	352	4.7	8448.0	

Equipment types listed in "Equipment Types" worksheet tab.

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

Complete one sheet for each project component

It is assumed that water trucks would be used during grading

6198.666667

Add or subtract phases and equipment, as appropriate

Modify horepower or load factor, as appropriate

Unmitigated Construction Criteria Air Pollutants						
Unmitigated	ROG	NOX	PM10 Exhaust	PM2.5 Exhaust	**CO2e**	
Year	Tons				MT	
Construction Equipment						
2021 + 2022	0.98	9.80	0.41	0.38	2056.64	
2023	3.75	13.07	0.57	0.54	2313.44	
2024	4.98	6.58	0.28	0.26	1198.54	
EMFAC						
2021 + 2022	0.28	2.32	0.16	0.08	1475.79	
2023	0.27	1.43	0.10	0.04	858.54	
2024	0.22	1.20	0.09	0.04	741.19	
Total Construction Emissions by Year						
2021 + 2022	1.26	12.13	0.57	0.46	3532.42	
2023	4.02	14.50	0.68	0.58	3171.98	
2024	5.20	7.78	0.37	0.30	1939.73	
	Total Construction Emissions					
Tons	10.53	34.88	1.64	1.36	8829.54	
Pounds/Workdays	*Average Daily Emissions*				Workdays	
2021 + 2022	5.65	54.26	2.54	2.06		**447**
2023	22.02	79.46	3.71	3.18		**365**
2024	32.49	48.62	2.30	1.88		**320**
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**		
	Total Construction Emissions					
Pounds	60.15	182.34	8.55	7.11	0.00	
Average	18.61	61.62	2.90	2.40	0.00	1132.00
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**		

Mitigated Construction Criteria Air Pollutants						
Mitigated	ROG	NOX	PM10 Exhaust	PM2.5 Exhaust	**CO2e**	
Year	Tons				MT	
Construction Equipment						
2021 + 2022	0.18	0.79	0.02	0.02	1329.71	
2023	2.39	0.92	0.01	0.01	538.13	
2024	4.27	1.33	0.01	0.01	319.00	
EMFAC						
2021 + 2022	0.28	2.32	0.16	0.08	1475.79	
2023	0.27	1.43	0.10	0.04	858.54	
2024	0.22	1.20	0.09	0.04	741.19	
Total Construction Emissions by Year						
2021 + 2022	0.47	3.11	0.18	0.11	2805.50	
2023	2.65	2.35	0.11	0.05	1396.67	
2024	4.49	2.53	0.10	0.04	1060.19	
	Total Construction Emissions					
Tons	7.67	8.46	0.42	0.22	5447.77	
Pounds/Workdays	*Average Daily Emissions*				Workdays	
2021 + 2022	2.09	13.93	0.82	0.47		**447**
2023	14.54	12.88	0.62	0.28		**365**
2024	28.08	15.83	0.60	0.27		**320**
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**		
	Total Construction Emissions					
Pounds	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.00	
Average	13.55	14.95	0.75	0.38	0.00	1132.00
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**		

16-051 Park Habitat Day Construction - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

16-051 Park Habitat Day Construction

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	1,192.91	1000sqft	2.54	1,192,910.00	0
Enclosed Parking with Elevator	994.00	Space	0.00	397,600.00	0
Regional Shopping Center	22.14	1000sqft	0.00	22,140.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2025
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Acreage and unit amounts provided by applicant

Construction Phase - Phase dates provided by applicant

Off-road Equipment - Construction equipment details provided by applicant

Off-road Equipment - Construction equipment details provided by applicant

Off-road Equipment - Construction equipment details provided by applicant

Off-road Equipment - Construction equipment details provided by applicant

Off-road Equipment - Construction equipment details provided by applicant

Off-road Equipment - Construction equipment details provided by applicant

Trips and VMT - All trips entered into EMFAC2021

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Demolition -

Grading - Acreage provided by applicant

Construction Off-road Equipment Mitigation - Enhanced BMPs, all non-electric equipment t4f

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	10.00	449.00
tblConstructionPhase	NumDays	220.00	291.00
tblConstructionPhase	NumDays	20.00	102.00
tblConstructionPhase	NumDays	6.00	200.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblGrading	MaterialExported	0.00	182,600.00
tblLandUse	LotAcreage	27.39	2.54
tblLandUse	LotAcreage	8.95	0.00
tblLandUse	LotAcreage	0.51	0.00
tblOffRoadEquipment	HorsePower	231.00	240.00
tblOffRoadEquipment	HorsePower	89.00	110.00
tblOffRoadEquipment	HorsePower	63.00	62.00
tblOffRoadEquipment	HorsePower	221.00	433.00
tblOffRoadEquipment	HorsePower	231.00	390.00
tblOffRoadEquipment	HorsePower	231.00	390.00
tblOffRoadEquipment	HorsePower	158.00	187.00
tblOffRoadEquipment	HorsePower	84.00	220.00
tblOffRoadEquipment	LoadFactor	0.38	0.41
tblOffRoadEquipment	LoadFactor	0.74	0.42
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	UsageHours	6.00	11.30
tblOffRoadEquipment	UsageHours	8.00	3.10
tblOffRoadEquipment	UsageHours	8.00	18.00
tblOffRoadEquipment	UsageHours	7.00	18.00
tblOffRoadEquipment	UsageHours	8.00	6.60
tblOffRoadEquipment	UsageHours	8.00	3.70
tblOffRoadEquipment	UsageHours	6.00	18.00
tblOffRoadEquipment	UsageHours	8.00	3.10
tblOffRoadEquipment	UsageHours	7.00	12.00
tblOffRoadEquipment	UsageHours	8.00	18.00
tblTripsAndVMT	HaulingTripNumber	227.00	0.00
tblTripsAndVMT	VendorTripNumber	264.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	28.00	0.00
tblTripsAndVMT	WorkerTripNumber	30.00	0.00
tblTripsAndVMT	WorkerTripNumber	111.00	0.00
tblTripsAndVMT	WorkerTripNumber	556.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0449	0.4274	0.3701	6.3000e-004	0.0198	0.0219	0.0417	3.0000e-003	0.0206	0.0236	0.0000	55.1880	55.1880	0.0133	0.0000	55.5209
2022	0.5686	5.6839	5.2040	0.0139	0.0165	0.2353	0.2518	2.4400e-003	0.2174	0.2199	0.0000	1,216.6265	1,216.6265	0.3728	0.0000	1,225.9452
2023	3.2291	8.5329	8.8788	0.0171	0.0000	0.3786	0.3786	0.0000	0.3552	0.3552	0.0000	1,461.8574	1,461.8574	0.3696	0.0000	1,471.0979
2024	4.7145	4.8086	6.1187	0.0102	0.0000	0.2035	0.2035	0.0000	0.1931	0.1931	0.0000	864.5136	864.5136	0.1987	0.0000	869.4800
Maximum	**4.7145**	**8.5329**	**8.8788**	**0.0171**	**0.0198**	**0.3786**	**0.3786**	**3.0000e-003**	**0.3552**	**0.3552**	**0.0000**	**1,461.8574**	**1,461.8574**	**0.3728**	**0.0000**	**1,471.0979**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	7.3100e-003	0.0317	0.4012	6.3000e-004	7.7200e-003	9.7000e-004	8.6900e-003	5.8000e-004	9.7000e-004	1.5600e-003	0.0000	55.1880	55.1880	0.0133	0.0000	55.5209
2022	0.1098	0.4758	4.5683	9.0300e-003	6.4300e-003	0.0146	0.0211	4.8000e-004	0.0146	0.0151	0.0000	791.5486	791.5486	0.2386	0.0000	797.5141
2023	2.3253	0.6483	2.1356	3.6200e-003	0.0000	5.4500e-003	5.4500e-003	0.0000	5.4500e-003	5.4500e-003	0.0000	315.0523	315.0523	0.0626	0.0000	316.6177
2024	4.1977	0.9947	1.8759	2.5800e-003	0.0000	4.1600e-003	4.1600e-003	0.0000	4.1600e-003	4.1600e-003	0.0000	226.3483	226.3483	0.0682	0.0000	228.0520
Maximum	**4.1977**	**0.9947**	**4.5683**	**9.0300e-003**	**7.7200e-003**	**0.0146**	**0.0211**	**5.8000e-004**	**0.0146**	**0.0151**	**0.0000**	**791.5486**	**791.5486**	**0.2386**	**0.0000**	**797.5141**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**22.40**	**88.95**	**56.34**	**62.04**	**61.00**	**96.99**	**95.50**	**80.51**	**96.79**	**96.68**	**0.00**	**61.42**	**61.42**	**59.90**	**0.00**	**61.41**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	10-11-2021	1-10-2022	0.5208	0.0437
2	1-11-2022	4-10-2022	1.6504	0.2328
3	4-11-2022	7-10-2022	1.6756	0.2385
4	7-11-2022	10-10-2022	1.5439	0.0816
5	10-11-2022	1-10-2023	1.4783	0.0314
6	1-11-2023	4-10-2023	1.2978	0.0307
7	4-11-2023	7-10-2023	1.3122	0.0311
8	7-11-2023	10-10-2023	4.2739	1.4092
9	10-11-2023	1-10-2024	5.2860	1.6820
10	1-11-2024	4-10-2024	4.2891	1.6452
11	4-11-2024	7-10-2024	2.8013	1.6246
12	7-11-2024	9-30-2024	1.5675	1.4549
		Highest	5.2860	1.6820

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.4148	1.8000e-004	0.0203	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0395	0.0395	1.0000e-004	0.0000	0.0420

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Energy	0.1045	0.9499	0.7979	5.7000e-003		0.0722	0.0722		0.0722	0.0722	0.0000	1,034.0278	1,034.0278	0.0198	0.0190	1,040.1725
Mobile	3.5911	3.8711	34.2025	0.0724	8.2915	0.0513	8.3428	2.2132	0.0477	2.2609	0.0000	6,679.6297	6,679.6297	0.4246	0.3124	6,783.3535
Waste						0.0000	0.0000		0.0000	0.0000	229.9197	0.0000	229.9197	13.5879	0.0000	569.6164
Water						0.0000	0.0000		0.0000	0.0000	67.7846	0.0000	67.7846	6.9621	0.1644	290.8262
Total	**9.1103**	**4.8211**	**35.0207**	**0.0781**	**8.2915**	**0.1235**	**8.4151**	**2.2132**	**0.1199**	**2.3332**	**297.7043**	**7,713.6970**	**8,011.4013**	**20.9945**	**0.4958**	**8,684.0106**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.4148	1.8000e-004	0.0203	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0395	0.0395	1.0000e-004	0.0000	0.0420
Energy	0.1045	0.9499	0.7979	5.7000e-003		0.0722	0.0722		0.0722	0.0722	0.0000	1,034.0278	1,034.0278	0.0198	0.0190	1,040.1725
Mobile	3.5911	3.8711	34.2025	0.0724	8.2915	0.0513	8.3428	2.2132	0.0477	2.2609	0.0000	6,679.6297	6,679.6297	0.4246	0.3124	6,783.3535
Waste						0.0000	0.0000		0.0000	0.0000	229.9197	0.0000	229.9197	13.5879	0.0000	569.6164
Water						0.0000	0.0000		0.0000	0.0000	67.7846	0.0000	67.7846	6.9621	0.1644	290.8262
Total	**9.1103**	**4.8211**	**35.0207**	**0.0781**	**8.2915**	**0.1235**	**8.4151**	**2.2132**	**0.1199**	**2.3332**	**297.7043**	**7,713.6970**	**8,011.4013**	**20.9945**	**0.4958**	**8,684.0106**

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

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/11/2021	1/20/2022	7	102	
2	Shoring/Grading/Excavation	Grading	1/14/2022	8/1/2022	7	200	
3	Foundation/Structure	Trenching	8/2/2022	2/16/2024	7	564	
4	Building - Interior	Architectural Coating	7/26/2023	10/16/2024	7	449	
5	Building - Exterior	Building Construction	8/11/2023	5/27/2024	7	291	
6	Below Slab Utility	Trenching	5/7/2024	11/15/2024	7	193	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 2.54

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,822,575; Non-Residential Outdoor: 607,525; Striped Parking Area: 23,856

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	2	3.10	81	0.73
Demolition	Excavators	3	2.80	158	0.38
Demolition	Rubber Tired Dozers	1	3.70	247	0.40
Demolition	Tractors/Loaders/Backhoes	1	3.10	97	0.37
Shoring/Grading/Excavation	Bore/Drill Rigs	3	5.20	433	0.50
Shoring/Grading/Excavation	Cranes	2	6.80	390	0.29
Shoring/Grading/Excavation	Excavators	3	12.00	187	0.41
Shoring/Grading/Excavation	Tractors/Loaders/Backhoes	3	12.00	97	0.37
Foundation/Structure	Cranes	3	9.20	390	0.29

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Foundation/Structure	Other General Industrial Equipment	2	9.20	88	0.34
Foundation/Structure	Pumps	3	2.30	220	0.42
Foundation/Structure	Tractors/Loaders/Backhoes	2	4.60	97	0.37
Foundation/Structure	Welders	2	4.60	46	0.45
Building - Interior	Aerial Lifts	4	14.10	62	0.31
Building - Interior	Air Compressors	2	11.30	78	0.48
Building - Exterior	Cranes	1	18.00	240	0.29
Building - Exterior	Forklifts	4	18.00	110	0.20
Building - Exterior	Generator Sets	1	6.60	84	0.74
Building - Exterior	Other General Industrial Equipment	2	13.00	88	0.34
Building - Exterior	Tractors/Loaders/Backhoes	1	18.00	97	0.37
Building - Exterior	Welders	4	18.00	46	0.45
Below Slab Utility	Tractors/Loaders/Backhoes	2	1.20	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Shoring/Grading/Excavation	11	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Foundation/Structure	12	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building - Interior	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building - Exterior	13	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Below Slab Utility	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Alternative Fuel for Construction Equipment

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0198	0.0000	0.0198	3.0000e-003	0.0000	3.0000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0449	0.4274	0.3701	6.3000e-004		0.0219	0.0219		0.0206	0.0206	0.0000	55.1880	55.1880	0.0133	0.0000	55.5209
Total	**0.0449**	**0.4274**	**0.3701**	**6.3000e-004**	**0.0198**	**0.0219**	**0.0417**	**3.0000e-003**	**0.0206**	**0.0236**	**0.0000**	**55.1880**	**55.1880**	**0.0133**	**0.0000**	**55.5209**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.7200e-003	0.0000	7.7200e-003	5.8000e-004	0.0000	5.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.3100e-003	0.0317	0.4012	6.3000e-004		9.7000e-004	9.7000e-004		9.7000e-004	9.7000e-004	0.0000	55.1880	55.1880	0.0133	0.0000	55.5209
Total	**7.3100e-003**	**0.0317**	**0.4012**	**6.3000e-004**	**7.7200e-003**	**9.7000e-004**	**8.6900e-003**	**5.8000e-004**	**9.7000e-004**	**1.5500e-003**	**0.0000**	**55.1880**	**55.1880**	**0.0133**	**0.0000**	**55.5209**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.8300e-003	0.0000	4.8300e-003	7.3000e-004	0.0000	7.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.4100e-003	0.0875	0.0878	1.5000e-004		4.3500e-003	4.3500e-003		4.0900e-003	4.0900e-003	0.0000	13.4587	13.4587	3.2300e-003	0.0000	13.5395
Total	**9.4100e-003**	**0.0875**	**0.0878**	**1.5000e-004**	**4.8300e-003**	**4.3500e-003**	**9.1800e-003**	**7.3000e-004**	**4.0900e-003**	**4.8200e-003**	**0.0000**	**13.4587**	**13.4587**	**3.2300e-003**	**0.0000**	**13.5395**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.8800e-003	0.0000	1.8800e-003	1.4000e-004	0.0000	1.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7800e-003	7.7300e-003	0.0979	1.5000e-004		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	13.4587	13.4587	3.2300e-003	0.0000	13.5395
Total	**1.7800e-003**	**7.7300e-003**	**0.0979**	**1.5000e-004**	**1.8800e-003**	**2.4000e-004**	**2.1200e-003**	**1.4000e-004**	**2.4000e-004**	**3.8000e-004**	**0.0000**	**13.4587**	**13.4587**	**3.2300e-003**	**0.0000**	**13.5395**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Shoring/Grading/Excavation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0117	0.0000	0.0117	1.7100e-003	0.0000	1.7100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3330	3.3496	3.1676	9.6200e-003		0.1330	0.1330		0.1224	0.1224	0.0000	844.3907	844.3907	0.2731	0.0000	851.2181
Total	**0.3330**	**3.3496**	**3.1676**	**9.6200e-003**	**0.0117**	**0.1330**	**0.1447**	**1.7100e-003**	**0.1224**	**0.1241**	**0.0000**	**844.3907**	**844.3907**	**0.2731**	**0.0000**	**851.2181**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

16-051 Park Habitat Day Construction - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.5500e-003	0.0000	4.5500e-003	3.3000e-004	0.0000	3.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0983	0.4259	4.0307	7.9600e-003		0.0131	0.0131		0.0131	0.0131	0.0000	699.1320	699.1320	0.2261	0.0000	704.7849
Total	**0.0983**	**0.4259**	**4.0307**	**7.9600e-003**	**4.5500e-003**	**0.0131**	**0.0177**	**3.3000e-004**	**0.0131**	**0.0134**	**0.0000**	**699.1320**	**699.1320**	**0.2261**	**0.0000**	**704.7849**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

16-051 Park Habitat Day Construction - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Foundation/Structure - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2262	2.2468	1.9486	4.1300e-003		0.0980	0.0980		0.0910	0.0910	0.0000	358.7771	358.7771	0.0964	0.0000	361.1876
Total	**0.2262**	**2.2468**	**1.9486**	**4.1300e-003**		**0.0980**	**0.0980**		**0.0910**	**0.0910**	**0.0000**	**358.7771**	**358.7771**	**0.0964**	**0.0000**	**361.1876**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

16-051 Park Habitat Day Construction - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.7300e-003	0.0422	0.4397	9.1000e-004		1.3000e-003	1.3000e-003		1.3000e-003	1.3000e-003	0.0000	78.9579	78.9579	9.2800e-003	0.0000	79.1898
Total	**9.7300e-003**	**0.0422**	**0.4397**	**9.1000e-004**		**1.3000e-003**	**1.3000e-003**		**1.3000e-003**	**1.3000e-003**	**0.0000**	**78.9579**	**78.9579**	**9.2800e-003**	**0.0000**	**79.1898**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

16-051 Park Habitat Day Construction - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Foundation/Structure - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4955	4.7677	4.4146	9.9300e-003		0.2026	0.2026		0.1881	0.1881	0.0000	861.7304	861.7304	0.2310	0.0000	867.5043
Total	**0.4955**	**4.7677**	**4.4146**	**9.9300e-003**		**0.2026**	**0.2026**		**0.1881**	**0.1881**	**0.0000**	**861.7304**	**861.7304**	**0.2310**	**0.0000**	**867.5043**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

16-051 Park Habitat Day Construction - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0234	0.1012	1.0559	2.1900e-003		3.1100e-003	3.1100e-003		3.1100e-003	3.1100e-003	0.0000	189.6671	189.6671	0.0221	0.0000	190.2186
Total	**0.0234**	**0.1012**	**1.0559**	**2.1900e-003**		**3.1100e-003**	**3.1100e-003**		**3.1100e-003**	**3.1100e-003**	**0.0000**	**189.6671**	**189.6671**	**0.0221**	**0.0000**	**190.2186**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Foundation/Structure - 2024

Unmitigated Construction On-Site

16-051 Park Habitat Day Construction - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0613	0.5783	0.5554	1.2800e-003		0.0239	0.0239		0.0222	0.0222	0.0000	110.9339	110.9339	0.0297	0.0000	111.6762
Total	**0.0613**	**0.5783**	**0.5554**	**1.2800e-003**		**0.0239**	**0.0239**		**0.0222**	**0.0222**	**0.0000**	**110.9339**	**110.9339**	**0.0297**	**0.0000**	**111.6762**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

16-051 Park Habitat Day Construction - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.0100e-003	0.0130	0.1360	2.8000e-004		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004	0.0000	24.4276	24.4276	2.8400e-003	0.0000	24.4986
Total	**3.0100e-003**	**0.0130**	**0.1360**	**2.8000e-004**		**4.0000e-004**	**4.0000e-004**		**4.0000e-004**	**4.0000e-004**	**0.0000**	**24.4276**	**24.4276**	**2.8400e-003**	**0.0000**	**24.4986**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building - Interior - 2023

Unmitigated Construction On-Site

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

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category	tons/yr										MT/yr					
Archit. Coating	2.2730					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0765	0.6843	1.1447	1.8200e-003		0.0263	0.0263		0.0259	0.0259	0.0000	157.8295	157.8295	0.0309	0.0000	158.6018
Total	**2.3495**	**0.6843**	**1.1447**	**1.8200e-003**		**0.0263**	**0.0263**		**0.0259**	**0.0259**	**0.0000**	**157.8295**	**157.8295**	**0.0309**	**0.0000**	**158.6018**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

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

16-051 Park Habitat Day Construction - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category	tons/yr										MT/yr					
Archit. Coating	2.2730					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0228	0.5206	0.7030	9.3000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	81.3722	81.3722	0.0263	0.0000	82.0302
Total	**2.2958**	**0.5206**	**0.7030**	**9.3000e-004**		**1.5200e-003**	**1.5200e-003**		**1.5200e-003**	**1.5200e-003**	**0.0000**	**81.3722**	**81.3722**	**0.0263**	**0.0000**	**82.0302**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building - Interior - 2024

Unmitigated Construction On-Site

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

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category	tons/yr										MT/yr					
Archit. Coating	4.1457					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1335	1.1951	2.0880	3.3100e-003		0.0425	0.0425		0.0417	0.0417	0.0000	287.8651	287.8651	0.0559	0.0000	289.2614
Total	**4.2792**	**1.1951**	**2.0880**	**3.3100e-003**		**0.0425**	**0.0425**		**0.0417**	**0.0417**	**0.0000**	**287.8651**	**287.8651**	**0.0559**	**0.0000**	**289.2614**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

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

16-051 Park Habitat Day Construction - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category	tons/yr										MT/yr					
Archit. Coating	4.1457					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0416	0.9495	1.2821	1.6900e-003		2.7700e-003	2.7700e-003		2.7700e-003	2.7700e-003	0.0000	148.4147	148.4147	0.0480	0.0000	149.6148
Total	**4.1873**	**0.9495**	**1.2821**	**1.6900e-003**		**2.7700e-003**	**2.7700e-003**		**2.7700e-003**	**2.7700e-003**	**0.0000**	**148.4147**	**148.4147**	**0.0480**	**0.0000**	**149.6148**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Building - Exterior - 2023

Unmitigated Construction On-Site

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

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category	tons/yr										MT/yr					
Off-Road	0.3842	3.0809	3.3195	5.3100e-003		0.1497	0.1497		0.1412	0.1412	0.0000	442.2975	442.2975	0.1078	0.0000	444.9919
Total	**0.3842**	**3.0809**	**3.3195**	**5.3100e-003**		**0.1497**	**0.1497**		**0.1412**	**0.1412**	**0.0000**	**442.2975**	**442.2975**	**0.1078**	**0.0000**	**444.9919**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

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

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-Road	6.1100e-003	0.0265	0.3768	5.0000e-004		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	44.0130	44.0130	0.0142	0.0000	44.3689
Total	**6.1100e-003**	**0.0265**	**0.3768**	**5.0000e-004**		**8.1000e-004**	**8.1000e-004**		**8.1000e-004**	**8.1000e-004**	**0.0000**	**44.0130**	**44.0130**	**0.0142**	**0.0000**	**44.3689**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Building - Exterior - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3698	2.9932	3.4106	5.5000e-003		0.1352	0.1352		0.1274	0.1274	0.0000	457.7893	457.7893	0.1106	0.0000	460.5530

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Total	**0.3698**	**2.9932**	**3.4106**	**5.5000e-003**		**0.1352**	**0.1352**		**0.1274**	**0.1274**	**0.0000**	**457.7893**	**457.7893**	**0.1106**	**0.0000**	**460.5530**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.3200e-003	0.0274	0.3900	5.2000e-004		8.4000e-004	8.4000e-004		8.4000e-004	8.4000e-004	0.0000	45.5807	45.5807	0.0147	0.0000	45.9492
Total	**6.3200e-003**	**0.0274**	**0.3900**	**5.2000e-004**		**8.4000e-004**	**8.4000e-004**		**8.4000e-004**	**8.4000e-004**	**0.0000**	**45.5807**	**45.5807**	**0.0147**	**0.0000**	**45.9492**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Below Slab Utility - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.1700e-003	0.0419	0.0647	9.0000e-005		1.9200e-003	1.9200e-003		1.7700e-003	1.7700e-003	0.0000	7.9253	7.9253	2.5600e-003	0.0000	7.9894
Total	**4.1700e-003**	**0.0419**	**0.0647**	**9.0000e-005**		**1.9200e-003**	**1.9200e-003**		**1.7700e-003**	**1.7700e-003**	**0.0000**	**7.9253**	**7.9253**	**2.5600e-003**	**0.0000**	**7.9894**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.1000e-003	4.7600e-003	0.0678	9.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	7.9253	7.9253	2.5600e-003	0.0000	7.9894
Total	**1.1000e-003**	**4.7600e-003**	**0.0678**	**9.0000e-005**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**	**0.0000**	**7.9253**	**7.9253**	**2.5600e-003**	**0.0000**	**7.9894**

Mitigated Construction Off-Site

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.5911	3.8711	34.2025	0.0724	8.2915	0.0513	8.3428	2.2132	0.0477	2.2609	0.0000	6,679.6297	6,679.6297	0.4246	0.3124	6,783.3535
Unmitigated	3.5911	3.8711	34.2025	0.0724	8.2915	0.0513	8.3428	2.2132	0.0477	2.2609	0.0000	6,679.6297	6,679.6297	0.4246	0.3124	6,783.3535

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	11,618.94	2,636.33	835.04	21,018,246	21,018,246
Regional Shopping Center	835.79	1,021.10	467.15	1,419,470	1,419,470
Total	12,454.73	3,657.43	1,302.19	22,437,716	22,437,716

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.573651	0.055882	0.186012	0.115369	0.020252	0.005158	0.008030	0.006377	0.000893	0.000372	0.024386	0.000900	0.002720
General Office Building	0.573651	0.055882	0.186012	0.115369	0.020252	0.005158	0.008030	0.006377	0.000893	0.000372	0.024386	0.000900	0.002720
Regional Shopping Center	0.573651	0.055882	0.186012	0.115369	0.020252	0.005158	0.008030	0.006377	0.000893	0.000372	0.024386	0.000900	0.002720

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.1045	0.9499	0.7979	5.7000e-003		0.0722	0.0722		0.0722	0.0722	0.0000	1,034.0278	1,034.0278	0.0198	0.0190	1,040.1725
NaturalGas Unmitigated	0.1045	0.9499	0.7979	5.7000e-003		0.0722	0.0722		0.0722	0.0722	0.0000	1,034.0278	1,034.0278	0.0198	0.0190	1,040.1725

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	1.93251e+007	0.1042	0.9473	0.7957	5.6800e-003		0.0720	0.0720		0.0720	0.0720	0.0000	1,031.2632	1,031.2632	0.0198	0.0189	1,037.3915
Regional Shopping Center	51807.6	2.8000e-004	2.5400e-003	2.1300e-003	2.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.7647	2.7647	5.0000e-005	5.0000e-005	2.7811
Total		**0.1045**	**0.9499**	**0.7979**	**5.7000e-003**		**0.0722**	**0.0722**		**0.0722**	**0.0722**	**0.0000**	**1,034.0278**	**1,034.0278**	**0.0198**	**0.0190**	**1,040.1725**

Mitigated

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	1.93251e+007	0.1042	0.9473	0.7957	5.6800e-003		0.0720	0.0720		0.0720	0.0720	0.0000	1,031.2632	1,031.2632	0.0198	0.0189	1,037.3915
Regional Shopping Center	51807.6	2.8000e-004	2.5400e-003	2.1300e-003	2.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.7647	2.7647	5.0000e-005	5.0000e-005	2.7811
Total		**0.1045**	**0.9499**	**0.7979**	**5.7000e-003**		**0.0722**	**0.0722**		**0.0722**	**0.0722**	**0.0000**	**1,034.0278**	**1,034.0278**	**0.0198**	**0.0190**	**1,040.1725**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	2.16294e+006	0.0000	0.0000	0.0000	0.0000
General Office Building	2.04823e+007	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	230035	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	2.16294e+006	0.0000	0.0000	0.0000	0.0000
General Office Building	2.04823e+007	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	230035	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.4148	1.8000e-004	0.0203	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0395	0.0395	1.0000e-004	0.0000	0.0420
Unmitigated	5.4148	1.8000e-004	0.0203	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0395	0.0395	1.0000e-004	0.0000	0.0420

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.6419					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.7711					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8600e-003	1.8000e-004	0.0203	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0395	0.0395	1.0000e-004	0.0000	0.0420
Total	**5.4148**	**1.8000e-004**	**0.0203**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**	**0.0000**	**0.0395**	**0.0395**	**1.0000e-004**	**0.0000**	**0.0420**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.6419					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.7711					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8600e-003	1.8000e-004	0.0203	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0395	0.0395	1.0000e-004	0.0000	0.0420
Total	**5.4148**	**1.8000e-004**	**0.0203**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**	**0.0000**	**0.0395**	**0.0395**	**1.0000e-004**	**0.0000**	**0.0420**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	67.7846	6.9621	0.1644	290.8262
Unmitigated	67.7846	6.9621	0.1644	290.8262

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	212.02 / 129.948	67.2643	6.9087	0.1631	288.5939
Regional Shopping Center	1.63997 / 1.00514	0.5203	0.0534	1.2600e-003	2.2323
Total		**67.7846**	**6.9621**	**0.1644**	**290.8262**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	212.02 / 129.948	67.2643	6.9087	0.1631	288.5939
Regional Shopping Center	1.63997 / 1.00514	0.5203	0.0534	1.2600e-003	2.2323
Total		**67.7846**	**6.9621**	**0.1644**	**290.8262**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	229.9197	13.5879	0.0000	569.6164

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated	229.9197	13.5879	0.0000	569.6164

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	1109.41	225.2002	13.3090	0.0000	557.9240
Regional Shopping Center	23.25	4.7195	0.2789	0.0000	11.6925
Total		**229.9197**	**13.5879**	**0.0000**	**569.6164**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	1109.41	225.2002	13.3090	0.0000	557.9240

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Regional Shopping Center	23.25	4.7195	0.2789	0.0000	11.6925
Total		**229.9197**	**13.5879**	**0.0000**	**569.6164**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	1,192.91	1000sqft	2.54	1,192,912.00	0
Enclosed Parking with Elevator	994.00	Space	0.00	397,600.00	0
Regional Shopping Center	22.14	1000sqft	0.00	22,135.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2025
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Acreage and unit amounts provided by applicant

Construction Phase - Construction phase dates provided by applicant

Off-road Equipment - Construction equipment details provided by applicant

Off-road Equipment - Construction equipment details provided by applicant

Off-road Equipment - Construction equipment details provided by applicant

Off-road Equipment - Construction equipment details provided by applicant

Off-road Equipment - Construction equipment details provided by applicant

Off-road Equipment - Construction equipment details provided by applicant

Trips and VMT - All trips entered into EMFAC2021

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Demolition -

Grading - Acreage provided by applicant

Construction Off-road Equipment Mitigation - Enhanced BMPs, all equipment t4f

Architectural Coating - To avoid double counting, architectural

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	607,524.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	1,822,571.00	0.00
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	10.00	449.00
tblConstructionPhase	NumDays	220.00	291.00
tblConstructionPhase	NumDays	20.00	102.00
tblConstructionPhase	NumDays	6.00	200.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblLandUse	LandUseSquareFeet	1,192,910.00	1,192,912.00
tblLandUse	LandUseSquareFeet	22,140.00	22,135.00
tblLandUse	LotAcreage	27.39	2.54
tblLandUse	LotAcreage	8.95	0.00
tblLandUse	LotAcreage	0.51	0.00
tblOffRoadEquipment	HorsePower	231.00	240.00
tblOffRoadEquipment	HorsePower	89.00	110.00
tblOffRoadEquipment	HorsePower	63.00	62.00
tblOffRoadEquipment	HorsePower	221.00	433.00
tblOffRoadEquipment	HorsePower	9.00	220.00
tblOffRoadEquipment	HorsePower	231.00	390.00
tblOffRoadEquipment	HorsePower	231.00	390.00
tblOffRoadEquipment	HorsePower	158.00	187.00
tblOffRoadEquipment	HorsePower	84.00	220.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	LoadFactor	0.56	0.42
tblOffRoadEquipment	LoadFactor	0.38	0.41
tblOffRoadEquipment	LoadFactor	0.74	0.42
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	UsageHours	6.00	3.80
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	1.70
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblTripsAndVMT	VendorTripNumber	264.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	28.00	0.00
tblTripsAndVMT	WorkerTripNumber	50.00	0.00
tblTripsAndVMT	WorkerTripNumber	111.00	0.00
tblTripsAndVMT	WorkerTripNumber	556.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

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

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Year	tons/yr										MT/yr					
2021	1.4100e-003	0.0132	0.0201	3.0000e-005	0.0000	6.4000e-004	6.4000e-004	0.0000	5.9000e-004	5.9000e-004	0.0000	2.7907	2.7907	9.0000e-004	0.0000	2.8132
2022	0.3635	3.6782	3.2834	8.7600e-003	0.0000	0.1514	0.1514	0.0000	0.1399	0.1399	0.0000	766.6824	766.6824	0.2270	0.0000	772.3569
2023	0.5202	4.5417	4.3793	9.7000e-003	0.0000	0.1950	0.1950	0.0000	0.1824	0.1824	0.0000	837.2830	837.2830	0.2022	0.0000	842.3376
2024	0.2609	1.7722	2.1700	3.8400e-003	0.0000	0.0742	0.0742	0.0000	0.0703	0.0703	0.0000	327.1892	327.1892	0.0750	0.0000	329.0637
Maximum	**0.5202**	**4.5417**	**4.3793**	**9.7000e-003**	**0.0000**	**0.1950**	**0.1950**	**0.0000**	**0.1824**	**0.1824**	**0.0000**	**837.2830**	**837.2830**	**0.2270**	**0.0000**	**842.3376**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	3.9000e-004	1.6900e-003	0.0241	3.0000e-005	0.0000	5.0000e-005	5.0000e-005	0.0000	5.0000e-005	5.0000e-005	0.0000	2.7907	2.7907	9.0000e-004	0.0000	2.8132
2022	0.0644	0.2792	2.6729	5.3800e-003	0.0000	8.5900e-003	8.5900e-003	0.0000	8.5900e-003	8.5900e-003	0.0000	470.5594	470.5594	0.1322	0.0000	473.8633
2023	0.0602	0.2743	1.1940	2.5600e-003	0.0000	3.6100e-003	3.6100e-003	0.0000	3.6100e-003	3.6100e-003	0.0000	220.9368	220.9368	0.0231	0.0000	221.5134
2024	0.0726	0.3391	0.6874	1.0300e-003	0.0000	1.6200e-003	1.6200e-003	0.0000	1.6200e-003	1.6200e-003	0.0000	90.3758	90.3758	0.0230	0.0000	90.9508
Maximum	**0.0726**	**0.3391**	**2.6729**	**5.3800e-003**	**0.0000**	**8.5900e-003**	**8.5900e-003**	**0.0000**	**8.5900e-003**	**8.5900e-003**	**0.0000**	**470.5594**	**470.5594**	**0.1322**	**0.0000**	**473.8633**

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

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Percent Reduction	**82.75**	**91.06**	**53.53**	**59.70**	**0.00**	**96.71**	**96.71**	**0.00**	**96.47**	**96.47**	**0.00**	**59.43**	**59.43**	**64.53**	**0.00**	**59.46**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	10-11-2021	1-10-2022	0.0161	0.0023
2	1-11-2022	4-10-2022	1.0046	0.1290
3	4-11-2022	7-10-2022	1.0493	0.1347
4	7-11-2022	10-10-2022	1.0516	0.0543
5	10-11-2022	1-10-2023	1.0352	0.0285
6	1-11-2023	4-10-2023	0.9051	0.0279
7	4-11-2023	7-10-2023	0.9151	0.0282
8	7-11-2023	10-10-2023	1.5351	0.1351
9	10-11-2023	1-10-2024	1.7903	0.1573
10	1-11-2024	4-10-2024	1.1670	0.1389
11	4-11-2024	7-10-2024	0.5030	0.1247
12	7-11-2024	9-30-2024	0.1475	0.1094
		Highest	1.7903	0.1573

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.4148	1.8000e-004	0.0203	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0395	0.0395	1.0000e-004	0.0000	0.0420
Energy	0.1045	0.9499	0.7979	5.7000e-003		0.0722	0.0722		0.0722	0.0722	0.0000	1,034.0289	1,034.0289	0.0198	0.0190	1,040.1736
Mobile	3.5911	3.8711	34.2025	0.0724	8.2915	0.0513	8.3428	2.2132	0.0477	2.2609	0.0000	6,679.6297	6,679.6297	0.4246	0.3124	6,783.3535

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Waste						0.0000	0.0000		0.0000	0.0000	229.9197	0.0000	229.9197	13.5879	0.0000	569.6164
Water						0.0000	0.0000		0.0000	0.0000	67.7846	0.0000	67.7846	6.9621	0.1644	290.8262
Total	**9.1103**	**4.8211**	**35.0207**	**0.0781**	**8.2915**	**0.1235**	**8.4151**	**2.2132**	**0.1199**	**2.3332**	**297.7043**	**7,713.6981**	**8,011.4024**	**20.9945**	**0.4958**	**8,684.0117**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.4148	1.8000e-004	0.0203	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0395	0.0395	1.0000e-004	0.0000	0.0420
Energy	0.1045	0.9499	0.7979	5.7000e-003		0.0722	0.0722		0.0722	0.0722	0.0000	1,034.0289	1,034.0289	0.0198	0.0190	1,040.1736
Mobile	3.5911	3.8711	34.2025	0.0724	8.2915	0.0513	8.3428	2.2132	0.0477	2.2609	0.0000	6,679.6297	6,679.6297	0.4246	0.3124	6,783.3535
Waste						0.0000	0.0000		0.0000	0.0000	229.9197	0.0000	229.9197	13.5879	0.0000	569.6164
Water						0.0000	0.0000		0.0000	0.0000	67.7846	0.0000	67.7846	6.9621	0.1644	290.8262
Total	**9.1103**	**4.8211**	**35.0207**	**0.0781**	**8.2915**	**0.1235**	**8.4151**	**2.2132**	**0.1199**	**2.3332**	**297.7043**	**7,713.6981**	**8,011.4024**	**20.9945**	**0.4958**	**8,684.0117**

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

3.0 Construction Detail

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/11/2021	1/20/2022	7	102	
2	Shoring/Grading/Excavation	Grading	1/14/2022	8/1/2022	7	200	
3	Foundation/Structure	Trenching	8/2/2022	2/16/2024	7	564	
4	Building - Interior	Architectural Coating	7/26/2023	10/16/2024	7	449	
5	Building - Exterior	Building Construction	8/11/2023	5/27/2024	7	291	
6	Below Slab Utility	Trenching	5/7/2024	11/15/2024	7	193	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 23,856 (Architectural

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Excavators	3	0.40	158	0.38
Shoring/Grading/Excavation	Bore/Drill Rigs	3	2.30	433	0.50
Shoring/Grading/Excavation	Cranes	2	4.80	390	0.29
Shoring/Grading/Excavation	Excavators	3	8.00	187	0.41
Shoring/Grading/Excavation	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Foundation/Structure	Cement and Mortar Mixers	6	3.30	220	0.42
Foundation/Structure	Cranes	3	6.60	390	0.29
Foundation/Structure	Other General Industrial Equipment	2	6.60	88	0.34
Foundation/Structure	Pumps	5	1.70	220	0.42
Foundation/Structure	Tractors/Loaders/Backhoes	2	1.30	97	0.37
Foundation/Structure	Welders	2	1.30	46	0.45
Building - Interior	Aerial Lifts	4	4.70	62	0.31

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Building - Interior	Air Compressors	2	3.80	78	0.48
Building - Exterior	Cranes	1	6.00	240	0.29
Building - Exterior	Forklifts	4	6.00	110	0.20
Building - Exterior	Generator Sets	1	1.70	84	0.74
Building - Exterior	Other General Industrial Equipment	2	3.20	88	0.34
Building - Exterior	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building - Exterior	Welders	4	6.00	46	0.45
Below Slab Utility	Tractors/Loaders/Backhoes	2	0.40	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	3	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Shoring/Grading/Excavation	11	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Foundation/Structure	20	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building - Interior	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building - Exterior	13	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Below Slab Utility	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Alternative Fuel for Construction Equipment

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.4100e-003	0.0132	0.0201	3.0000e-005		6.4000e-004	6.4000e-004		5.9000e-004	5.9000e-004	0.0000	2.7907	2.7907	9.0000e-004	0.0000	2.8132
Total	**1.4100e-003**	**0.0132**	**0.0201**	**3.0000e-005**	**0.0000**	**6.4000e-004**	**6.4000e-004**	**0.0000**	**5.9000e-004**	**5.9000e-004**	**0.0000**	**2.7907**	**2.7907**	**9.0000e-004**	**0.0000**	**2.8132**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.9000e-004	1.6900e-003	0.0241	3.0000e-005		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	2.7907	2.7907	9.0000e-004	0.0000	2.8132
Total	**3.9000e-004**	**1.6900e-003**	**0.0241**	**3.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**2.7907**	**2.7907**	**9.0000e-004**	**0.0000**	**2.8132**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2022

Unmitigated Construction On-Site

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0000e-004	2.6700e-003	4.8800e-003	1.0000e-005		1.3000e-004	1.3000e-004		1.2000e-004	1.2000e-004	0.0000	0.6804	0.6804	2.2000e-004	0.0000	0.6859
Total	**3.0000e-004**	**2.6700e-003**	**4.8800e-003**	**1.0000e-005**	**0.0000**	**1.3000e-004**	**1.3000e-004**	**0.0000**	**1.2000e-004**	**1.2000e-004**	**0.0000**	**0.6804**	**0.6804**	**2.2000e-004**	**0.0000**	**0.6859**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0000e-004	4.1000e-004	5.8800e-003	1.0000e-005		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.6804	0.6804	2.2000e-004	0.0000	0.6859
Total	**1.0000e-004**	**4.1000e-004**	**5.8800e-003**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.6804**	**0.6804**	**2.2000e-004**	**0.0000**	**0.6859**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Shoring/Grading/Excavation - 2022

Unmitigated Construction On-Site

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2075	2.0986	1.9737	5.6700e-003		0.0844	0.0844		0.0776	0.0776	0.0000	497.8206	497.8206	0.1610	0.0000	501.8457
Total	**0.2075**	**2.0986**	**1.9737**	**5.6700e-003**	**0.0000**	**0.0844**	**0.0844**	**0.0000**	**0.0776**	**0.0776**	**0.0000**	**497.8206**	**497.8206**	**0.1610**	**0.0000**	**501.8457**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0555	0.2405	2.3196	4.5000e-003		7.4000e-003	7.4000e-003		7.4000e-003	7.4000e-003	0.0000	395.2851	395.2851	0.1278	0.0000	398.4812
Total	**0.0555**	**0.2405**	**2.3196**	**4.5000e-003**	**0.0000**	**7.4000e-003**	**7.4000e-003**	**0.0000**	**7.4000e-003**	**7.4000e-003**	**0.0000**	**395.2851**	**395.2851**	**0.1278**	**0.0000**	**398.4812**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Foundation/Structure - 2022

Unmitigated Construction On-Site

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1557	1.5769	1.3048	3.0800e-003		0.0669	0.0669		0.0622	0.0622	0.0000	268.1814	268.1814	0.0658	0.0000	269.8253
Total	**0.1557**	**1.5769**	**1.3048**	**3.0800e-003**		**0.0669**	**0.0669**		**0.0622**	**0.0622**	**0.0000**	**268.1814**	**268.1814**	**0.0658**	**0.0000**	**269.8253**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.8300e-003	0.0383	0.3474	8.7000e-004		1.1800e-003	1.1800e-003		1.1800e-003	1.1800e-003	0.0000	74.5939	74.5939	4.0900e-003	0.0000	74.6962
Total	**8.8300e-003**	**0.0383**	**0.3474**	**8.7000e-004**		**1.1800e-003**	**1.1800e-003**		**1.1800e-003**	**1.1800e-003**	**0.0000**	**74.5939**	**74.5939**	**4.0900e-003**	**0.0000**	**74.6962**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Foundation/Structure - 2023

Unmitigated Construction On-Site

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

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category	tons/yr										MT/yr					
Off-Road	0.3418	3.3288	2.9450	7.4000e-003		0.1387	0.1387		0.1289	0.1289	0.0000	644.0990	644.0990	0.1575	0.0000	648.0373
Total	**0.3418**	**3.3288**	**2.9450**	**7.4000e-003**		**0.1387**	**0.1387**		**0.1289**	**0.1289**	**0.0000**	**644.0990**	**644.0990**	**0.1575**	**0.0000**	**648.0373**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

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

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-Road	0.0212	0.0919	0.8341	2.0800e-003		2.8300e-003	2.8300e-003		2.8300e-003	2.8300e-003	0.0000	179.1417	179.1417	9.5500e-003	0.0000	179.3804
Total	**0.0212**	**0.0919**	**0.8341**	**2.0800e-003**		**2.8300e-003**	**2.8300e-003**		**2.8300e-003**	**2.8300e-003**	**0.0000**	**179.1417**	**179.1417**	**9.5500e-003**	**0.0000**	**179.3804**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Foundation/Structure - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0424	0.4019	0.3699	9.5000e-004		0.0164	0.0164		0.0152	0.0152	0.0000	82.9162	82.9162	0.0203	0.0000	83.4229

16-051 Park Habitat Construction Night - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Total	**0.0424**	**0.4019**	**0.3699**	**9.5000e-004**		**0.0164**	**0.0164**		**0.0152**	**0.0152**	**0.0000**	**82.9162**	**82.9162**	**0.0203**	**0.0000**	**83.4229**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.7300e-003	0.0118	0.1074	2.7000e-004		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004	0.0000	23.0689	23.0689	1.2300e-003	0.0000	23.0997
Total	**2.7300e-003**	**0.0118**	**0.1074**	**2.7000e-004**		**3.6000e-004**	**3.6000e-004**		**3.6000e-004**	**3.6000e-004**	**0.0000**	**23.0689**	**23.0689**	**1.2300e-003**	**0.0000**	**23.0997**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building - Interior - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0294					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0257	0.2293	0.3832	6.1000e-004		8.8300e-003	8.8300e-003		8.6900e-003	8.6900e-003	0.0000	52.8354	52.8354	0.0103	0.0000	53.0931
Total	**0.0550**	**0.2293**	**0.3832**	**6.1000e-004**		**8.8300e-003**	**8.8300e-003**		**8.6900e-003**	**8.6900e-003**	**0.0000**	**52.8354**	**52.8354**	**0.0103**	**0.0000**	**53.0931**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0294					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.6000e-003	0.1735	0.2343	3.1000e-004		5.1000e-004	5.1000e-004		5.1000e-004	5.1000e-004	0.0000	27.1241	27.1241	8.7700e-003	0.0000	27.3434
Total	**0.0370**	**0.1735**	**0.2343**	**3.1000e-004**		**5.1000e-004**	**5.1000e-004**		**5.1000e-004**	**5.1000e-004**	**0.0000**	**27.1241**	**27.1241**	**8.7700e-003**	**0.0000**	**27.3434**

16-051 Park Habitat Construction Night - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building - Interior - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0536					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0448	0.4003	0.6989	1.1100e-003		0.0143	0.0143		0.0140	0.0140	0.0000	96.3664	96.3664	0.0186	0.0000	96.8324
Total	**0.0984**	**0.4003**	**0.6989**	**1.1100e-003**		**0.0143**	**0.0143**		**0.0140**	**0.0140**	**0.0000**	**96.3664**	**96.3664**	**0.0186**	**0.0000**	**96.8324**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0536					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0139	0.3165	0.4274	5.6000e-004		9.2000e-004	9.2000e-004		9.2000e-004	9.2000e-004	0.0000	49.4716	49.4716	0.0160	0.0000	49.8716
Total	**0.0674**	**0.3165**	**0.4274**	**5.6000e-004**		**9.2000e-004**	**9.2000e-004**		**9.2000e-004**	**9.2000e-004**	**0.0000**	**49.4716**	**49.4716**	**0.0160**	**0.0000**	**49.8716**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Building - Exterior - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1234	0.9836	1.0511	1.6900e-003		0.0475	0.0475		0.0448	0.0448	0.0000	140.3487	140.3487	0.0343	0.0000	141.2071
Total	**0.1234**	**0.9836**	**1.0511**	**1.6900e-003**		**0.0475**	**0.0475**		**0.0448**	**0.0448**	**0.0000**	**140.3487**	**140.3487**	**0.0343**	**0.0000**	**141.2071**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0400e-003	8.8300e-003	0.1256	1.7000e-004		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	14.6710	14.6710	4.7400e-003	0.0000	14.7896
Total	**2.0400e-003**	**8.8300e-003**	**0.1256**	**1.7000e-004**		**2.7000e-004**	**2.7000e-004**		**2.7000e-004**	**2.7000e-004**	**0.0000**	**14.6710**	**14.6710**	**4.7400e-003**	**0.0000**	**14.7896**

Mitigated Construction Off-Site

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Building - Exterior - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1188	0.9560	1.0797	1.7500e-003		0.0429	0.0429		0.0405	0.0405	0.0000	145.2649	145.2649	0.0352	0.0000	146.1453
Total	**0.1188**	**0.9560**	**1.0797**	**1.7500e-003**		**0.0429**	**0.0429**		**0.0405**	**0.0405**	**0.0000**	**145.2649**	**145.2649**	**0.0352**	**0.0000**	**146.1453**

Unmitigated Construction Off-Site

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.1100e-003	9.1300e-003	0.1300	1.7000e-004		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	15.1936	15.1936	4.9100e-003	0.0000	15.3164
Total	**2.1100e-003**	**9.1300e-003**	**0.1300**	**1.7000e-004**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**15.1936**	**15.1936**	**4.9100e-003**	**0.0000**	**15.3164**

Mitigated Construction Off-Site

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

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Below Slab Utility - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3900e-003	0.0140	0.0216	3.0000e-005		6.4000e-004	6.4000e-004		5.9000e-004	5.9000e-004	0.0000	2.6418	2.6418	8.5000e-004	0.0000	2.6631
Total	**1.3900e-003**	**0.0140**	**0.0216**	**3.0000e-005**		**6.4000e-004**	**6.4000e-004**		**5.9000e-004**	**5.9000e-004**	**0.0000**	**2.6418**	**2.6418**	**8.5000e-004**	**0.0000**	**2.6631**

Unmitigated Construction Off-Site

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

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.7000e-004	1.5900e-003	0.0226	3.0000e-005		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	2.6418	2.6418	8.5000e-004	0.0000	2.6631
Total	**3.7000e-004**	**1.5900e-003**	**0.0226**	**3.0000e-005**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**2.6418**	**2.6418**	**8.5000e-004**	**0.0000**	**2.6631**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

16-051 Park Habitat Construction Night - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.5911	3.8711	34.2025	0.0724	8.2915	0.0513	8.3428	2.2132	0.0477	2.2609	0.0000	6,679.6297	6,679.6297	0.4246	0.3124	6,783.3535
Unmitigated	3.5911	3.8711	34.2025	0.0724	8.2915	0.0513	8.3428	2.2132	0.0477	2.2609	0.0000	6,679.6297	6,679.6297	0.4246	0.3124	6,783.3535

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	11,618.94	2,636.33	835.04	21,018,246	21,018,246
Regional Shopping Center	835.79	1,021.10	467.15	1,419,470	1,419,470
Total	12,454.73	3,657.43	1,302.19	22,437,716	22,437,716

16-051 Park Habitat Construction Night - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.573651	0.055882	0.186012	0.115369	0.020252	0.005158	0.008030	0.006377	0.000893	0.000372	0.024386	0.000900	0.002720
General Office Building	0.573651	0.055882	0.186012	0.115369	0.020252	0.005158	0.008030	0.006377	0.000893	0.000372	0.024386	0.000900	0.002720
Regional Shopping Center	0.573651	0.055882	0.186012	0.115369	0.020252	0.005158	0.008030	0.006377	0.000893	0.000372	0.024386	0.000900	0.002720

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.1045	0.9499	0.7979	5.7000e-003		0.0722	0.0722		0.0722	0.0722	0.0000	1,034.0289	1,034.0289	0.0198	0.0190	1,040.1736

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

NaturalGas Unmitigated	0.1045	0.9499	0.7979	5.7000e-003		0.0722	0.0722		0.0722	0.0722	0.0000	1,034.0289	1,034.0289	0.0198	0.0190	1,040.1736

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	1.93252e+007	0.1042	0.9473	0.7957	5.6800e-003		0.0720	0.0720		0.0720	0.0720	0.0000	1,031.2649	1,031.2649	0.0198	0.0189	1,037.3932
Regional Shopping Center	51795.9	2.8000e-004	2.5400e-003	2.1300e-003	2.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.7640	2.7640	5.0000e-005	5.0000e-005	2.7805
Total		**0.1045**	**0.9499**	**0.7979**	**5.7000e-003**		**0.0722**	**0.0722**		**0.0722**	**0.0722**	**0.0000**	**1,034.0289**	**1,034.0289**	**0.0198**	**0.0190**	**1,040.1736**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	1.93252e+007	0.1042	0.9473	0.7957	5.6800e-003		0.0720	0.0720		0.0720	0.0720	0.0000	1,031.2649	1,031.2649	0.0198	0.0189	1,037.3932

16-051 Park Habitat Construction Night - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Regional Shopping Center	51795.9	2.8000e-004	2.5400e-003	2.1300e-003	2.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.7640	2.7640	5.0000e-005	5.0000e-005	2.7805
Total		**0.1045**	**0.9499**	**0.7979**	**5.7000e-003**		**0.0722**	**0.0722**		**0.0722**	**0.0722**	**0.0000**	**1,034.0289**	**1,034.0289**	**0.0198**	**0.0190**	**1,040.1736**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	2.16294e+006	0.0000	0.0000	0.0000	0.0000
General Office Building	2.04823e+007	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	229983	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	2.16294e+006	0.0000	0.0000	0.0000	0.0000

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

General Office Building	2.04823e+007	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	229983	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.4148	1.8000e-004	0.0203	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0395	0.0395	1.0000e-004	0.0000	0.0420
Unmitigated	5.4148	1.8000e-004	0.0203	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0395	0.0395	1.0000e-004	0.0000	0.0420

6.2 Area by SubCategory

Unmitigated

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

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Architectural Coating	0.6419					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.7711					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8600e-003	1.8000e-004	0.0203	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0395	0.0395	1.0000e-004	0.0000	0.0420
Total	**5.4148**	**1.8000e-004**	**0.0203**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**	**0.0000**	**0.0395**	**0.0395**	**1.0000e-004**	**0.0000**	**0.0420**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.6419					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.7711					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8600e-003	1.8000e-004	0.0203	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0395	0.0395	1.0000e-004	0.0000	0.0420
Total	**5.4148**	**1.8000e-004**	**0.0203**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**	**0.0000**	**0.0395**	**0.0395**	**1.0000e-004**	**0.0000**	**0.0420**

7.0 Water Detail

7.1 Mitigation Measures Water

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	67.7846	6.9621	0.1644	290.8262
Unmitigated	67.7846	6.9621	0.1644	290.8262

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	212.02 / 129.948	67.2643	6.9087	0.1631	288.5939
Regional Shopping Center	1.63997 / 1.00514	0.5203	0.0534	1.2600e-003	2.2323
Total		**67.7846**	**6.9621**	**0.1644**	**290.8262**

Mitigated

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	212.02 / 129.948	67.2643	6.9087	0.1631	288.5939
Regional Shopping Center	1.63997 / 1.00514	0.5203	0.0534	1.2600e-003	2.2323
Total		**67.7846**	**6.9621**	**0.1644**	**290.8262**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	229.9197	13.5879	0.0000	569.6164
Unmitigated	229.9197	13.5879	0.0000	569.6164

8.2 Waste by Land Use

Date: 6/25/2021 12:15 PM

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	1109.41	225.2002	13.3090	0.0000	557.9240
Regional Shopping Center	23.25	4.7195	0.2789	0.0000	11.6925
Total		**229.9197**	**13.5879**	**0.0000**	**569.6164**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	1109.41	225.2002	13.3090	0.0000	557.9240
Regional Shopping Center	23.25	4.7195	0.2789	0.0000	11.6925
Total		**229.9197**	**13.5879**	**0.0000**	**569.6164**

16-051 Park Habitat Construction Night - Santa Clara County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Attachment 3: EMFAC2021 Calculations

Summary of Construction Traffic Emissions (EMFAC2021) Daytime

Pollutants YEAR	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2
					Tons						*Metric Tons*
Criteria Pollutants											
2021	0.0294	0.3316	0.3026	0.0019	0.0885	0.0200	0.1085	0.0133	0.0103	0.0236	185.4068
2022	0.1192	1.3073	1.2633	0.0082	0.3939	0.0840	0.4778	0.0593	0.0411	0.1004	813.4871
2023	0.1369	1.0292	1.4633	0.0088	0.3939	0.0712	0.4650	0.0593	0.0298	0.0891	858.5409
2024	0.1134	0.8659	1.2138	0.0076	0.3453	0.0621	0.4074	0.0520	0.0259	0.0778	741.1871
Toxic Air Contaminants (1 Mile Trip Length)											
2021	0.0208	0.0747	0.1046	0.0002	0.0078	0.0017	0.0095	0.0012	0.0009	0.0021	21.5637
2022	0.0884	0.3182	0.4470	0.0009	0.0347	0.0071	0.0417	0.0052	0.0036	0.0088	94.0061
2023	0.1196	0.2784	0.5243	0.0010	0.0347	0.0058	0.0405	0.0052	0.0025	0.0078	93.9931
2024	0.0996	0.2397	0.4384	0.0008	0.0304	0.0051	0.0355	0.0046	0.0022	0.0068	81.0737

Summary of Construction Traffic Emissions (EMFAC2021) Nighttime

Pollutants YEAR	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2
					Tons						*Metric Tons*
Criteria Pollutants											
2021	0.0262	0.1371	0.2414	0.0009	0.0724	0.0105	0.0829	0.0109	0.0058	0.0167	88.7903
2022	0.1093	0.5481	1.0034	0.0040	0.3222	0.0446	0.3668	0.0485	0.0240	0.0724	388.1037
2023	0.1319	0.3984	1.2126	0.0046	0.3222	0.0321	0.3543	0.0485	0.0127	0.0612	442.5159
2024	0.1090	0.3323	0.9965	0.0040	0.2825	0.0280	0.3105	0.0425	0.0110	0.0535	382.2645
Toxic Air Contaminants (1 Mile Trip Length)											
2021	0.0204	0.0449	0.0894	0.0001	0.0071	0.0012	0.0083	0.0011	0.0007	0.0017	14.4538
2022	0.0866	0.1896	0.3770	0.0006	0.0316	0.0051	0.0367	0.0048	0.0027	0.0075	62.6169
2023	0.1194	0.1571	0.4559	0.0007	0.0316	0.0039	0.0355	0.0048	0.0017	0.0064	63.6375
2024	0.0993	0.1344	0.3780	0.0006	0.0277	0.0034	0.0311	0.0042	0.0014	0.0056	54.9339

Daytime CalEEMod Construction Inputs

Phase	CalEEMod WORKER TRIPS	CalEEMod VENDOR TRIPS	Total Worker Trips	Total Vendor Trips	CalEEMod HAULING TRIPS	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class	*Worker VMT*	*Vendor VMT*	*Hauling VMT*
Demolition	18	0	1818	0	4012	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	19634.4	0	80240
Shoring/Grading/Excavation	28	0	5600	0	22825	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	60480	0	456500
Below Slab Utility	5	264	960	50688	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	10368	370022.4	0
Foundation/Structure	30	0	16890	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	182412	0	0
Building - Exterior	556	0	161240	0	12400	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	1741392	0	248000
Building - Interior	111	0	49728	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	537062.4	0	0

Number of Days Per Year					
2021	10/11/21	12/31/21	82	82	
2022	1/1/22	12/31/22	365	365	
2023	1/1/23	12/31/23	365	365	
2024	1/1/24	11/15/24	320	320	
			1132	**1132**	***Total Workdays***

Phase	Start Date	End Date	Days/Week	Workdays
Demolition	10/11/2021	1/20/2022	7	101
Shoring/Grading/Excavation	1/14/2022	8/1/2022	7	200
Below Slab Utility	5/7/2024	11/15/2024	7	192
Foundation/Structure	8/2/2022	2/16/2024	7	563
Building - Exterior	8/11/2023	5/27/2024	7	290
Building - Interior	7/26/2023	10/16/2024	7	448

Nighttime CalEEMod Construction Inputs

Phase	CalEEMod WORKER TRIPS	CalEEMod VENDOR TRIPS	Total Worker Trips	Total Vendor Trips	CalEEMod HAULING TRIPS	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class	*Worker VMT*	*Vendor VMT*	*Hauling VMT*
Demolition	8	0	808	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	8726.4	0	0
Shoring/Grading/Excavation	28	0	5600	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	60480	0	0
Below Slab Utility	5	264	960	50688	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	10368	370022.4	0
Foundation/Structure	50	0	28150	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	304020	0	0
Building - Exterior	556	0	161240	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	1741392	0	0
Building - Interior	111	0	49728	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	537062.4	0	0

Number of Days Per Year					
2021	10/11/21	12/31/21	82	82	
2022	1/1/22	12/31/22	365	365	
2023	1/1/23	12/31/23	365	365	
2024	1/1/24	11/15/24	320	320	
			1132	**1132**	***Total Workdays***

Phase	Start Date	End Date	Days/Week	Workdays
Demolition	10/11/2021	1/20/2022	7	101
Shoring/Grading/Excavation	1/14/2022	8/1/2022	7	200
Below Slab Utility	5/7/2024	11/15/2024	7	192
Foundation/Structure	8/2/2022	2/16/2024	7	563
Building - Exterior	8/11/2023	5/27/2024	7	290
Building - Interior	7/26/2023	10/16/2024	7	448

Source: EMFAC2021 (v1.0.1) Emission Rates
Region Type: County
Region: Santa Clara
Calendar Year: 2021
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	Energy Con	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RU	PM2.5_IDL	PM2.5_STR	PM2.5_PM	PM2.5_PM	PM10_RUN	PM10_IDLE	PM10_STR	PM10_PM	PM10_PMI	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTSO	ROG_RUNL	ROG_DIUR	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_HOTSO	TOG_RUNL	TOG_DIUR	NH3_RUNEX	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
Santa Clara	2021	HHDT	Aggregate	Aggregate	Gasoline	4.911671	108.3321	108.3321	0	98.2727	0	12.52129	0	1.17477	0.00724	0	0.001773	0.005	0.038424	0.007874	0	0.001929	0.02	0.109784	2565.57	0	49.38815	0.549631	0	0.000108	0.290212	0	0.031064	3.502409	0	0.00059	0.16728	1.506995	11.25307	5.110707	0	0.000646	0.16728	1.506995	11.25307	0.037857	118.2833	0	0.353757	0.025363	0	0.000488
Santa Clara	2021	HHDT	Aggregate	Aggregate	Diesel	7945.653	974275.6	974275.6	0	115958.9	0	2.842904	68.7602	2.347489	0.03733	0.661163	0	0.008769	0.028367	0.039018	0.063929	0	0.035076	0.081048	1695.883	12693.22	0	0.002265	0.236268	0	0.267187	1.999821	0	0.048759	5.086789	0	0	0	0	0.055509	5.790922	0	0	0	0	0.196614	0.195075	67.59912	0	0.016059	0.120197	0
Santa Clara	2021	HHDT	Aggregate	Natural Ga	Gas	604.4858	44859.32	44859.32	0	5247.791	0	1.479487	13.79137	0	0.002003	0.021244	0	0.009	0.047481	0.002179	0.023105	0	0.036	0.13566	1449.478	10245.18	0	2.851947	36.48951	0	0.295486	2.088546	0	0.068879	0.577467	0	0	0	0	2.94267	37.30415	0	0	0	0	0.853048	15.08309	73.72785	0	0	0	0
Santa Clara	2021	LDA	Aggregate	Aggregate	Gasoline	606788	22328684	22328684	0	2819031	0	0.061526	0	0.306099	0.001307	0	0.002137	0.002	0.002656	0.001421	0	0.002324	0.008	0.007589	291.5075	0	74.80132	0.003309	0	0.086516	0.005874	0	0.036086	0.013455	0	0.413042	0.102567	0.258475	1.575398	0.019625	0	0.452227	0.102567	0.258475	1.575398	0.031893	0.916686	0	3.92511	0.002882	0	0.000739
Santa Clara	2021	LDA	Aggregate	Aggregate	Diesel	2097.285	65438.93	65438.93	0	9106.701	0	0.289351	0	0	0.021136	0	0	0.002	0.002681	0.022092	0	0	0.008	0.007659	237.7247	0	0	0.00159	0	0	0.037454	0	0	0.034231	0	0	0	0	0	0.03897	0	0	0	0	0	0.0031	0.362693	0	0	0.002253	0	0
Santa Clara	2021	LDA	Aggregate	Electricity	Electricity	45687.59	1848394	0	1848394	228454	713632.8	0	0	0	0	0	0	0.002	0.001529	0	0	0	0.008	0.00437	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2021	LDA	Aggregate	Aggregate	Plug-in Hyb	12325.75	549262.6	292344.2	256918.4	50966.97	77597.02	0.003493	0	0.11551	0.000782	0	0.002436	0.002	0.001363	0.00085	0	0.002649	0.008	0.003895	148.3928	0	67.90667	0.00048	0	0.042861	0.00064	0	0.021155	0.00151	0	0.173285	0.039575	0.034683	0.463886	0.002204	0	0.189725	0.039575	0.034683	0.463886	0.01985	0.228959	0	1.339893	0.001467	0	0.000671
Santa Clara	2021	LDT1	Aggregate	Aggregate	Gasoline	56250.2	1810349	1810349	0	251042.1	0	0.178236	0	0.45509	0.002102	0	0.003187	0.002	0.003233	0.002285	0	0.003465	0.008	0.009237	342.3532	0	92.17037	0.008673	0	0.128174	0.012178	0	0.042157	0.039434	0	0.681062	0.191773	0.56032	3.038222	0.057483	0	0.745671	0.191773	0.56032	3.038222	0.035289	1.855747	0	6.610145	0.003385	0	0.000911
Santa Clara	2021	LDT1	Aggregate	Aggregate	Diesel	32.08333	503.0685	503.0685	0	96.14776	0	1.666847	0	0	0.24162	0	0	0.002	0.003734	0.252545	0	0	0.008	0.010668	415.5911	0	0	0.014019	0	0	0.065477	0	0	0.301811	0	0	0	0	0	0.343592	0	0	0	0	0	0.0031	1.617036	0	0	0.003938	0	0
Santa Clara	2021	LDT1	Aggregate	Aggregate	Electricity	176.8774	5945.758	0	5945.758	835.4181	2295.553	0	0	0	0	0	0	0.002	0.001541	0	0	0	0.008	0.004403	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2021	LDT1	Aggregate	Aggregate	Plug-in Hyb	10.82472	516.8071	263.2288	253.5783	44.7602	76.5882	0.003342	0	0.11551	0.000498	0	0.001651	0.002	0.001365	0.000541	0	0.001795	0.008	0.0039	142.0049	0	74.72169	0.000461	0	0.043003	0.000616	0	0.021287	0.001445	0	0.173285	0.026876	0.026052	0.339589	0.021392	0.219103	0	0.189725	0.026876	0.026052	0.339589	0.021392	0.219103	0	1.339893	0.001404	0	0.000739
Santa Clara	2021	LDT2	Aggregate	Aggregate	Gasoline	269286.1	9644865	9644865	0	1261291	0	0.099372	0	0.421535	0.001357	0	0.002117	0.002	0.003124	0.001476	0	0.002303	0.008	0.008925	364.8211	0	94.21995	0.003765	0	0.098308	0.007574	0	0.041886	0.015421	0	0.472046	0.091479	0.236284	1.467935	0.022495	0	0.51683	0.091479	0.236284	1.467935	0.033775	1.034906	0	4.394297	0.003607	0	0.000931
Santa Clara	2021	LDT2	Aggregate	Aggregate	Diesel	883.652	33892.89	33892.89	0	4258.527	0	0.053343	0	0	0.00583	0	0	0.002	0.003073	0.006094	0	0	0.008	0.00878	323.8235	0	0	0.000676	0	0	0.051019	0	0	0.01456	0	0	0	0	0	0.016576	0	0	0	0	0	0.0031	0.133207	0	0	0.003068	0	0
Santa Clara	2021	LDT2	Aggregate	Aggregate	Electricity	295.5134	10300.33	0	10300.33	1512.362	3976.778	0	0	0	0	0	0	0.002	0.001524	0	0	0	0.008	0.004355	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2021	LDT2	Aggregate	Aggregate	Plug-in Hyb	845.8398	39165.03	20268.11	18896.92	3497.547	5707.433	0.003396	0	0.11551	0.000672	0	0.002194	0.002	0.001364	0.000731	0	0.002386	0.008	0.003897	144.2823	0	81.05617	0.000467	0	0.042925	0.000624	0	0.021215	0.001468	0	0.173285	0.027973	0.027304	0.362073	0.002143	0	0.189725	0.027973	0.027304	0.362073	0.021638	0.222617	0	1.339893	0.001426	0	0.000801
Santa Clara	2021	LHDT1	Aggregate	Aggregate	Gasoline	18933.42	672783.1	672783.1	0	282079.8	0	0.256798	0.039718	0.701068	0.001752	0	0.000385	0.002	0.0273	0.001905	0	0.000418	0.008	0.078	931.4507	122.4688	25.83191	0.012061	0.120812	0.03785	0.014272	0.003066	0.053341	0.061014	0.454849	0.191678	0.056457	0.299122	3.116304	0.089031	0.663714	0.209863	0.056457	0.299122	3.116304	0.044832	1.411296	3.747334	2.989075	0.009208	0.001211	0.000255
Santa Clara	2021	LHDT1	Aggregate	Aggregate	Diesel	9139.777	343382.9	343382.9	0	114966.9	0	2.358079	2.271347	0	0.04683	0.027404	0	0.003	0.0273	0.048947	0.028643	0	0.012	0.078	643.496	136.5842	0	0.010209	0.005098	0	0.101383	0.021519	0	0.219784	0.10976	0	0	0	0	0.25021	0.124954	0	0	0	0	0.146324	0.639056	0.909745	0	0.006097	0.001294	0
Santa Clara	2021	LHDT2	Aggregate	Aggregate	Gasoline	2466	87553.14	87553.14	0	36739.72	0	0.242157	0.039344	0.681173	0.001604	0	0.000316	0.002	0.03185	0.001745	0	0.000344	0.008	0.091	1035.79	141.0887	26.12054	0.009565	0.120729	0.036622	0.013821	0.003071	0.05226	0.045738	0.450754	0.183893	0.052329	0.275873	2.879115	0.066741	0.657739	0.20134	0.052329	0.275873	2.879115	0.044945	1.150578	3.751518	3.098774	0.01024	0.001395	0.000258
Santa Clara	2021	LHDT2	Aggregate	Aggregate	Diesel	4074.911	157442.8	157442.8	0	51257.26	0	1.819669	2.235115	0	0.039933	0.027151	0	0.003	0.03185	0.044738	0.028379	0	0.012	0.091	781.4731	217.5251	0	0.008888	0.005098	0	0.123121	0.034271	0	0.191344	0.10976	0	0	0	0	0.217833	0.124954	0	0	0	0	0.165331	0.517738	0.909745	0	0.007405	0.002061	0
Santa Clara	2021	MCY	Aggregate	Aggregate	Gasoline	27304.17	1603822.2	160382.2	0	54608.34	0	0.626062	0	0.157064	0.001755	0	0.003626	0.001	0.0042	0.001872	0	0.003843	0.004	0.012	189.7631	0	52.22767	0.180174	0	0.199348	0.041922	0	0.009146	1.214328	0	1.494194	3.559817	3.717016	3.986797	1.441721	0	1.623911	3.559817	3.717016	3.986797	0.008645	14.15601	0	8.172263	0.001876	0	0.000516
Santa Clara	2021	MDV	Aggregate	Aggregate	Gasoline	147596.4	5051242	5051242	0	682293.7	0	0.160894	0	0.57169	0.001434	0	0.002382	0.002	0.003201	0.001559	0	0.002589	0.008	0.009147	442.5348	0	114.8138	0.005886	0	0.129321	0.010684	0	0.047954	0.026856	0	0.67693	0.1118	0.299795	1.785601	0.038387	0	0.741109	0.1118	0.299795	1.785601	0.033755	1.329778	0	5.04226	0.004375	0	0.001135
Santa Clara	2021	MDV	Aggregate	Aggregate	Diesel	2291.714	86017.73	86017.73	0	11013.96	0	0.063349	0	0	0.005706	0	0	0.002	0.00312	0.005964	0	0	0.008	0.008916	420.7053	0	0	0.000573	0	0	0.066282	0	0	0.012335	0	0	0	0	0	0.014043	0	0	0	0	0	0.0031	0.203492	0	0	0.003986	0	0
Santa Clara	2021	MDV	Aggregate	Electricity	Electricity	256.699	9069.305	0	9069.305	1316.884	3501.5	0	0	0	0	0	0	0.002	0.001522	0	0	0	0.008	0.004349	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2021	MDV	Aggregate	Aggregate	Plug-in Hyb	609.3868	26030.39	13830.97	12199.42	2519.814	3684.588	0.003487	0	0.11551	0.000845	0	0.002679	0.002	0.001363	0.00092	0	0.002914	0.008	0.003894	148.1394	0	101.4945	0.000477	0	0.042643	0.000633	0	0.020952	0.001508	0	0.173285	0.030476	0.030968	0.408082	0.0022	0	0.189725	0.030476	0.030968	0.408082	0.022316	0.228568	0	1.339893	0.001465	0	0.001003
Santa Clara	2021	MH	Aggregate	Aggregate	Gasoline	2769.699	23630.01	23630.01	0	277.0807	0	0.627675	0	0.395766	0.002059	0	0.000494	0.003	0.015756	0.002239	0	0.000538	0.012	0.045017	1950.365	0	32.39866	0.025366	0	0.038961	0.034003	0	0.039426	0.120744	0	0.173868	15.32954	0.341293	5.193314	0.176189	0	0.190364	15.32954	0.341293	5.193314	0.044424	3.344602	0	3.937518	0.019281	0	0.00032
Santa Clara	2021	MH	Aggregate	Aggregate	Diesel	922.1828	8933.632	8933.632	0	92.21828	0	4.615076	0	0	0.111614	0	0	0.004	0.015675	0.116661	0	0	0.016	0.044785	1080.28	0	0	0.00602	0	0	0.170198	0	0	0.129617	0	0	0	0	0	0.14756	0	0	0	0	0	0.137198	0.438429	0	0	0.010236	0	0
Santa Clara	2021	MHDT	Aggregate	Aggregate	Gasoline	1442.735	67829.47	67829.47	0	28866.25	0	0.831489	0.087806	0.473646	0.001493	0	0.000635	0.003	0.015756	0.001624	0	0.00069	0.012	0.045017	1848.545	547.8914	49.28763	0.027494	0.244939	0.052883	0.036408	0.006525	0.031617	0.14124	1.002561	0.308525	0.045168	0.369912	3.607527	0.206097	1.462934	0.337796	0.045168	0.369912	3.607527	0.044883	3.016915	14.99869	6.909591	0.018275	0.005416	0.000487
Santa Clara	2021	MHDT	Aggregate	Aggregate	Diesel	10153.19	424633.4	424633.4	0	120691.4	0	1.894718	16.09448	1.444966	0.024213	0.051093	0	0.003	0.015941	0.025308	0.053403	0	0.012	0.045546	1160.391	2338.117	0	0.002807	0.014388	0	0.18282	0.368371	0	0.060425	0.309775	0	0	0	0	0.068789	0.352655	0	0	0	0	0.192868	0.190198	7.288171	0	0.010988	0.022141	0
Santa Clara	2021	MHDT	Aggregate	Natural Ga	Gas	78.33433	3644.537	3644.537	0	742.0488	0	0.168911	6.475626	0	0.000993	0.01576	0	0.003	0.016009	0.00108	0.01714	0	0.012	0.04574	1007.079	5194.634	0	0.721288	18.08715	0	0.2053	1.05896	0	0.010306	0.25843	0	0	0	0	0.736127	18.45926	0	0	0	0	1.06	2.987554	29.49823	0	0	0	0
Santa Clara	2021	OBUS	Aggregate	Aggregate	Gasoline	483.6838	22502.68	22502.68	0	9677.546	0	0.647154	0.064946	0.407221	0.000833	0	0.00026	0.003	0.01568	0.000906	0	0.000283	0.012	0.044799	1824.237	386.5099	32.42022	0.018667	0.194146	0.037204	0.030004	0.005187	0.030554	0.092334	0.744545	0.197731	0.034167	0.138331	2.476771	0.134734	1.086438	0.21649	0.034167	0.138331	2.476771	0.0449	2.094066	5.764227	4.193973	0.018034	0.003821	0.000321
Santa Clara	2021	OBUS	Aggregate	Aggregate	Diesel	834.688	61084.28	61084.28	0	8576.673	0	1.576242	9.183516	1.420449	0.027062	0.016448	0	0.003	0.018131	0.028286	0.017191	0	0.012	0.051804	1290.86	1635.121	0	0.003027	0.022612	0	0.203376	0.257614	0	0.065176	0.48683	0	0	0	0	0.074198	0.554219	0	0	0	0	0.206149	0.214603	7.255191	0	0.012224	0.015484	0
Santa Clara	2021	OBUS	Aggregate	Aggregate	Natural Ga	5.469371	354.9737	354.9737	0	48.6774	0	0.296201	1.581355	0	0.000557	0.002851	0	0.003	0.016148	0.000605	0.003101	0	0.012	0.046137	1044.502	1172.359	0	0.731981	4.779418	0	0.212928	0.238993	0	0.010459	0.068288	0	0	0	0	0.74704	4.877746	0	0	0	0	1.06	3.098562	4.989923	0	0	0	0
Santa Clara	2021	SBUS	Aggregate	Aggregate	Gasoline	153.6367	7565.4	7565.4	0	614.5466	0	0.533764	0.925451	0.67372	0.000841	0	0.00054	0.002	0.015721	0.000915	0	0.000587	0.008	0.044917	825.4164	2631.972	59.70541	0.013058	2.453844	0.074718	0.028424	0.08626	0.062288	0.063594	10.62574	0.427027	0.104098	0.223574	1.381476	0.092797	15.50505	0.467541	0.104098	0.223574	1.381476	0.045	1.630235	82.14507	10.90196	0.00816	0.02602	0.00059
Santa Clara	2021	SBUS	Aggregate	Aggregate	Diesel	657.6731	15431.13	15431.13	0	9523.107	0	4.438199	23.32594	0.434289	0.023358	0.024671	0	0.003	0.015721	0.024414	0.025786	0	0.012	0.044917	1157.296	2254.332	0	0.00292	0.008308	0	0.182332	0.355171	0	0.06286	0.178878	0	0	0	0	0.071561	0.203639	0	0	0	0	0.136384	0.189608	4.398329	0	0.010959	0.021347	0
Santa Clara	2021	SBUS	Aggregate	Aggregate	Natural Ga	21.69727	560.9301	560.9301	0	314.1765	0	0.631341	5.309646	0	0.003378	0.010433	0	0.003	0.015721	0.003674	0.011347	0	0.012	0.044917	1293.196	4040.723	0	3.611806	15.73509	0	0.263627	0.823728	0	0.051606	0.224823	0	0	0	0	3.686113	16.05882	0	0	0	0	1.06	12.47317	18.66291	0	0	0	0
Santa Clara	2021	UBUS	Aggregate	Aggregate	Gasoline	45.675	4769.83	4769.83	0	182.7	0	0.032133	0	0.568854	0.000898	0	8.87E-05	0.002	0.03185	0.000977	0	9.64E-05	0.008	0.091	974.9499	0	38.39745	0.002378	0	0.0539	0.00477	0	0.08329	0.006763	0	0.198578	0.052994	0.093754	0.610126	0.009869	0	0.217418	0.052994	0.093754	0.610126	0.045	0.578479	0	5.701642	0.009638	0	0.000338
Santa Clara	2021	UBUS	Aggregate	Aggregate	Diesel	434.6269	48602.56	48602.56	0	1738.508	0	0.386258	0	0	0.007023	0	0	0.0083	0.0385	0.00734	0	0	0.033201	0.11	1100.519	0	0	0.003215	0	0	0.173387	0	0	0.069208	0	0	0	0	0	0.078788	0	0	0	0	0	0.1877	0.079368	0	0	0.010428	0	0
Santa Clara	2021	UBUS	Aggregate	Aggregate	Electricity	5.046757	199.0027	0	199.0027	20.18703	346.9103	0	0	0	0	0	0	0.009	0.01925	0	0	0	0.036	0.055	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2021	UBUS	Aggregate	Aggregate	Natural Ga	41.43636	4737.889	4737.889	0	165.7455	0	0.058764	0	0	0.000282	0	0	0.00818	0.0385	0.000295	0	0	0.032718	0.11	1298.95	0	0	4.245038	0	0	0.264799	0	0	0.060653	0	0	0	0	0	4.332372	0	0	0	0	0	0.97	49.03001	0	0	0	0	0

Source: EMFAC2021 (v1.0.1) Emission Rates
Region Type: County
Region: Santa Clara
Calendar Year: 2022
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	Energy Con	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RU	PM2.5_IDL	PM2.5_STR	PM2.5_PM	PM2.5_PM	PM10_RUN	PM10_IDLE	PM10_STR	PM10_PM	PM10_PMI	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTSO	ROG_RUNLO	ROG_DIUR	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_HOTSO	TOG_RUNLO	TOG_DIUR	NH3_RUNEX	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
Santa Clara	2022	HHDT	Aggregate	Aggregate	Gasoline	3.827367	105.1913	105.1913	0	76.57795	0	9.246272	0	1.235102	0.00578	0	0.001696	0.005	0.036521	0.006286	0	0.001845	0.02	0.104346	2407.176	0	49.64979	0.419155	0	0.000162	0.231899	0	0.038678	2.628217	0	0.000881	0.16301	1.46846	10.96573	3.835087	0	0.000965	0.16301	1.46846	10.96573	0.039703	94.77398	0	0.712144	0.023797	0	0.000491
Santa Clara	2022	HHDT	Aggregate	Aggregate	Diesel	8126.63	984491.3	984491.3	0	118998.6	0	2.444518	67.79787	2.544846	0.027272	0.034513	0	0.008769	0.027987	0.028505	0.036074	0	0.035077	0.079962	1677.544	12677.87	0	0.001458	0.236832	0	0.264298	1.997403	0	0.031398	5.098937	0	0	0	0	0.035744	5.804752	0	0	0	0	0.203666	0.125232	70.47019	0	0.015885	0.120052	0
Santa Clara	2022	HHDT	Aggregate	Natural Ga	Aggregate	660.7756	47681.36	47681.36	0	5809.397	0	1.356717	13.62116	0	0.001899	0.022358	0	0.009	0.047596	0.002065	0.024316	0	0.036	0.135989	1429.3	10316.77	0	2.688526	36.13158	0	0.291372	2.10314	0	0.062535	0.56302	0	0	0	0	2.77132	36.92822	0	0	0	0	0.851705	14.53027	73.87982	0	0	0	0
Santa Clara	2022	LDA	Aggregate	Aggregate	Gasoline	604047.8	22374250	22374250	0	2805661	0	0.053791	0	0.287921	0.00126	0	0.002062	0.002	0.002656	0.00137	0	0.002242	0.008	0.007588	287.1374	0	73.33113	0.002925	0	0.081262	0.005394	0	0.035089	0.011654	0	0.381731	0.098272	0.249754	1.530333	0.017001	0	0.417946	0.098272	0.249754	1.530333	0.032827	0.847106	0	3.666246	0.002839	0	0.000725
Santa Clara	2022	LDA	Aggregate	Aggregate	Diesel	1988.847	60930.09	60930.09	0	8564.495	0	0.263546	0	0	0.019976	0	0	0.002	0.00269	0.020879	0	0	0.008	0.007686	236.272	0	0	0.00151	0	0	0.037225	0	0	0.032513	0	0	0	0	0	0.037014	0	0	0	0	0	0.0031	0.352928	0	0	0.002239	0	0
Santa Clara	2022	LDA	Aggregate	Electricity	Aggregate	49768.56	2058456	0	2058456	294733.9	794733.9	0	0	0	0	0	0	0.002	0.001531	0	0	0	0.008	0.004374	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2022	LDA	Aggregate	Aggregate	Plug-in Hyb	14080.33	626833.5	326494.8	300338.7	58222.18	90711.24	0.003418	0	0.11551	0.000718	0	0.002292	0.002	0.001368	0.000781	0	0.002492	0.008	0.003908	145.2228	0	67.22203	0.000469	0	0.042745	0.000623	0	0.021047	0.001478	0	0.173285	0.039673	0.035067	0.451466	0.002157	0	0.189725	0.039673	0.035067	0.451466	0.019838	0.224082	0	1.339893	0.001436	0	0.000665
Santa Clara	2022	LDT1	Aggregate	Aggregate	Gasoline	54974.08	1779154	1779154	0	245182.1	0	0.160037	0	0.042895	0.001971	0	0.003006	0.002	0.003236	0.002144	0	0.003269	0.008	0.009246	338.1243	0	90.32061	0.007798	0	0.120165	0.011179	0	0.040992	0.03517	0	0.630523	0.182138	0.532387	2.932213	0.035502	1.699209	0	0.611696	0.003343	0	0.000893
Santa Clara	2022	LDT1	Aggregate	Diesel	Aggregate	28.88602	444.5778	444.5778	0	84.95747	0	1.664076	0	0	0.241157	0	0	0.002	0.003731	0.252061	0	0	0.008	0.01066	415.6618	0	0	0.013984	0	0	0.065488	0	0	0.301058	0	0	0	0	0	0.342735	0	0	0	0	0	0.0031	1.609282	0	0	0.003939	0	0
Santa Clara	2022	LDT1	Aggregate	Electricity	Aggregate	182.9928	6367.047	0	6367.047	860.9347	2458.206	0	0	0	0	0	0	0.002	0.001541	0	0	0	0.008	0.004403	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2022	LDT1	Aggregate	Aggregate	Plug-in Hyb	24.31577	1158.953	555.2268	603.7259	100.5457	182.3432	0.003144	0	0.11551	0.00042	0	0.001472	0.002	0.001376	0.000457	0	0.001601	0.008	0.003931	133.572	0	73.48077	0.00043	0	0.042675	0.000571	0	0.020981	0.001359	0	0.173285	0.025111	0.023155	0.300675	0.020121	0.206104	0	1.339893	0.00132	0	0.000726
Santa Clara	2022	LDT2	Aggregate	Aggregate	Gasoline	274728.5	9911730	9911730	0	1286654	0	0.087216	0	0.387125	0.001308	0	0.002055	0.002	0.003124	0.001422	0	0.002235	0.008	0.008926	357.8859	0	92.09899	0.003418	0	0.092802	0.006919	0	0.040202	0.013801	0	0.439671	0.088088	0.231141	1.442564	0.020134	0	0.481384	0.088088	0.231141	1.442564	0.034673	0.960886	0	4.129331	0.003538	0	0.00091
Santa Clara	2022	LDT2	Aggregate	Aggregate	Diesel	933.788	35569.23	35569.23	0	4479.453	0	0.049482	0	0	0.005617	0	0	0.002	0.003089	0.005871	0	0	0.008	0.008825	319.8313	0	0	0.000662	0	0	0.05039	0	0	0.01425	0	0	0	0	0	0.016223	0	0	0	0	0	0.0031	0.132603	0	0	0.003031	0	0
Santa Clara	2022	LDT2	Aggregate	Electricity	Aggregate	669.3585	23693.95	0	23693.95	3436.204	9147.819	0	0	0	0	0	0	0.002	0.001524	0	0	0	0.008	0.004354	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2022	LDT2	Aggregate	Plug-in Hyb	Aggregate	1256.28	57825.99	28723.51	29102.47	5194.718	8789.814	0.003259	0	0.11551	0.000565	0	0.001911	0.002	0.001372	0.000614	0	0.002078	0.008	0.00392	138.4921	0	79.93529	0.000446	0	0.042681	0.000592	0	0.020988	0.00141	0	0.173285	0.026873	0.02547	0.333582	0.020057	0	0.189725	0.026873	0.02547	0.333582	0.020799	0.213696	0	1.339893	0.001369	0	0.00079
Santa Clara	2022	LHDT1	Aggregate	Gasoline	Aggregate	19023.54	692949.2	692949.2	0	283422.4	0	0.22563	0.03858	0.680855	0.001666	0	0.000355	0.002	0.0273	0.001812	0	0.000386	0.008	0.078	910.666	121.4496	25.8752	0.010696	0.11838	0.036173	0.012587	0.003045	0.052713	0.053941	0.441903	0.181796	0.053097	0.287419	3.005479	0.078711	0.644824	0.199044	0.053097	0.287419	3.005479	0.044851	1.310703	3.750518	3.032062	0.009003	0.001201	0.000256
Santa Clara	2022	LHDT1	Aggregate	Diesel	Aggregate	9466.897	364941.3	364941.3	0	119081.7	0	2.046185	2.148991	0	0.042212	0.027161	0	0.003	0.0273	0.044121	0.028389	0	0.012	0.078	640.1321	134.8074	0	0.009365	0.005098	0	0.100853	0.021239	0	0.201618	0.10976	0	0	0	0	0.229529	0.124954	0	0	0	0	0.156672	0.574472	0.909745	0	0.006066	0.001277	0
Santa Clara	2022	LHDT2	Aggregate	Gasoline	Aggregate	2479.119	89333.8	89333.8	0	36935.18	0	0.214022	0.038116	0.662237	0.001522	0	0.000288	0.002	0.03185	0.001655	0	0.000313	0.008	0.091	1017.016	140.0339	25.93331	0.008303	0.117781	0.035049	0.012366	0.003023	0.05141	0.03933	0.436803	0.174741	0.049582	0.263161	2.773988	0.057391	0.637382	0.19132	0.049582	0.263161	2.773988	0.044954	1.055116	3.755463	3.106689	0.010054	0.001384	0.000256
Santa Clara	2022	LHDT2	Aggregate	Diesel	Aggregate	4276.175	167672	167672	0	53788.9	0	1.602621	2.114348	0	0.036809	0.027077	0	0.003	0.03185	0.038473	0.028302	0	0.012	0.091	773.4619	214.911	0	0.00832	0.005098	0	0.121859	0.033859	0	0.179126	0.10976	0	0	0	0	0.203923	0.124954	0	0	0	0	0.1727	0.476085	0.909745	0	0.007329	0.002036	0
Santa Clara	2022	MCY	Aggregate	Aggregate	Gasoline	27595.09	162924	162924	0	55190.18	0	0.60517	0	0.149724	0.001772	0	0.003556	0.001	0.0042	0.001891	0	0.003773	0.004	0.012	188.9834	0	50.90901	0.173457	0	0.19335	0.041009	0	0.008761	1.156556	0	1.442993	3.560376	3.734124	3.980024	1.378949	0	1.568432	3.560376	3.734124	3.980024	0.008705	13.58248	0	8.107621	0.001868	0	0.000503
Santa Clara	2022	MDV	Aggregate	Aggregate	Gasoline	150747.3	5216512	5216512	0	697659.3	0	0.136769	0	0.517519	0.001357	0	0.002255	0.002	0.003193	0.001475	0	0.002452	0.008	0.009123	434.2294	0	112.1929	0.005018	0	0.119363	0.009481	0	0.045397	0.021781	0	0.614579	0.106179	0.293735	1.762049	0.031733	0	0.672881	0.106179	0.293735	1.762049	0.034617	1.174347	0	4.66825	0.004293	0	0.001109
Santa Clara	2022	MDV	Aggregate	Aggregate	Diesel	2337.328	86668.85	86668.85	0	11158.46	0	0.05815	0	0	0.005454	0	0	0.002	0.003153	0.0057	0	0	0.008	0.009009	417.1884	0	0	0.000553	0	0	0.065728	0	0	0.011906	0	0	0	0	0	0.013554	0	0	0	0	0	0.0031	0.20344	0	0	0.003953	0	0
Santa Clara	2022	MDV	Aggregate	Electricity	Aggregate	623.6975	22215.8	0	22215.8	3205.616	8577.131	0	0	0	0	0	0	0.002	0.001523	0	0	0	0.008	0.004351	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2022	MDV	Aggregate	Plug-in Hyb	Aggregate	789.5612	33722.81	17285.18	16437.63	3264.836	4964.654	0.003363	0	0.11551	0.000723	0	0.002366	0.002	0.001369	0.000786	0	0.002574	0.008	0.003913	142.9094	0	99.86367	0.000458	0	0.042456	0.000605	0	0.020778	0.001454	0	0.173285	0.030414	0.029758	0.381921	0.002122	0	0.189725	0.030414	0.029758	0.381921	0.021528	0.220512	0	1.339893	0.001413	0	0.000987
Santa Clara	2022	MH	Aggregate	Aggregate	Gasoline	2642.084	23105.28	23105.28	0	264.3141	0	0.551445	0	0.40416	0.001917	0	0.000461	0.003	0.015756	0.002085	0	0.000502	0.012	0.045017	1949.266	0	32.13484	0.02167	0	0.038467	0.030967	0	0.041056	0.101032	0	0.168576	13.95792	0.32254	4.985527	0.147425	0	0.184569	13.95792	0.32254	4.985527	0.044583	2.705832	0	3.782453	0.01927	0	0.000318
Santa Clara	2022	MH	Aggregate	Diesel	Aggregate	940.8008	9155.21	9155.21	0	94.08008	0	4.438358	0	0	0.104654	0	0	0.004	0.015675	0.109386	0	0	0.016	0.044785	1080.89	0	0	0.005865	0	0	0.170295	0	0	0	0	0	0.126278	0	0	0	0.143759	0	0	0	0	0	0.143863	0.424501	0	0	0.010242	0	0
Santa Clara	2022	MHDT	Aggregate	Aggregate	Gasoline	1426.535	69284.18	69284.18	0	28542.11	0	0.686176	0.088062	0.462297	0.001432	0	0.000593	0.003	0.015756	0.001558	0	0.000645	0.012	0.045017	1819.358	542.4673	48.22005	0.022377	0.249961	0.051086	0.030967	0.006806	0.032093	0.113907	1.006391	0.293642	0.041091	0.336192	3.327263	0.166213	1.468523	0.321501	0.041091	0.336192	3.327263	0.044929	2.41434	15.04306	6.517433	0.017986	0.005363	0.000477
Santa Clara	2022	MHDT	Aggregate	Diesel	Aggregate	10189.55	428042.3	428042.3	0	121266.8	0	1.73167	15.28688	1.483339	0.020297	0.042841	0	0.003	0.015941	0.021215	0.044778	0	0.012	0.045546	1158.231	2324.123	0	0.002426	0.013407	0	0.18248	0.366167	0	0.052238	0.288656	0	0	0	0	0.05947	0.328613	0	0	0	0	0.196531	0.168917	7.277505	0	0.010968	0.022008	0
Santa Clara	2022	MHDT	Aggregate	Natural Ga	Aggregate	84.48052	3914.205	3914.205	0	796.8889	0	0.162027	6.474875	0	0.001029	0.016219	0	0.003	0.016011	0.001119	0.01764	0	0.012	0.045746	1002.329	5210.514	0	0.725882	17.91735	0	0.204331	1.062197	0	0.010371	0.256004	0	0	0	0	0.740815	18.28597	0	0	0	0	1.06	2.991509	30.51881	0	0	0	0
Santa Clara	2022	OBUS	Aggregate	Aggregate	Gasoline	470.9234	21653.3	21653.3	0	9422.235	0	0.596343	0.064966	0.407047	0.000863	0	0.000262	0.003	0.01568	0.000939	0	0.000285	0.012	0.044799	1804.41	384.2235	32.13915	0.017165	0.194553	0.036748	0.027969	0.005221	0.030733	0.084851	0.744858	0.194941	0.033671	0.142865	2.559429	0.123815	1.086895	0.213436	0.033671	0.142865	2.559429	0.044907	1.918016	5.766114	4.119591	0.017838	0.003798	0.000318
Santa Clara	2022	OBUS	Aggregate	Diesel	Aggregate	852.1679	61336.68	61336.68	0	8739.295	0	1.430263	8.186956	1.463102	0.021712	0.009363	0	0.003	0.01808	0.022694	0.009786	0	0.012	0.051656	1287.997	1601.524	0	0.002446	0.020931	0	0.202924	0.252321	0	0.052654	0.450629	0	0	0	0	0.059942	0.513007	0	0	0	0	0.209454	0.176751	7.212161	0	0.012197	0.015165	0
Santa Clara	2022	OBUS	Aggregate	Natural Ga	Aggregate	6.12419	392.3999	392.3599	0	54.50529	0	0.261572	1.567279	0	0.000722	0.003187	0	0.003	0.016148	0.000785	0.003466	0	0.012	0.046137	1035.05	1183.472	0	0.750937	4.605624	0	0.211002	0.241259	0	0.010729	0.065805	0	0	0	0	0.766387	4.700378	0	0	0	0	1.06	3.149633	5.746939	0	0	0	0
Santa Clara	2022	SBUS	Aggregate	Aggregate	Gasoline	160.4139	7959.43	7959.43	0	641.6556	0	0.527271	0.925562	0.689048	0.000853	0	0.00055	0.002	0.015721	0.000928	0	0.000599	0.008	0.044917	820.0467	2616.389	59.14656	0.01243	2.458676	0.074784	0.027982	0.086242	0.063619	0.060464	10.62737	0.42659	0.108472	0.246255	1.510943	0.088229	15.50744	0.467063	0.108472	0.246255	1.510943	0.045	1.548936	82.15497	10.71476	0.008107	0.025866	0.000585
Santa Clara	2022	SBUS	Aggregate	Diesel	Aggregate	662.5162	15413.71	15413.71	0	9593.235	0	4.235498	22.873	0.450634	0.022112	0.02288	0	0.003	0.015721	0.023112	0.023915	0	0.012	0.044917	1152.917	2246.353	0	0.002834	0.008182	0	0.181642	0.353914	0	0.061017	0.17615	0	0	0	0	0.069464	0.200533	0	0	0	0	0.140239	0.185604	4.488491	0	0.010917	0.021272	0
Santa Clara	2022	SBUS	Aggregate	Natural Ga	Aggregate	22.59677	578.3532	578.3532	0	327.2012	0	0.608852	5.295722	0	0.003378	0.010766	0	0.003	0.015721	0.003674	0.011708	0	0.012	0.044917	1281.922	4050.07	0	3.549889	15.56318	0	0.261328	0.825633	0	0.050721	0.222367	0	0	0	0	3.622922	15.88337	0	0	0	0	1.06	12.18179	19.41173	0	0	0	0
Santa Clara	2022	UBUS	Aggregate	Aggregate	Gasoline	45.81104	4784.037	4784.037	0	183.2442	0	0.03147	0	0.560776	0.000899	0	8.88E-05	0.002	0.03185	0.000978	0	9.66E-05	0.008	0.091	974.6428	0	38.21309	0.002303	0	0.053785	0.004696	0	0.082445	0.006534	0	0.197701	0.064874	0.125778	0.787098	0.009534	0	0.216458	0.064874	0.125778	0.787098	0.045	0.577943	0	5.5933	0.009635	0	0.000378
Santa Clara	2022	UBUS	Aggregate	Diesel	Aggregate	435.6475	48716.13	48716.13	0	1742.59	0	0.386257	0	0	0.007023	0	0	0.0083	0.0385	0.00734	0	0	0.0332	0.11	1100.743	0	0	0.003215	0	0	0.173422	0	0	0.069208	0	0	0	0	0	0.078788	0	0	0	0	0	0.187775	0.079368	0	0	0.01043	0	0
Santa Clara	2022	UBUS	Aggregate	Electricity	Aggregate	5.046757	199.0027	0	199.0027	20.18703	346.9103	0	0	0	0	0	0	0.009	0.01925	0	0	0	0.036	0.055	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2022	UBUS	Aggregate	Aggregate	Natural Ga	41.84875	4783.781	4783.781	0	167.395	0	0.058772	0	0	0.000282	0	0	0.008181	0.0385	0.000295	0	0	0.032723	0.11	1299.039	0	0	4.245393	0	0	0.264818	0	0	0.060658	0	0	0	0	0	4.332735	0	0	0	0	0	0.97	49.03622	0	0	0	0	0

Source: EMFAC2021 (v1.0.1) Emission Rates
Region Type: County
Region: Santa Clara
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	Energy Con	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RU	PM2.5_IDL	PM2.5_ST	PM2.5_PM	PM2.5_PM	PM10_RUN	PM10_IDLE	PM10_STR	PM10_PM	PM10_PMI	CO2_RUNE	CO2_IDLEX	CO2_STREX	CH4_RUNE	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX	ROG_RUNI	ROG_IDLEX	ROG_STREX	ROG_HOTS	ROG_RUNI	ROG_DIUR	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_HOTS	TOG_RUNI	TOG_DIUR	NH3_RUNEX	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
Santa Clara	2023	HHDT	Aggregate	Aggregate	Gasoline	3.454009	114.3093	114.3093	0	69.10781	0	8.107874	0	1.602501	0.00493	0	0.0017	0.005	0.035266	0.005362	0	0.001849	0.02	0.100759	2306.817	0	49.81185	0.340225	0	0.00018	0.208909	0	0.045697	2.104867	0	0.000979	0.158374	1.426645	10.65375	3.071416	0	0.001072	0.158374	1.426645	10.65375	0.040468	83.0074	0	1.02738	0.022805	0	0.000492
Santa Clara	2023	HHDT	Aggregate	Aggregate	Diesel	8235.059	991289	991289	0	120860.8	0	1.969368	63.40488	2.849455	0.025957	0.031631	0	0.008769	0.027531	0.027131	0.033061	0	0.035077	0.078661	1656.801	12241.32	0	0.000809	0.237446	0	0.26103	1.928625	0	0.017417	5.112156	0	0	0	0	0.019828	5.819801	0	0	0	0	0	0.214624	0.087393	74.20136	0	0.015689	0.115918	0
Santa Clara	2023	HHDT	Aggregate	Aggregate	Electricity	6.70171	411.5054	0	411.5054	103.2044	754.9233	0	0	0	0	0	0	0.00874	0.013383	0	0	0	0.03496	0.038238	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2023	HHDT	Aggregate	Aggregate	Natural Ga	753.7366	53295.97	53295.97	0	6914.034	0	1.208844	13.92832	0	0.001774	0.024237	0	0.009	0.046729	0.001929	0.02636	0	0.036	0.133512	1398.51	10630.2	0	2.44811	37.44665	0	0.285095	2.167036	0	0.054572	0.572265	0	0	0	0	2.520799	38.25947	0	0	0	0	0	0.860105	13.78246	74.03965	0	0	0	0
Santa Clara	2023	LDA	Aggregate	Aggregate	Gasoline	601938.3	22370251	22370251	0	2795479	0	0.047412	0	0.27189	0.001217	0	0.001992	0.002	0.002656	0.001323	0	0.002167	0.008	0.007588	282.586	0	71.87767	0.002603	0	0.076449	0.004995	0	0.034134	0.01016	0	0.353794	0.094758	0.240611	1.480552	0.014823	0	0.387359	0.094758	0.240611	1.480552	0.033781	0.787617	0	3.436611	0.002794	0	0.000711
Santa Clara	2023	LDA	Aggregate	Aggregate	Diesel	1871.125	56220.8	56220.8	0	8000.531	0	0.238318	0	0	0.018559	0	0	0.002	0.002698	0.019399	0	0	0.008	0.007709	234.6327	0	0	0.001413	0	0	0.036966	0	0	0.030417	0	0	0	0	0	0.034627	0	0	0	0	0	0	0.00231	0.342459	0	0	0.002223	0	0
Santa Clara	2023	LDA	Aggregate	Aggregate	Electricity	53751.15	2268185	0	2268185	265250.1	875706.7	0	0	0	0	0	0	0.002	0.001532	0	0	0	0.008	0.004377	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2023	LDA	Aggregate	Aggregate	Plug-in Hyb	15805.32	700610.9	356649.7	343961.3	65355	103886.6	0.00334	0	0.11551	0.000664	0	0.002171	0.002	0.001373	0.000722	0	0.002361	0.008	0.003922	141.9339	0	66.50966	0.000457	0	0.042604	0.000605	0	0.020916	0.001444	0	0.173285	0.040642	0.036088	0.447056	0.002108	0	0.189725	0.040642	0.036088	0.447056	0.019705	0.219019	0	1.339893	0.001403	0	0.000658
Santa Clara	2023	LDT1	Aggregate	Aggregate	Gasoline	53782.25	1744480	1744480	0	239737.9	0	0.143293	0	0.404336	0.00185	0	0.002837	0.002	0.003239	0.002012	0	0.003085	0.008	0.009253	333.6435	0	88.48953	0.006987	0	0.112557	0.010257	0	0.039834	0.031222	0	0.583212	0.174145	0.503091	2.807011	0.045546	0	0.638542	0.174145	0.503091	2.807011	0.035775	1.553409	0	5.660037	0.003298	0	0.000875
Santa Clara	2023	LDT1	Aggregate	Aggregate	Diesel	26.04714	391.8698	391.8698	0	75.17737	0	1.659056	0	0	0.24041	0	0	0.002	0.003728	0.25128	0	0	0.008	0.010651	415.6155	0	0	0.013928	0	0	0.06548	0	0	0.299852	0	0	0	0	0	0.341362	0	0	0	0	0	0	0.0031	1.601395	0	0	0.003938	0	0
Santa Clara	2023	LDT1	Aggregate	Aggregate	Electricity	194.8941	7068.184	0	7068.184	916.4832	2728.903	0	0	0	0	0	0	0.002	0.00154	0	0	0	0.008	0.0044	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2023	LDT1	Aggregate	Aggregate	Plug-in Hyb	43.27677	2048.369	944.1579	1104.211	178.9495	333.5047	0.003025	0	0.11551	0.000387	0	0.00141	0.002	0.001383	0.000421	0	0.001534	0.008	0.003951	128.5161	0	72.39136	0.000412	0	0.042439	0.000544	0	0.020762	0.001308	0	0.173285	0.024584	0.021781	0.285922	0.001909	0	0.189725	0.024584	0.021781	0.285922	0.019359	0.198314	0	1.339893	0.001271	0	0.000716
Santa Clara	2023	LDT2	Aggregate	Aggregate	Gasoline	280180.4	10140967	10140967	0	1311796	0	0.077207	0	0.358346	0.001265	0	0.002003	0.002	0.003125	0.001375	0	0.002179	0.008	0.008929	351.1382	0	90.07377	0.003121	0	0.087759	0.006381	0	0.038646	0.012417	0	0.410727	0.085119	0.224187	1.404898	0.018118	0	0.449694	0.085119	0.224187	1.404898	0.035545	0.896823	0	3.892097	0.003471	0	0.00089
Santa Clara	2023	LDT2	Aggregate	Aggregate	Diesel	978.4967	36936.87	36936.87	0	4673.401	0	0.046157	0	0	0.005431	0	0	0.002	0.003102	0.005677	0	0	0.008	0.008863	315.6668	0	0	0.00065	0	0	0.049733	0	0	0.013984	0	0	0	0	0	0.015919	0	0	0	0	0	0	0.0031	0.132099	0	0	0.002991	0	0
Santa Clara	2023	LDT2	Aggregate	Aggregate	Electricity	1105.879	38931.7	0	38931.7	5663.051	15030.85	0	0	0	0	0	0	0.002	0.001525	0	0	0	0.008	0.004357	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2023	LDT2	Aggregate	Aggregate	Plug-in Hyb	1696.55	77270.66	37142.68	40127.98	7015.234	12119.85	0.003154	0	0.11551	0.000504	0	0.001759	0.002	0.001378	0.000548	0	0.001913	0.008	0.003938	134.0231	0	78.93358	0.000429	0	0.042457	0.000568	0	0.020778	0.001364	0	0.173285	0.02624	0.024448	0.318232	0.00199	0	0.189725	0.02624	0.024448	0.318232	0.020144	0.206812	0	1.339893	0.001325	0	0.00078
Santa Clara	2023	LHDT1	Aggregate	Aggregate	Gasoline	19180.96	711085.5	711085.5	0	285767.8	0	0.197814	0.037373	0.6588	0.001595	0	0.000328	0.002	0.0273	0.001734	0	0.000356	0.008	0.078	889.7424	120.2664	25.83956	0.009485	0.115635	0.034516	0.011082	0.003012	0.051891	0.047656	0.428153	0.172233	0.050564	0.277601	2.913784	0.069539	0.62476	0.188574	0.050564	0.277601	2.913784	0.044872	1.225109	3.753425	3.080251	0.008796	0.001189	0.000255
Santa Clara	2023	LHDT1	Aggregate	Aggregate	Diesel	9807.465	384084.8	384084.8	0	123365.6	0	1.780633	2.029274	0	0.038253	0.026974	0	0.003	0.0273	0.039983	0.028193	0	0.012	0.078	635.427	132.908	0	0.008623	0.005098	0	0.100112	0.02094	0	0.185652	0.10976	0	0	0	0	0.211352	0.124954	0	0	0	0	0	0.16551	0.518876	0.909745	0	0.006021	0.001259	0
Santa Clara	2023	LHDT2	Aggregate	Aggregate	Gasoline	2494.382	90793.04	90793.04	0	37162.58	0	0.187016	0.036817	0.642061	0.001446	0	0.00026	0.002	0.03185	0.001572	0	0.000283	0.008	0.091	997.3845	138.7974	25.72325	0.007074	0.114568	0.033461	0.01097	0.002967	0.050452	0.033047	0.42203	0.165607	0.046993	0.25097	2.676301	0.048222	0.615826	0.181319	0.046993	0.25097	2.676301	0.044967	0.961891	3.759407	3.119312	0.00986	0.001372	0.000254
Santa Clara	2023	LHDT2	Aggregate	Aggregate	Diesel	4479.532	176769.2	176769.2	0	56346.87	0	1.416942	1.998258	0	0.034177	0.027026	0	0.003	0.03185	0.035723	0.028248	0	0.012	0.091	764.5039	212.1206	0	0.007824	0.005098	0	0.120448	0.03342	0	0.168448	0.10976	0	0	0	0	0.191767	0.124954	0	0	0	0	0	0.178982	0.44054	0.909745	0	0.007244	0.00201	0
Santa Clara	2023	MCY	Aggregate	Aggregate	Gasoline	27894.5	164894.5	164894.5	0	55788.99	0	0.586927	0	0.142374	0.001778	0	0.003413	0.001	0.0042	0.001899	0	0.003626	0.004	0.012	188.3093	0	49.59811	0.167622	0	0.187482	0.040223	0	0.008379	1.105923	0	1.392636	3.5601	3.745685	3.947874	1.324135	0	1.513873	3.5601	3.745685	3.947874	0.00876	13.08956	0	8.051197	0.001862	0	0.00049
Santa Clara	2023	MDV	Aggregate	Aggregate	Gasoline	153799.1	5358084	5358084	0	712433.9	0	0.11759	0	0.470106	0.001289	0	0.002144	0.002	0.003187	0.001402	0	0.002331	0.008	0.009106	426.0995	0	109.7064	0.004406	0	0.110292	0.008479	0	0.043081	0.018826	0	0.559259	0.101975	0.285798	1.72733	0.02744	0	0.612315	0.101975	0.285798	1.72733	0.035428	1.067328	0	4.333252	0.004212	0	0.001085
Santa Clara	2023	MDV	Aggregate	Aggregate	Diesel	2374.918	86834.44	86834.44	0	11267.05	0	0.053096	0	0	0.00515	0	0	0.002	0.003181	0.005383	0	0	0.008	0.00909	413.3141	0	0	0.000529	0	0	0.065118	0	0	0.011397	0	0	0	0	0	0.012975	0	0	0	0	0	0	0.00231	0.202592	0	0	0.003916	0	0
Santa Clara	2023	MDV	Aggregate	Aggregate	Electricity	1130.115	40073.7	0	40073.7	5799.833	15471.76	0	0	0	0	0	0	0.002	0.001524	0	0	0	0.008	0.004354	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2023	MDV	Aggregate	Aggregate	Plug-in Hyb	986.0895	41899.14	20787.35	21111.79	4077.48	6376.389	0.003256	0	0.11551	0.000638	0	0.002151	0.002	0.001376	0.000693	0	0.002339	0.008	0.00393	138.3296	0	98.37574	0.000441	0	0.042261	0.000581	0	0.020595	0.001408	0	0.173285	0.02985	0.028058	0.359617	0.002054	0	0.189725	0.02985	0.028058	0.359617	0.020837	0.213457	0	1.339893	0.001368	0	0.000973
Santa Clara	2023	MH	Aggregate	Aggregate	Gasoline	2522.745	22546.87	22546.87	0	252.3754	0	0.479133	0	0.412521	0.001781	0	0.000428	0.003	0.015756	0.001937	0	0.000466	0.012	0.045017	1948.243	0	31.87585	0.018146	0	0.038028	0.02809	0	0.042647	0.082252	0	0.163779	13.03985	0.30297	4.773625	0.120022	0	0.179318	13.03985	0.30297	4.773625	0.044742	2.111943	0	3.629376	0.01926	0	0.000315
Santa Clara	2023	MH	Aggregate	Aggregate	Diesel	959.1578	9344.849	9344.849	0	95.91578	0	4.269554	0	0	0.097907	0	0	0.004	0.015675	0.102334	0	0	0.016	0.044785	1081.435	0	0	0.005704	0	0	0.17038	0	0	0.122812	0	0	0	0	0	0.139813	0	0	0	0	0	0	0.150005	0.410284	0	0	0.010247	0	0
Santa Clara	2023	MHDT	Aggregate	Aggregate	Gasoline	1418.703	70785.86	70785.86	0	28385.41	0	0.562864	0.088304	0.453053	0.001386	0	0.000555	0.003	0.015756	0.001507	0	0.000603	0.012	0.045017	1792.411	536.9661	47.19918	0.018074	0.254589	0.049387	0.026381	0.007064	0.032566	0.09086	1.010025	0.279571	0.037187	0.302385	3.037923	0.132583	1.473826	0.306095	0.037187	0.302385	3.037923	0.04497	1.909686	15.08517	6.156285	0.01772	0.005308	0.000467
Santa Clara	2023	MHDT	Aggregate	Aggregate	Diesel	10273.55	431550.4	431550.4	0	122418.2	0	1.337342	13.57242	1.624162	0.016518	0.035742	0	0.003	0.015941	0.017265	0.037358	0	0.012	0.045546	1151.562	2263.789	0	0.010721	0.012298	0	0.181429	0.356661	0	0.037048	0.26478	0	0	0	0	0.042176	0.301431	0	0	0	0	0	0.209014	0.132571	7.583386	0	0.010905	0.021437	0
Santa Clara	2023	MHDT	Aggregate	Aggregate	Electricity	4.749835	101.8022	0	101.8022	59.6458	108.685	0	0	0	0	0	0	0.003	0.00799	0	0	0	0.012	0.022828	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2023	MHDT	Aggregate	Aggregate	Natural Ga	83.841	4047.874	4047.874	0	762.81	0	0.141319	6.52743	0	0.001137	0.017647	0	0.003	0.016002	0.001236	0.019193	0	0.012	0.045721	989.385	5296.533	0	0.740055	17.59163	0	0.201693	1.079733	0	0.010574	0.25135	0	0	0	0	0.755281	17.95355	0	0	0	0	0	1.06	2.992708	33.64344	0	0	0	0
Santa Clara	2023	OBUS	Aggregate	Aggregate	Gasoline	458.8974	20830.08	20830.08	0	9181.619	0	0.553081	0.064991	0.405616	0.000893	0	0.000264	0.003	0.01568	0.000972	0	0.000287	0.012	0.044799	1784.092	381.8461	31.89445	0.015808	0.194938	0.036281	0.026177	0.005253	0.030766	0.078109	0.745234	0.192301	0.034706	0.154035	2.766253	0.113977	1.087444	0.210546	0.034706	0.154035	2.766253	0.044918	1.743956	5.768375	4.071703	0.017638	0.003775	0.000315
Santa Clara	2023	OBUS	Aggregate	Aggregate	Diesel	870.4209	61645.66	61645.66	0	8910.755	0	1.203188	7.410097	1.541404	0.020323	0.008632	0	0.003	0.018018	0.021242	0.009022	0	0.012	0.05148	1282.538	1552.949	0	0.001991	0.020568	0	0.202064	0.244668	0	0.04286	0.442828	0	0	0	0	0.048793	0.504126	0	0	0	0	0	0.215865	0.153454	7.510858	0	0.012145	0.014706	0
Santa Clara	2023	OBUS	Aggregate	Aggregate	Natural Ga	6.1456	409.5466	409.5466	0	54.69584	0	0.219315	1.549107	0	0.000923	0.00362	0	0.003	0.016148	0.001004	0.003937	0	0.012	0.046137	1017.405	1188.285	0	0.774069	4.381267	0	0.207405	0.24224	0	0.01106	0.0626	0	0	0	0	0.789994	4.471404	0	0	0	0	0	1.06	3.211954	6.724204	0	0	0	0
Santa Clara	2023	SBUS	Aggregate	Aggregate	Gasoline	166.9867	8309.308	8309.308	0	667.9468	0	0.519317	0.925703	0.7051	0.000862	0	0.00056	0.002	0.015721	0.000937	0	0.000609	0.008	0.044917	815.0909	2602.033	58.66947	0.011871	2.46208	0.074918	0.027733	0.086224	0.064904	0.057744	10.62943	0.427061	0.112221	0.259299	1.591441	0.084259	15.51043	0.467578	0.112221	0.259299	1.591441	0.045	1.469507	82.16746	10.56434	0.008058	0.025724	0.00058
Santa Clara	2023	SBUS	Aggregate	Aggregate	Diesel	667.1185	15392.68	15392.68	0	9659.876	0	4.028015	22.39863	0.467155	0.020908	0.02125	0	0.003	0.015721	0.021853	0.022211	0	0.012	0.044917	1148.524	2237.814	0	0.002748	0.008083	0	0.18095	0.352568	0	0.059161	0.174017	0	0	0	0	0.06735	0.198106	0	0	0	0	0	0.144154	0.181489	4.581854	0	0.010876	0.021191	0
Santa Clara	2023	SBUS	Aggregate	Aggregate	Electricity	0.302373	3.510494	0	3.510494	4.378365	3.69815	0	0	0	0	0	0	0.003	0.00786	0	0	0	0.012	0.022459	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2023	SBUS	Aggregate	Aggregate	Natural Ga	23.50762	595.8705	595.8705	0	340.3903	0	0.587321	5.282702	0	0.003378	0.011076	0	0.003	0.015721	0.003674	0.012046	0	0.012	0.044917	1271.127	4058.811	0	3.490611	15.40242	0	0.259128	0.827415	0	0.049874	0.22007	0	0	0	0	0.562424	15.7193	0	0	0	0	0	1.06	11.90284	20.11199	0	0	0	0
Santa Clara	2023	UBUS	Aggregate	Aggregate	Gasoline	45.94709	4798.244	4798.244	0	183.7884	0	0.026807	0	0.443444	0.001143	0	0.000128	0.002	0.03185	0.001243	0	0.00014	0.008	0.091	926.2924	0	36.84613	0.002031	0	0.041715	0.004215	0	0.070149	0.005614	0	0.147842	0.038144	0.09212	0.456803	0.008192	0	0.161868	0.038144	0.09212	0.456803	0.045	0.571128	0	6.073786	0.009157	0	0.000364
Santa Clara	2023	UBUS	Aggregate	Aggregate	Diesel	436.6681	48829.71	48829.71	0	1746.672	0	0.386256	0	0	0.007022	0	0	0.0083	0.0385	0.00734	0	0	0.0332	0.11	1100.965	0	0	0.003215	0	0	0.173457	0	0	0.069208	0	0	0	0	0	0.078788	0	0	0	0	0	0	0.18785	0.079368	0	0	0.010432	0	0
Santa Clara	2023	UBUS	Aggregate	Aggregate	Electricity	5.046757	199.0027	0	199.0027	20.18703	346.9103	0	0	0	0	0	0	0.009	0.01925	0	0	0	0.036	0.055	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2023	UBUS	Aggregate	Aggregate	Natural Ga	42.26114	4829.673	4829.673	0	169.0446	0	0.05878	0	0	0.000282	0	0	0.008182	0.0385	0.000295	0	0	0.032727	0.11	1299.127	0	0	4.245742	0	0	0.264835	0	0	0.060663	0	0	0	0	0	4.333091	0	0	0	0	0	0	0.97	49.04231	0	0	0	0	0

Source: EMFAC2021 (v1.0.1) Emission Rates
Region Type: County
Region: Santa Clara
Calendar Year: 2024
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	Energy Con	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RU	PM2.5_IDL	PM2.5_ST	PM2.5_PM	PM2.5_PM	PM10_RUN	PM10_IDLE	PM10_STR	PM10_PM	PM10_PMI	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX	ROG_RUNI	ROG_IDLEX	ROG_STREX	ROG_HOTS	ROG_RUNI	ROG_DIUR	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_HOTS	TOG_RUNI	TOG_DIUR	NH3_RUNEX	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
Santa Clara	2024	HHDT	Aggregate	Aggregate	Gasoline	2.588708	115.1526	115.1526	0	0	51.79487	0	7.013725	0	0.003612	0	0.001433	0.005	0.03384	0.003929	0	0.001559	0.02	0.096686	2166.164	0	50.04419	0.246012	0	0.000205	0.192927	0	0.049797	1.47824	0	0.001115	0.149022	1.34233	10.02547	2.157045	0	0.001221	0.149022	1.34233	10.02547	0.04274	52.51903	0	1.60109	0.021415	0	0.000495
Santa Clara	2024	HHDT	Aggregate	Aggregate	Diesel	8486.693	1001095	1001095	0	0	124748.4	0	1.894567	62.88367	2.898867	0.025674	0.03017	0	0.00877	0.027454	0.026835	0.031534	0	0.035082	0.07844	1634.1	11997.01	0	0.000777	0.23663	0	0.257453	1.890134	0	0.016732	5.094584	0	0	0	0	0.019048	5.799796	0	0	0	0	0.215084	0.082524	74.10576	0	0.015474	0.113605	0
Santa Clara	2024	HHDT	Aggregate	Aggregate	Electricity	28.33039	2794.261	0	2794.261	378.7946	5152.341	0	0	0	0	0	0	0	0.008585	0.014055	0	0	0	0.034341	0.040158	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	HHDT	Aggregate	Aggregate	Natural Ga	794.401	54591.27	54591.27	0	0	7249.717	0	1.128254	13.55515	0	0.001724	0.024776	0	0.009	0.047521	0.001875	0.026946	0	0.036	0.135775	1387.534	10583.64	0	2.344742	36.30276	0	0.282858	2.157544	0	0.050833	0.550696	0	0	0	0	2.412728	37.08609	0	0	0	0	0.85184	13.40196	74.43135	0	0	0	0
Santa Clara	2024	LDA	Aggregate	Aggregate	Gasoline	600108.2	22290344	22290344	0	0	2786617	0	0.042281	0	0.257993	0.001177	0	0.001931	0.002	0.002656	0.00128	0	0.0021	0.008	0.007587	277.9403	0	70.44944	0.002338	0	0.072036	0.004672	0	0.033228	0.008937	0	0.328953	0.090491	0.230394	1.422636	0.013041	0	0.360162	0.090491	0.230394	1.422636	0.034712	0.737516	0	3.233068	0.002748	0	0.000686
Santa Clara	2024	LDA	Aggregate	Aggregate	Diesel	1750.024	51573.48	51573.48	0	0	7442.61	0	0.213181	0	0	0.016747	0	0	0.002	0.002706	0.017504	0	0	0.008	0.00773	232.7849	0	0	0.001289	0	0	0.036675	0	0	0.027749	0	0	0	0	0	0.03159	0	0	0	0	0	0.0031	0.331109	0	0	0.002206	0	0
Santa Clara	2024	LDA	Aggregate	Aggregate	Electricity	57627.4	2472767	0	2472767	282733	954692.3	0	0	0	0	0	0	0	0.002	0.001533	0	0	0	0.008	0.00438	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	LDA	Aggregate	Aggregate	Plug-in Hyb	17457.1	767059.2	381568.7	385490.5	72185.1	1164291.6	0.003264	0	0.11551	0.000618	0	0.00207	0.002	0.001377	0.000672	0	0.002252	0.008	0.003935	138.6993	0	65.78653	0.000444	0	0.04244	0.000587	0	0.020762	0.01412	0	0.173285	0.041111	0.037292	0.447104	0.019502	0.214038	0	0.189725	0.041111	0.037292	0.447104	0.019502	0.214038	0	1.339893	0.001371	0	0.00065
Santa Clara	2024	LDT1	Aggregate	Aggregate	Gasoline	52693.37	1706864	1706864	0	0	234793.4	0	0.128357	0	0.381294	0.001737	0	0.002678	0.002	0.00324	0.001889	0	0.002913	0.008	0.009258	128.9675	0	86.69483	0.006261	0	0.105365	0.009424	0	0.03869	0.027741	0	0.539321	0.165332	0.472477	2.667158	0.040475	0	0.590488	0.165332	0.472477	2.667158	0.036079	1.427621	0	5.253053	0.003252	0	0.000857
Santa Clara	2024	LDT1	Aggregate	Aggregate	Diesel	23.46233	343.9308	343.9308	0	0	66.44459	0	1.651932	0	0	0.239373	0	0	0.002	0.003724	0.250196	0	0	0.008	0.01064	415.4307	0	0	0.013862	0	0	0.065451	0	0	0.298448	0	0	0	0	0	0.339763	0	0	0	0	0	0.0031	1.593665	0	0	0.003936	0	0
Santa Clara	2024	LDT1	Aggregate	Aggregate	Electricity	211.0028	8008.646	0	8008.646	994.4346	3091.998	0	0	0	0	0	0	0	0.002	0.001539	0	0	0	0.008	0.004397	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	LDT1	Aggregate	Aggregate	Plug-in Hyb	67.64578	3164.46	1414.302	1750.158	279.7153	528.6	0.002933	0	0.11551	0.000367	0	0.001381	0.002	0.001389	0.0004	0	0.001502	0.008	0.003967	124.6157	0	71.36186	0.000397	0	0.042219	0.000522	0	0.020556	0.001268	0	0.173285	0.024153	0.020965	0.279628	0.001851	0	0.189725	0.024153	0.020965	0.279628	0.018771	0.192305	0	1.339893	0.001232	0	0.000705
Santa Clara	2024	LDT2	Aggregate	Aggregate	Gasoline	285585.4	10322758	10322758	0	0	1336438	0	0.069091	0	0.334237	0.001227	0	0.001959	0.002	0.003127	0.001334	0	0.00213	0.008	0.008936	344.6046	0	88.12796	0.002864	0	0.082985	0.005943	0	0.037254	0.011242	0	0.384216	0.081741	0.217688	1.368189	0.016404	0	0.420668	0.081741	0.217688	1.368189	0.036359	0.842122	0	3.673764	0.003407	0	0.000871
Santa Clara	2024	LDT2	Aggregate	Aggregate	Diesel	1015.453	37944.26	37944.26	0	0	4835.434	0	0.041515	0	0	0.004813	0	0	0.002	0.003113	0.005031	0	0	0.008	0.008895	311.1925	0	0	0.000609	0	0	0.049029	0	0	0.013105	0	0	0	0	0	0.014919	0	0	0	0	0	0.0031	0.129976	0	0	0.002949	0	0
Santa Clara	2024	LDT2	Aggregate	Aggregate	Electricity	1597.567	55532.59	0	55532.59	8150.927	21440.16	0	0	0	0	0	0	0	0.002	0.001526	0	0	0	0.008	0.004359	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	LDT2	Aggregate	Aggregate	Plug-in Hyb	2116.58	94757.71	44376.61	50381.09	8752.056	15216.59	0.003073	0	0.11551	0.000467	0	0.001672	0.002	0.001383	0.000508	0	0.001819	0.008	0.003953	130.578	0	78.06	0.000416	0	0.042233	0.000547	0	0.020569	0.001329	0	0.173285	0.025949	0.023686	0.309385	0.001939	0	0.189725	0.025949	0.023686	0.309385	0.019635	0.201506	0	1.339893	0.001291	0	0.000772
Santa Clara	2024	LHDT1	Aggregate	Aggregate	Gasoline	19314.14	722529.3	722529.3	0	0	287751.9	0	0.17374	0.036221	0.636996	0.001534	0	0.000302	0.002	0.0273	0.001668	0	0.000328	0.008	0.078	871.4559	119.0993	25.78022	0.008358	0.112945	0.032997	0.009778	0.002977	0.050968	0.041718	0.415023	0.163611	0.047402	0.263136	2.768514	0.060875	0.605601	0.179134	0.047402	0.263136	2.768514	0.044898	1.142278	3.756209	3.123927	0.008615	0.001177	0.000255
Santa Clara	2024	LHDT1	Aggregate	Aggregate	Diesel	10107.74	398004.1	398004.1	0	0	127142.6	0	1.563015	1.92168	0	0.035058	0.026804	0	0.003	0.0273	0.036643	0.028016	0	0.012	0.078	631.4008	131.1503	0	0.008006	0.005098	0	0.099477	0.020663	0	0.172364	0.10976	0	0	0	0	0.196225	0.124954	0	0	0	0	0.172781	0.473594	0.909745	0	0.005983	0.001243	0
Santa Clara	2024	LHDT1	Aggregate	Aggregate	Electricity	70.82836	5110.544	0	5110.544	989.4273	3345.376	0	0	0	0	0	0	0	0.002	0.01365	0	0	0	0.008	0.039	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	LHDT2	Aggregate	Aggregate	Gasoline	2506.906	91452.57	91452.57	0	0	37349.16	0	0.16518	0.035604	0.621534	0.00139	0	0.000239	0.002	0.03185	0.001512	0	0.000259	0.008	0.091	980.0361	137.5922	25.51292	0.006183	0.111453	0.031983	0.009819	0.00291	0.049384	0.028613	0.40822	0.157242	0.04419	0.238167	2.558385	0.041752	0.595674	0.17216	0.04419	0.238167	2.558385	0.044971	0.899209	3.762546	3.129931	0.009689	0.00136	0.000252
Santa Clara	2024	LHDT2	Aggregate	Aggregate	Diesel	4663.455	183558.4	183558.4	0	0	58660.4	0	1.266102	1.895403	0	0.032055	0.027	0	0.003	0.03185	0.033504	0.028221	0	0.012	0.091	756.8682	209.5618	0	0.007406	0.005098	0	0.119245	0.033017	0	0.159439	0.10976	0	0	0	0	0.18151	0.124954	0	0	0	0	0.184132	0.411861	0.909745	0	0.007172	0.001986	0
Santa Clara	2024	LHDT2	Aggregate	Aggregate	Electricity	18.33259	1253.286	0	1253.286	242.668	808.0022	0	0	0	0	0	0	0	0.002	0.015925	0	0	0	0.008	0.0455	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	MCY	Aggregate	Aggregate	Gasoline	28171.51	1660222.3	1660222.3	0	0	56343.02	0	0.571344	0	0.135477	0.001779	0	0.003248	0.001	0.0042	0.001902	0	0.003456	0.004	0.012	187.743	0	48.37697	0.162609	0	0.181972	0.039558	0	0.00802	1.062175	0	1.345317	3.559276	3.75283	3.900294	1.276951	0	1.462608	3.559276	3.75283	3.900294	0.088808	12.6697	0	8.002987	0.001856	0	0.000478
Santa Clara	2024	MDV	Aggregate	Aggregate	Gasoline	156642.4	5468054	5468054	0	0	726101.1	0	0.101279	0	0.42828	0.001229	0	0.002042	0.002	0.003184	0.001336	0	0.002221	0.008	0.009096	418.13	0	107.2801	0.003873	0	0.10186	0.007628	0	0.040967	0.01626	0	0.508806	0.097051	0.275722	1.677059	0.023715	0	0.557077	0.097051	0.275722	1.677059	0.036179	0.972241	0	4.022964	0.004134	0	0.001061
Santa Clara	2024	MDV	Aggregate	Aggregate	Diesel	2400.615	86292.69	86292.69	0	0	11318.82	0	0.048844	0	0	0.004909	0	0	0.002	0.003206	0.005131	0	0	0.008	0.009159	409.13	0	0	0.00051	0	0	0.064459	0	0	0.010978	0	0	0	0	0	0.012498	0	0	0	0	0	0.0031	0.201538	0	0	0.003877	0	0
Santa Clara	2024	MDV	Aggregate	Aggregate	Electricity	1678.684	58660.63	0	58660.63	8578.496	22647.84	0	0	0	0	0	0	0	0.002	0.001525	0	0	0	0.008	0.004358	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	MDV	Aggregate	Aggregate	Plug-in Hyb	1250.857	52904.03	25301.52	27602.51	5172.294	8336.781	0.003138	0	0.11551	0.000561	0	0.001962	0.002	0.001382	0.00061	0	0.002134	0.008	0.003948	133.3485	0	96.65661	0.000423	0	0.042047	0.000554	0	0.020395	0.001357	0	0.173285	0.030318	0.026684	0.341695	0.00198	0	0.189725	0.030318	0.026684	0.341695	0.020087	0.205781	0	1.339893	0.001318	0	0.000956
Santa Clara	2024	MH	Aggregate	Aggregate	Gasoline	2420.57	22012.3	22012.3	0	0	242.1538	0	0.420938	0	0.419963	0.001679	0	0.000404	0.003	0.015756	0.001826	0	0.000439	0.012	0.045017	1947.501	0	31.65056	0.015478	0	0.037539	0.025731	0	0.04407	0.06827	0	0.159123	12.21143	0.286769	4.596479	0.09962	0	0.174219	12.21143	0.286769	4.596479	0.044846	1.682224	0	3.497247	0.019253	0	0.000313
Santa Clara	2024	MH	Aggregate	Aggregate	Diesel	977.3606	9498.302	9498.302	0	0	97.73606	0	4.117169	0	0	0.091772	0	0	0.004	0.015675	0.099921	0	0	0.016	0.044785	1081.931	0	0	0.005558	0	0	0.170459	0	0	0.11965	0	0	0	0	0	0.136214	0	0	0	0	0	0.155539	0.397281	0	0	0.010252	0	0
Santa Clara	2024	MHDT	Aggregate	Aggregate	Gasoline	1414.552	71600.35	71600.35	0	0	28302.35	0	0.470752	0.088485	0.440963	0.001362	0	0.000533	0.003	0.015756	0.001482	0	0.000579	0.012	0.045017	1768.687	531.8002	46.25227	0.015051	0.25808	0.047572	0.022913	0.00727	0.03271	0.074951	1.01271	0.265405	0.033945	0.276365	2.798712	0.109368	1.477744	0.290585	0.033945	0.276365	2.798712	0.04498	1.56073	15.11634	5.825814	0.017485	0.005257	0.000457
Santa Clara	2024	MHDT	Aggregate	Aggregate	Diesel	10390.53	4340443.6	4340443.6	0	0	123939	0	1.232824	13.14099	1.642732	0.014397	0.029902	0	0.003	0.015941	0.015048	0.031254	0	0.012	0.045546	1147.309	2248.547	0	0.001507	0.01158	0	0.180759	0.35426	0	0.032455	0.249319	0	0	0	0	0.036947	0.283831	0	0	0	0	0.210532	0.120871	7.556027	0	0.010864	0.021292	0
Santa Clara	2024	MHDT	Aggregate	Aggregate	Electricity	30.91601	1660.353	0	1660.353	407.4536	1841.064	0	0	0	0	0	0	0	0.003	0.007956	0	0	0	0.012	0.022732	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	MHDT	Aggregate	Aggregate	Natural Ga	90.59449	4303.581	4303.581	0	0	827.6228	0	0.133415	6.499719	0	0.001179	0.018131	0	0.003	0.016007	0.001282	0.019719	0	0.012	0.045734	984.6917	5301.101	0	0.74573	17.31409	0	0.200736	1.080664	0	0.010655	0.247384	0	0	0	0	0.761072	17.6703	0	0	0	0	1.06	2.995842	34.7393	0	0	0	0
Santa Clara	2024	OBUS	Aggregate	Aggregate	Gasoline	443.1467	19894.31	19894.31	0	0	8866.48	0	0.49672	0.06506	0.408547	0.000907	0	0.000252	0.003	0.01568	0.000987	0	0.000274	0.012	0.044799	1764.001	379.4143	31.61308	0.013757	0.195733	0.03606	0.024018	0.005304	0.031028	0.067076	0.746281	0.190964	0.033873	0.154922	2.818385	0.097877	1.088971	0.209081	0.033873	0.154922	2.818385	0.044969	1.491576	5.774637	4.000641	0.017439	0.003751	0.000313
Santa Clara	2024	OBUS	Aggregate	Aggregate	Diesel	893.1376	61949.05	61949.05	0	0	9141.625	0	1.178643	7.363387	1.543157	0.019849	0.008167	0	0.003	0.018015	0.020746	0.008536	0	0.012	0.051472	1273.38	1538.564	0	0.001935	0.020479	0	0.200622	0.242401	0	0.04166	0.440905	0	0	0	0	0.047427	0.501937	0	0	0	0	0.216021	0.150181	7.500483	0	0.012058	0.014569	0
Santa Clara	2024	OBUS	Aggregate	Aggregate	Electricity	1.087481	92.50105	0	92.50105	21.75833	102.477	0	0	0	0	0	0	0	0.003	0.00784	0	0	0	0.012	0.022399	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	OBUS	Aggregate	Aggregate	Natural Ga	7.05737	469.3876	469.3876	0	0	62.81059	0	0.190585	1.537414	0	0.00106	0.003899	0	0.003	0.016148	0.001153	0.004241	0	0.012	0.046137	1004.237	1191.581	0	0.789796	4.236895	0	0.20472	0.242912	0	0.011285	0.060537	0	0	0	0	0.806045	4.324062	0	0	0	0	1.06	3.254325	7.353064	0	0	0	0
Santa Clara	2024	SBUS	Aggregate	Aggregate	Gasoline	172.6948	8584.866	8584.866	0	0	690.7791	0	0.50288	0.925939	0.716801	0.000864	0	0.000567	0.002	0.015721	0.000939	0	0.000616	0.008	0.044917	810.6064	2589.131	58.1367	0.011135	2.464862	0.074893	0.027101	0.086311	0.065929	0.054059	10.63288	0.426367	0.113914	0.274691	1.686167	0.078883	15.51547	0.466819	0.113914	0.274691	1.686167	0.045	1.38705	82.18841	10.36621	0.008014	0.025596	0.000575
Santa Clara	2024	SBUS	Aggregate	Aggregate	Diesel	670.5958	15345.26	15345.26	0	0	9710.228	0	3.821388	21.90481	0.482851	0.019766	0.019703	0	0.003	0.015721	0.02066	0.020594	0	0.012	0.044917	1144.18	2229	0	0.002665	0.008001	0	0.180266	0.35118	0	0.057376	0.172257	0	0	0	0	0.065318	0.196101	0	0	0	0	0.148025	0.1775	4.677792	0	0.010835	0.021107	0
Santa Clara	2024	SBUS	Aggregate	Aggregate	Electricity	2.064666	64.35501	0	64.35501	23.64639	67.79515	0	0	0	0	0	0	0	0.002539	0.00786	0	0	0	0.010157	0.022459	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	SBUS	Aggregate	Aggregate	Natural Ga	24.3995	612.0941	612.0941	0	0	353.3048	0	0.567729	5.270895	0	0.003378	0.011357	0	0.003	0.015721	0.003674	0.012352	0	0.012	0.044917	1261.305	4066.736	0	3.436672	15.25665	0	0.257125	0.829031	0	0.049103	0.217987	0	0	0	0	3.507376	15.57053	0	0	0	0	1.06	11.64901	20.74693	0	0	0	0
Santa Clara	2024	UBUS	Aggregate	Aggregate	Gasoline	46.08313	4812.451	4812.451	0	0	184.3325	0	0.027483	0	0.457232	0.001143	0	0.000128	0.002	0.03185	0.001243	0	0.00014	0.008	0.091	926.0836	0	36.94783	0.002034	0	0.043067	0.004288	0	0.071717	0.005634	0	0.152979	0.038099	0.092116	0.456438	0.008221	0	0.167492	0.038099	0.092116	0.456438	0.045	0.581148	0	6.130495	0.009155	0	0.000365
Santa Clara	2024	UBUS	Aggregate	Aggregate	Diesel	437.4746	48917.61	48917.61	0	0	1749.898	0	0.386257	0	0	0.007023	0	0	0.002	0.0083	0.0385	0.00734	0	0	0.0332	0.11	1101.14	0	0	0.003215	0	0	0.173485	0	0	0.069208	0	0	0	0	0	0.078788	0	0	0	0	0	0.187908	0.079368	0	0	0.010434	0	0
Santa Clara	2024	UBUS	Aggregate	Aggregate	Electricity	5.347565	235.0626	0	235.0626	21.39026	409.7714	0	0	0	0	0	0	0	0.00888	0.01925	0	0	0	0.03552	0.055	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	UBUS	Aggregate	Aggregate	Natural Ga	42.58696	4865.187	4865.187	0	0	170.3478	0	0.058788	0	0	0.000282	0	0	0.008183	0.0385	0.000295	0	0	0.032731	0.11	1299.206	0	0	4.246059	0	0	0.264852	0	0	0.060668	0	0	0	0	0	4.333415	0	0	0	0	0	0.97	49.04786	0	0	0	0	0

Attachment 4: Project Construction Emissions and Health Risk Calculations

Park Habitat, 180 Park Avenue, San Jose, CA

DPM Construction Emissions and Modeling Emission Rates

Construction Year	Activity	DPM (ton/year)	Source Type	No. Sources	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Emissions per Point Source (g/s)
2021 + 2022 Day	Construction	0.2660	Point	181	531.9	0.12144	1.53E-02	8.45E-05
2021 + 2022 Night	Construction	0.1584	Point	181	316.7	0.07231	9.11E-03	5.03E-05
2023 Day	Construction	0.3844	Point	181	768.8	0.17554	2.21E-02	1.22E-04
2023 Night	Construction	0.1989	Point	181	397.7	0.09081	1.14E-02	6.32E-05
2024 Day	Construction	0.2086	Point	181	417.1	0.09524	1.20E-02	6.63E-05
2024 Night	Construction	0.0776	Point	181	155.1	0.03542	4.46E-03	2.47E-05
Total		***1.2937***			***2587.5***	***0.5908***	***0.0744***	

Emissions assumed to be evenly distributed over each construction areas

hr/day = 12 (day = 7am - 7pm, night = 7pm-7am)

days/yr = 365

hours/year = 4380

Park Habitat, 180 Park Avenue, San Jose, CA

PM2.5 Fugitive Dust Construction Emissions for Modeling

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)	DPM Emission Rate $g/s/m^2$
2021 + 2022 Day	Construction	CON_FUG	0.0118	23.7	0.00540	6.80E-04	9123.8	7.46E-08
2021 + 2022 Night	Construction	CON_FUG	0.0058	11.6	0.00266	3.35E-04	9123.8	3.67E-08
2023 Day	Construction	CON_FUG	0.0052	10.4	0.00238	3.00E-04	9123.8	3.29E-08
2023 Night	Construction	CON_FUG	0.0048	9.5	0.00217	2.73E-04	9123.8	3.00E-08
2024 Day	Construction	CON_FUG	0.0046	9.1	0.00209	2.63E-04	9123.8	2.88E-08
2024 Night	Construction	CON_FUG	0.0042	8.3	0.00190	2.40E-04	9123.8	2.63E-08
Total			***0.0364***	***72.7***	***0.0166***	***0.0021***		

Emissions assumed to be evenly distributed over each construction areas

hr/day = 12 (day = 7am - 7pm, night = 7pm-7am)

days/yr = 365

hours/year = 4380

DPM Construction Emissions and Modeling Emission Rates - With Mitigation

Construction Year	Activity	DPM (ton/year)	Source Type	No. Sources	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Emissions per Point Source (g/s)
2021 + 2022 Day	Construction	0.0243	Point	181	48.6	0.01111	1.40E-03	7.73E-06
2021 + 2022 Night	Construction	0.0150	Point	181	29.9	0.00683	8.61E-04	4.76E-06
2023 Day	Construction	0.0113	Point	181	22.5	0.00515	6.49E-04	3.58E-06
2023 Night	Construction	0.0075	Point	181	15.0	0.00342	4.31E-04	2.38E-06
2024 Day	Construction	0.0092	Point	181	18.5	0.00421	5.31E-04	2.93E-06
2024 Night	Construction	0.0050	Point	181	10.0	0.00228	2.87E-04	1.59E-06
Total		***0.0723***			***144.5***	***0.0330***	***0.0042***	

Emissions assumed to be evenly distributed over each construction areas

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

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)	DPM Emission Rate $g/s/m^2$
2021 + 2022 Day	Construction	CON_FUG	0.0074	14.9	0.00340	4.28E-04	9123.8	4.70E-08
2021 + 2022 Night	Construction	CON_FUG	0.0058	11.6	0.00266	3.35E-04	9123.8	3.67E-08
2023 Day	Construction	CON_FUG	0.0052	10.4	0.00238	3.00E-04	9123.8	3.29E-08
2023 Night	Construction	CON_FUG	0.0048	9.5	0.00217	2.73E-04	9123.8	3.00E-08
2024 Day	Construction	CON_FUG	0.0046	9.1	0.00209	2.63E-04	9123.8	2.88E-08
2024 Night	Construction	CON_FUG	0.0042	8.3	0.00190	2.40E-04	9123.8	2.63E-08
Total			***0.0320***	***63.9***	***0.0146***	***0.0018***		

Emissions assumed to be evenly distributed over each construction areas

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

Park Habitat, 180 Park Avenue, San Jose, CA
Construction Health Impact Summary

Maximum Impacts at MEI Location - Without Mitigation

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM (µg/m^3)	Maximum Concentrations: Fugitive PM2.5 (µg/m^3)	Cancer Risk (per million) Infant/Child	Hazard Index (-)	Maximum Annual PM2.5 Concentration (µg/m^3)
2021 - 2022	0.1398	0.0122	24.86	0.03	0.18
2023	0.1839	0.0083	30.20	0.04	0.24
2024	0.0883	0.0073	2.28	0.02	0.11
Total	-	-	**57.34**	-	-
Maximum	0.1839	0.0122	**-**	**0.04**	**0.24**

Maximum Impacts at MEI Location - With Mitigation

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM (µg/m^3)	Maximum Concentrations: Fugitive PM2.5 (µg/m^3)	Cancer Risk (per million) Infant/Child	Hazard Index (-)	Maximum Annual PM2.5 Concentration (µg/m^3)
2021 - 2022	0.0130	0.0106	2.32	0.003	0.03
2023	0.0060	0.0083	0.98	0.001	0.02
2024	0.0045	0.0073	0.12	0.001	0.01
Total	-	-	**3.42**	-	-
Maximum	0.0130	0.0106	**-**	**0.003**	**0.03**

- Tier 4 Final Engine Mitigation, electric saws, pumps, compressors, cranes, and enhanced BMP measures.

Park Habitat, 180 Park Avenue, San Jose, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 7.6 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				Maximum		
			DPM Conc (ug/m3)		Age	Infant/Child Cancer	Modeled DPM Conc (ug/m3)		Age	Adult Cancer			
Exposure Year	Exposure Duration (years)	Age	Year	Annual	Sensitivity Factor	Risk (per million)	Year	Annual	Sensitivity Factor	Risk (per million)	Hazard Index	Fugitive PM2.5	Total PM2.5
0	0.25	-0.25 - 0*	2021 - 2022	0.1297	10	1.76	2021 - 2022	0.1297	-	-			
1	1	0 - 1	2021 - 2022	0.1297	10	21.30	2021 - 2022	0.1297	1	0.37	0.03	0.01	0.17
2	1	1 - 2	2022	0.1814	10	29.79	2023	0.1814	1	0.52	0.04	0.01	0.24
3	1	2 - 3	2023	0.0868	3	2.25	2024	0.0868	1	0.25	0.02	0.01	0.11
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						**55.1**				**1.1**			

* Third trimester of pregnancy

Park Habitat, 180 Park Avenue, San Jose, 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				Maximum		
						Infant/Child		Modeled		Adult			
Exposure	Exposure Duration		DPM Conc (ug/m3)		Age Sensitivity	Cancer Risk	DPM Conc (ug/m3)		Age Sensitivity	Cancer Risk	Hazard	Fugitive	Total
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	Index	PM2.5	PM2.5
0	0.25	-0.25 - 0*	2021 - 2022	0.1398	10	1.90	2021 - 2022	0.1398	-	-			
1	1	0 - 1	2021 - 2022	0.1398	10	22.96	2021 - 2022	0.1398	1	0.40	0.03	0.01	0.18
2	1	1 - 2	2022	0.1839	10	30.20	2023	0.1839	1	0.53	0.04	0.01	0.24
3	1	2 - 3	2023	0.0883	3	2.28	2024	0.0883	1	0.25	0.02	0.01	0.11
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						**57.3**				**1.2**			

* Third trimester of pregnancy

Park Habitat, 180 Park Avenue, San Jose, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 7.6 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				Maximum		
			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)	Hazard Index	Fugitive PM2.5	Total PM2.5
0	0.25	-0.25 - 0*	2021	0.0121	10	0.16	2021 - 2022	0.0121	-	-			
1	1	0 - 1	2021	0.0121	10	1.99	2021 - 2022	0.0121	1	0.03	0.00	0.01	0.03
2	1	1 - 2	2022	0.0059	10	0.97	2023	0.0059	1	0.02	0.00	0.01	0.02
3	1	2 - 3	2023	0.0044	3	0.11	2024	0.0044	1	0.01	0.00	0.01	0.01
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						**3.2**				**0.06**			

* Third trimester of pregnancy

Park Habitat, 180 Park Avenue, San Jose, 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				Maximum		
			DPM Conc (ug/m3)		Age	Infant/Child Cancer	Modeled DPM Conc (ug/m3)		Age	Adult Cancer			
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Sensitivity Factor**	**Risk (per million)**	**Year**	**Annual**	**Sensitivity Factor**	**Risk (per million)**	**Hazard Index**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	2021 - 2022	0.0130	10	0.18	2021 - 2022	0.0130	-	-			
1	1	0 - 1	2021 - 2022	0.0130	10	2.14	2021 - 2022	0.0130	1	0.04	0.00	0.01	0.03
2	1	1 - 2	2022	0.0060	10	0.98	2023	0.0060	1	0.02	0.00	0.01	0.02
3	1	2 - 3	2023	0.0045	3	0.12	2024	0.0045	1	0.01	0.00	0.01	0.01
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						**3.4**				**0.07**			

* Third trimester of pregnancy

Attachment 5: Community Risk Modeling Information and Calculations

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

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

INSTRUCTIONS:

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

• County: Select the County where the project is located. The calculator is only applicable for projects within the nine Bay Area counties.

• Roadway Direction: Select the orientation that best matches the roadway. If the roadway orientation is neither clearly north-south nor east-west, use the highest values predicted from either orientation.

• Side of the Roadway: Identify on which side of the roadway the project is located.

• Distance from Roadway: Enter the distance in feet from the nearest edge of the roadway to the project site. The calculator estimates values for distances greater than 10 feet and less than 1000 feet. For distances greater than 1000 feet, the user can choose to extrapolate values using a distribution curve or apply 1000 feet values for greater distances.

• Annual Average Daily Traffic (ADT): Enter the annual average daily traffic on the roadway. These data may be collected from the city or the county (if the area is unincorporated).

When the user has completed the data entries, the screening level PM2.5 annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways and the District refers the user to the Highway Screening Analysis Tool at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara
Roadway Direction	North-South
Side of the Roadway	East
Distance from Roadway	25 feet
Annual Average Daily Traffic (ADT)	20,983

Results

Santa Clara County

NORTH-SOUTH DIRECTIONAL ROADWAY

PM2.5 annual average

0.398 ($\mu g/m^3$)

Cancer Risk

16.81 (per million)

Market Street

Cumulative plus project volumes from 490 S 1st Street traffic report
Data for Santa Clara County based on meteorological data collected from San Jose Airport in 1997

Adjusted for 2015 OEHHA and EMFAC2014 for 2018

11.55
(per million)

Note that EMFAC2014 predicts DSL PM2.5 aggragate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehciles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using ~~CALINE4~~ Cal3qhcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

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

INSTRUCTIONS:

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

• County: Select the County where the project is located. The calculator is only applicable for projects within the nine Bay Area counties.

• Roadway Direction: Select the orientation that best matches the roadway. If the roadway orientation is neither clearly north-south nor east-west, use the highest values predicted from either orientation.

• Side of the Roadway: Identify on which side of the roadway the project is located.

• Distance from Roadway: Enter the distance in feet from the nearest edge of the roadway to the project site. The calculator estimates values for distances greater than 10 feet and less than 1000 feet. For distances greater than 1000 feet, the user can choose to extrapolate values using a distribution curve or apply 1000 feet values for greater distances.

• Annual Average Daily Traffic (ADT): Enter the annual average daily traffic on the roadway. These data may be collected from the city or the county (if the area is unincorporated).

When the user has completed the data entries, the screening level PM2.5 annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways and the District refers the user to the Highway Screening Analysis Tool at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara
Roadway Direction	North-South
Side of the Roadway	East
Distance from Roadway	1000 feet
Annual Average Daily Traffic (ADT)	17,920

Results

Santa Clara County

NORTH-SOUTH DIRECTIONAL ROADWAY

PM2.5 annual average

0.023 ($\mu g/m^3$)

Cancer Risk

0.99 (per million)

S Almaden Blvd

Cumulative plus project volumes from City View Plaza traffic report
Data for Santa Clara County based on meteorological data collected from San Jose Airport in 1997

Adjusted for 2015 OEHHA and EMFAC2014 for 2018

0.68
(per million)

Note that EMFAC2014 predicts DSL PM2.5 aggragate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehciles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using ~~CALINE4~~ Cal3qhcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

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

INSTRUCTIONS:

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

• County: Select the County where the project is located. The calculator is only applicable for projects within the nine Bay Area counties.

• Roadway Direction: Select the orientation that best matches the roadway. If the roadway orientation is neither clearly north-south nor east-west, use the highest values predicted from either orientation.

• Side of the Roadway: Identify on which side of the roadway the project is located.

• Distance from Roadway: Enter the distance in feet from the nearest edge of the roadway to the project site. The calculator estimates values for distances greater than 10 feet and less than 1000 feet. For distances greater than 1000 feet, the user can choose to extrapolate values using a distribution curve or apply 1000 feet values for greater distances.

• Annual Average Daily Traffic (ADT): Enter the annual average daily traffic on the roadway. These data may be collected from the city or the county (if the area is unincorporated).

When the user has completed the data entries, the screening level PM2.5 annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways and the District refers the user to the Highway Screening Analysis Tool at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara
Roadway Direction	East-West
Side of the Roadway	South
Distance from Roadway	350 feet
Annual Average Daily Traffic (ADT)	12,705

Results

Santa Clara County

EAST-WEST DIRECTIONAL ROADWAY

PM2.5 annual average

0.046 ($\mu g/m^3$)

Cancer Risk

1.84 (per million)

San Carlos Street

Background Traffic Volumes - South Almaden Offices Project
Data for Santa Clara County based on meteorological data collected from San Jose Airport in 1997

Adjusted for 2015 OEHHA and EMFAC2014 for 2018

1.27

(per million)

Note that EMFAC2014 predicts DSL PM2.5 aggragate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehciles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using ~~CALINE4~~ Cal3qhcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

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	**4/2/2021**
Contact Name	Casey Divine
Affiliation	Illingworth & Rodkin, Inc.
Phone	707-794-0400 x103
Email	cdivine@illingworthrodkin.com
Project Name	Park Habitat
Address	180 Park Avenue
City	San Jose
County	Santa Clara
Type (residential, commercial, mixed use, industrial, etc.)	Mixed Use
Project Size (# of units or building square feet)	1,192,912 sqft
Comments:	

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

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

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

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

4. Identify stationary sources within at least a 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. Incomplete forms will not be processed. Please include a project site map.

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

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

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

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

Table B: Google Earth data

Distance from Receptor (feet) or MEI[1]	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	Construction MEI: Distance Adjustment Multiplier	Construction MEI: Adjusted Cancer Risk Estimate	Construction MEI: Adjusted Hazard Risk	Construction MEI: Adjusted PM2.5
1000+	2060	Team San Jose	408 Almaden Boulevard	20.06	0.03	0.59		Generator, Boiler (5), Fire Pump		2018 Dataset	0.04	0.80	0.001200	0.02
1000+	8556	FMT SJ, LLC dba Fairmont Hotel, San Jose	170 So Market Street	10.03	0.02	0.49		Generator (2), Dry Cleaning Machine, Boiler (2)		2018 Dataset	0.04	0.40	0.000800	0.02
1000+	12969	Verizon Business - SBEZCA	55 So Market Street	46.29	0.07	0.03		Generators		2018 Dataset	0.04	1.85	0.002800	0.00
1000+	13431	San Jose Hilton & Towers	300 Almaden Boulevard	8.29	0.01	0.02		Generators		2018 Dataset	0.04	0.33	0.000400	0.00
1000+	13528	Pacific Bell	95 So Almaden Avenue	77.15	0.13	0.10		Generators		2018 Dataset	0.04	3.09	0.005200	0.00
1000+	14177	Pacific Gas and Electric	111 Almaden Boulevard	1.81	0.00	0.00		Generators		2018 Dataset	0.04	0.07	0.000000	0.00
1000+	14985	Wells Fargo Bank	121 Park Center Plaza	5.54	0.01	0.01		Generators		2018 Dataset	0.04	0.22	0.000400	0.00
800	15031	Robert F Peckham Federal Building	280 So 1st Street	1.57	0.00	0.14		Generator		2018 Dataset	0.06	0.09	0.000000	0.01
300	15125	San Jose Marriott Hotel	301 So Market Street	1.29	0.00	0.12		Generator, Tank, Boiler (2)		2018 Dataset	0.25	0.32	0.000000	0.03
1000+	15169	Adobe Systems, Inc	151 Almaden Boulevard	141.55	0.11	0.18		Generators		2018 Dataset	0.04	5.66	0.004400	0.01
1000+	16778	Owl Energy Resources Inc	170 So Market Street	14.25	0.1	2.85		Natural Gas Generator (2)		2018 Dataset	0.04	0.57	0.004000	0.11
1000+	23214	Level 3 Communications, LLC	185 Park Center Plaza	3.78	0.01	0		Generators		2018 Dataset	0.04	0.15	0.000400	0.00
1000+	24130	CPT 303 Almaden LLC	303 Almaden Boulevard	3.62	0.01	0		Generator, Fire Pump		2018 Dataset	0.04	0.14	0.000400	0.00

Footnotes:

1. Maximally exposed individual

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

7. The date that the HRSA was completed.
8. Engineer who completed the HRSA. For District purposes only.
9. All HRSA completed before 1/5/2010 need to be multiplied by an age sensitivity factor of 1.7.
10. The HRSA "Chronic Health" number represents the Hazard Index.
11. Further information about common sources:
    a. Sources that only include diesel internal combustion engines can be adjusted using the BAAQMD's Diesel Multiplier worksheet.
    b. The risk from natural gas boilers used for space heating when <25 MM BTU/hr would have an estimated cancer risk of one in a million or less, and a chronic hazard index of 0.003 or less.
    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.

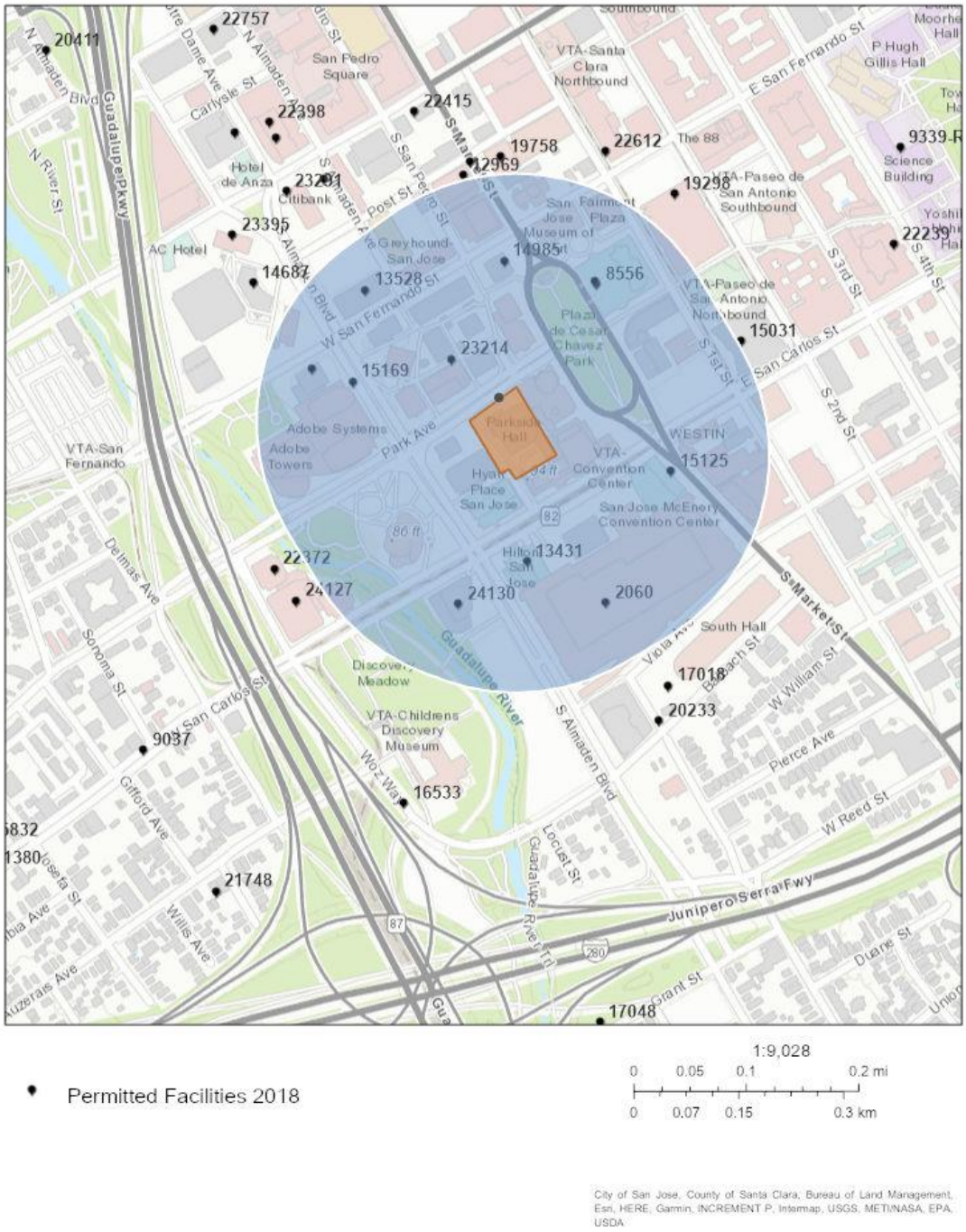
Date last updated:
03/13/2018

Stationary Source Risk & Hazards Screening Report

Area of Interest (AOI) Information

Area : 4,457,448.53 ft²

Apr 2 2021 15:49:43 Pacific Daylight Time



Summary

Name	Count	Area(ft²)	Length(ft)
Permitted Facilities 2018	13	N/A	N/A

Permitted Facilities 2018

#	FACID	Name	Address	City	St
1	2060	Team San Jose	408 Almaden Boulevard	San Jose	CA
2	8556	FMT SJ, LLC dba Fairmont Hotel, San Jose	170 So Market Street	San Jose	CA
3	12969	Verizon Business - SBEZCA	55 So Market Street	San Jose	CA
4	13431	San Jose Hilton & Towers	300 Almaden Boulevard	San Jose	CA
5	13528	Pacific Bell	95 So Almaden Avenue	San Jose	CA
6	14177	Pacific Gas and Electric	111 Almaden Boulevard	San Jose	CA
7	14985	Wells Fargo Bank	121 Park Center Plaza	San Jose	CA
8	15031	Robert F Peckham Federal Building	280 So 1st Street	San Jose	CA
9	15125	San Jose Marriott Hotel	301 So Market Street	San Jose	CA
10	15169	Adobe Systems, Inc	151 Almaden Boulevard	San Jose	CA
11	16778	Owl Energy Resources Inc	170 So Market Street	San Jose	CA
12	23214	Level 3 Communications, LLC	185 Park Center Plaza	San Jose	CA
13	24130	CPT 303 Almaden LLC	303 Almaden Boulevard	San Jose	CA

#	Zip	County	Cancer	Hazard	PM_25	Type	Count
1	95110	Santa Clara	20.060	0.030	0.590	Contact BAAQMD	1
2	95113	Santa Clara	10.030	0.020	0.490	Contact BAAQMD	1
3	95113	Santa Clara	46.290	0.070	0.030	Generators	1
4	95110	Santa Clara	8.290	0.010	0.020	Generators	1
5	95113	Santa Clara	77.150	0.130	0.100	Generators	1
6	95113	Santa Clara	1.810	0.000	0.000	Generators	1
7	95113	Santa Clara	5.540	0.010	0.010	Generators	1
8	95113	Santa Clara	1.570	0.000	0.140	Contact BAAQMD	1
9	95113	Santa Clara	1.290	0.000	0.120	Contact BAAQMD	1
10	95113	Santa Clara	141.550	0.110	0.180	Generators	1
11	95113	Santa Clara	14.250	0.100	2.850	Contact BAAQMD	1
12	95113	Santa Clara	3.780	0.010	0.000	Generators	1
13	95110	Santa Clara	3.620	0.010	0.000	Contact BAAQMD	1

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

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