CROSSING SITES GENESIS & HYUNDAI DEALERSHIP & SERVICE CENTER AIR QUALITY ASSESSMENT

San Bruno, California

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Introduction

This report addresses the air quality impacts associated with the proposed Genesis and Hyundai car dealership and service center (i.e., Project) located at 1010 Admiral Court in San Bruno, California. Air quality impacts associated with the project would be from construction and operation of the new car dealership. Air pollutant emissions associated with construction and operation of the project were predicted using appropriate computer models. In addition, the potential health risk impacts associated with project construction and existing sources of toxic air contaminants (TACs) at nearby sensitive receptors was evaluated. The analysis was conducted following guidance provided by the Bay Area Air Quality Management District (BAAQMD).[1]

Project Description

The project would construct a three-story above-ground building for automobile sales, service areas, employee and customer parking, and vehicle inventory storage. Two below-grade levels would provide 294 parking spaces.[2] Additionally, the project would widen the existing dead-end turn-around on Commodore Drive southwest of the site to accommodate car carrying transport trucks for vehicle loading and unloading. The project site is a single undeveloped parcel that is approximately 1.66-acres.

Setting

The project is located in San Mateo County, which is part of the San Francisco Bay Area Air Basin. Ambient air quality standards have been established at both the federal and State levels. The San Francisco Bay Area Air Basin meets all federal and State ambient air quality standards with the exception of ground-level ozone, respirable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$).

Air Pollutants of Concern

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

Particulate matter is another problematic air pollutant of the Bay Area. Particulate matter is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less (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

[1] Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017.
[2] Initial project description included 294 total parking spaces. In January 2023, the number of parking spaces was increased to 446 total spaces. Total number of parking spaces dose not influence emissions calculations.

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

TACs are a broad class of compounds known to cause morbidity or mortality, often because they cause cancer. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter [DPM] near a freeway). Because chronic exposure 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 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. Health risks from TACs are estimated using the Office of Environmental Health Hazard Assessment (OEHHA) risk assessment guidelines, which were published in February of 2015.[3] See *Attachment 1* for a detailed description of the community risk modeling methodology used in this assessment.

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 the residents in the multi-family housing buildings adjacent to the west and northwest of the project site.[4] Additional sensitive receptors are located at further distances from the site. This project would not introduce new sensitive receptors (i.e., residents) to the area.

Regulatory Setting

Federal Regulations

[3] 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.

[4] The minor widening of the Commodore Drive turn-around southwest of the project site would not influence the location of the project's closets sensitive receptor.

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) as well as nationwide fuel standards. California also has the ability to set motor vehicle emission standards and standards for fuel used in the State, 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 ($PM_{2.5}$) 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.[5]

In concert with the diesel engine emission standards, the EPA has substantially reduced the amount of sulfur allowed in diesel fuels. The sulfur contained in diesel fuel is a significant contributor to the formation of DPM. Current 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 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*.[6] A significant component of the plan involves application of emission control strategies to existing diesel vehicles and equipment in addition to requiring more stringent emission standards for new on-road mobile, non-road (or off-road) mobile, and stationary diesel-fueled engine sources to reduce particulate matter emissions by 90 percent. Many Plan measures have been approved and adopted, including the federal on-road and non-road diesel engine emission standards for new engines, and adoption of regulations for low sulfur fuel in California.

CARB has adopted and implemented a number of additional 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

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

or replaced to meet 2010 or later engine standards that have much lower DPM emissions. This regulation will substantially reduce emissions between 2013 and 2023. While new trucks and buses will meet strict federal standards, CARB's program is intended to accelerate the rate at which the fleet either turns over or at which vehicles area retrofitted, so there are cleaner vehicles on the road. 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.

Local Regulations

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 (NAAQS) and California Ambient Air Quality Standards (CAAQS). The District also has permit authority over most types of stationary emissions sources. 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.[7] The program examines TAC emissions from point sources (i.e., stationary sources), area sources, and on-road and off-road mobile sources with an emphasis on diesel exhaust, which is a major contributor to airborne health risk in California. The CARE program is an on-going program that encourages community involvement and input. The technical analysis portion of the CARE program is 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

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

communities as impacted as part of the CARE program: Concord, Richmond/San Pablo, Western Alameda County, San José, Redwood City/East Palo Alto, and Eastern San Francisco. The project site is not within the San José CARE area.

Additionally, BAAQMD has identified overburdened communities within its area. BAAQMD defines overburdened communities as areas located (i) within a census tract identified by the California Communities Environmental Health Screening Tool (CalEnviroScreen), Version 4.0 implemented by OEHHA, as having an overall CalEnviroScreen score at or above the 70th percentile, or (ii) within 1,000 feet of any such census tract.[8] The project site is not within a BAAQMD overburdened area as identified by CalEnviroScreen as the Project site is scored at the 53rd percentile.[9]

The BAAQMD California Environmental Quality Act (*CEQA) Air Quality Guidelines*[10] 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 California Environmental Quality Act (CEQA) requirements including thresholds of significance, mitigation measures, and background air quality information. They also include assessment methodologies for TACs, odors, and greenhouse gas (GHG) emissions.

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.

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[8] See BAAQMD: https://www.baaqmd.gov/~/media/dotgov/files/rules/reg-2-permits/2021-amendments/documents/20210722_01_appendixd_mapsofoverburdenedcommunities-pdf.pdf?la=en , accessed 10/1/2021.
[9] OEHAA, CalEnviroScreen 4.0 Maps https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40
[10] Bay Area Air Quality Management District, 2017. *CEQA Air Quality Guidelines*. May.
[11] Bay Area Air Quality Management District, 2017. *CEQA Air Quality Guidelines*. May.

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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	None	
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 µg/m^3	0.8 µg/m^3	
Greenhouse Gas Emissions			
Land Use Projects – (Must Include A or B)	A. Projects must include, at a minimum, the following project design elements: 1. Buildings a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development). b. The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines. 2. Transportation a. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA: i. Residential projects: 15 percent below the existing VMT per capita ii. Office projects: 15 percent below the existing VMT per employee iii. Retail projects: no net increase in existing VMT b. Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2. B. Be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b).		
Note: ROG = reactive organic gases, NOx = nitrogen oxides, PM_{10} = course particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, $PM_{2.5}$ = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less. GHG = greenhouse gases.			

City of San Bruno General Plan

The City's current General Plan outlines a vision for the long-range physical and economic development of the community through 2025. It includes goals, policies, and actions to reduce exposure of the City's sensitive population to exposure of air pollution, TACs, and greenhouse gas (GHG) emissions. The following goals, policies, and actions are applicable to the proposed project:

Implementing Policies - Air Quality

ERC-25: Maintain and improve air quality by requiring project mitigation, such as Transportation Demand Management (TDM) techniques, where air quality impacts are unavoidable.

ERC-26: Require dust abatement actions for all new construction and redevelopment projects.

ERC-34: Require that adequate buffer distances be provided between odor sources and sensitive receptors, such as schools, hospitals, and community centers.

AIR QUALITY IMPACTS AND MITIGATION MEASURES

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

BAAQMD is the regional agency responsible for overseeing compliance with State and Federal laws, regulations, and programs within the San Francisco Bay Area Air Basin (SFBAAB). BAAQMD, with assistance from the Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC), prepares and implements specific plans to meet the applicable laws, regulations, and programs. The most recent and comprehensive of which is the *Bay Area 2017 Clean Air Plan*.[12] The primary goals of the Clean Air Plan are to attain air quality standards, reduce population exposure, protect public health, reduce GHG emissions, and protect the climate. The BAAQMD has also developed CEQA guidelines to assist lead agencies in evaluating the significance of air quality and GHG impacts. In formulating compliance strategies, BAAQMD accounts for planned land use changes included in local general plans. Land use planning affects vehicle travel, which, in turn, affects region-wide emissions of air pollutants and GHGs.

The 2017 Clean Air Plan, adopted by BAAQMD in April 2017, includes control measures that are intended to reduce air pollutant emissions in the Bay Area either directly or indirectly. At the project-level, there are no consistency measures or thresholds established by the Clean Air Plan. However, general and specific area plans must show consistency with the control measures listed within the Clean Air Plan. Therefore, the proposed project would not conflict with the latest Clean Air planning efforts since 1) project would have construction and operational emissions below the BAAQMD thresholds (see Impact 2 below), 2) the project would be considered urban infill, and 3) the project would be located near transit with regional connections.

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

The Bay Area is considered a non-attainment area for ground-level O_3 and $PM_{2.5}$ under both the Federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for PM_{10} under the California Clean Air Act, but not the federal act. The area has attained both State and Federal ambient air quality standards for carbon monoxide. As part of an effort to attain and maintain ambient air quality standards for O_3, $PM_{2.5}$ and PM_{10}, the BAAQMD has established thresholds of significance for these air pollutants and their precursors. These thresholds are for O_3 precursor pollutants (ROG and NOx), PM_{10}, and $PM_{2.5}$ and apply to construction period impacts.

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

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

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.[13] 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

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

Table 2. Summary of Project Land Use Inputs[14]

Project Land Uses	Size	Units	Square Feet	Acreage
Regional Shopping Center	43.25	1,000-sf	43,254	1.50
Enclosed Parking with Elevator	278	Parking Spaces	128,356	
Parking Lot	16	Parking Spaces	12,143	

Construction Inputs

CalEEMod computes annual emissions for construction that are based on the project type, size, and acreage. The model provides emission estimates for both on-site and off-site construction activities. On-site activities are primarily made up of construction equipment emissions, while off-site activity includes worker, hauling, and vendor traffic. The construction build-out scenario, including equipment list and schedule, were provided by the applicant. The applicant also provided estimated soil, concrete, and asphalt hauling quantities.

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 CalEEMod default for each phase. The construction schedule assumed that the earliest possible start date would be February 2023 with a build-out period of approximately 18 months, or 403 construction workdays. The earliest full calendar year of 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 concrete and asphalt truck trips. CalEEMod provides daily estimates of worker and vendor trips for each applicable phase. The total trips for worker and vendor trips were computed by multiplying the daily trip rate by the number of days in that phase. Haul trips for soil

[13] See CARB's EMFAC2021 Emissions Inventory at https://arb.ca.gov/emfac/emissions-inventory.
[14] CalEEMod does not include a "automobile dealership" land use category. Therefore the most appropriate commercial land use category available in CalEEMod was used, which is estimated to be a "Regional Shopping Center." Parking was increased in January 2023 to 446 total spaces. The number of parking spaces does not impact CalEEMod emissions estimates.

import/export were estimated using CalEEMod default hauling trip assumptions. The number of concrete and asphalt total round haul trips were provided by the applicant.

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 concrete 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 (demolition and soil import/export). Since CalEEMod does not specifically address concrete/asphalt deliveries to the site, they were assumed to travel the same distance as vendors (7.3 miles). Each trip was assumed to include an idle time of 5 minutes. Emissions associated with vehicle starts were also included. On road emissions in San Mateo County for 2023 and 2024 were used in these calculations. Table 3 provides the traffic inputs that were combined with the EMFAC2021 emission database to compute vehicle emissions.

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]	50% LDA 25% LDT1 25% LDT2	50% MHDT 50% HHDT	100% HHDT	
Trip Length (miles)	10.8	7.3	20.0	CalEEMod default distance with 5-min truck idle time.
Demolition	40	-	-	CalEEMod default worker trips,
Site Preparation	-	-	-	No Site Preparation.
Grading	675	-	5,625	45,000-cy soil export. CalEEMod default worker trips.
Trenching	600	-	-	CalEEMod default worker trips.
Building Construction	9,928	4,080	1,300	650 concrete-truck round trips. CalEEMod default worker and vendor trips.
Architectural Coating	1,995	-	-	CalEEMod default worker trips
Paving	1,100	-	696	2,900-cy asphalt hauling. CalEEMod default worker trips.

Notes: [1] Based on 2023-2024 EMFAC2021 light-duty vehicle fleet mix for San Mateo County.
[2] Includes soil hauling trips estimated by CalEEMod based on amount of material to be removed. Concrete and asphalt trips estimated based on provided delivery estimates.

Summary of Computed Construction Period Emissions

Average daily emissions for the project were estimated by dividing the total construction emissions provided by CalEEMod by the total number of active construction workdays (403). Average annual daily emissions for each year of construction were also estimated by dividing the annual construction emissions provided by CalEEMod by the number of active construction workdays in a given year. Table 4 shows the average daily construction emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust for the total project and for each year of construction. As indicated in Table 4, estimated construction emissions would not exceed the BAAQMD significance thresholds.

Table 4. Construction Period Emissions[15]

Year	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Construction Emissions Per Year (Tons)				
2023	0.06	0.80	0.04	0.03
2024	0.29	0.50	0.02	0.01
TOTAL	0.35	1.30	0.06	0.04
Average Daily Construction Emissions Per Year (pounds/day)				
2023 (235 construction workdays)	0.51	6.83	0.33	0.22
2024 (168 construction workdays)	3.46	5.90	0.26	0.16
Total Project (403 construction workdays)	1.74	6.44	0.30	0.20
BAAQMD Thresholds (pounds per day)	*54* lbs./day	*54* lbs./day	*82* lbs./day	*54* lbs./day
Exceed Threshold?	No	No	No	No

Construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust 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.

Additionally, the City's General Plan requires dust abatement actions for new development projects. Therefore, given both BAAQMD and the City's requirements, *Mitigation Measure AQ-1 would implement BAAQMD's standard best management practices*.

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

Measures to reduce fugitive dust (i.e., $PM_{2.5}$) emissions from construction are recommended to reduce fugitive dust emissions and ensure that health impacts to nearby sensitive receptors are minimized. During activities that create a ground disturbance, the applicant shall ensure that the project contractor implements basic measures to control dust. Implementation of the dust control measures recommended by BAAQMD and listed below would reduce the air quality impacts

[15] Minor widening of Commodore Drive represents approximately a 7% increase in total construction area and would not materially change emissions estimates.

associated with grading and new construction to a less-than-significant level. The contractor shall implement the following best management practices:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).

5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Effectiveness of Mitigation Measure AQ-1

Mitigation Measure AQ-1 represents standard mitigation measures that would achieve greater than a 50 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.

Operational Period Emissions

Operational air emissions from the project would be generated primarily from autos driven by future customers and employees and trucks delivering vehicles to the site. Evaporative ROG emissions from architectural coatings, consumer cleaning products, and vehicle maintenance operations would be additional sources of emissions from operation of the new car dealership after construction. CalEEMod was used to estimate emissions from operation of the proposed project assuming full build-out.

CalEEMod Inputs

Land Uses

The project land uses were input to CalEEMod as described above for the construction period modeling. CalEEMod does not include a car dealership as one of its land use types. Therefore, emissions estimates for a regional shopping center were used.

Model Year

Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates utilized by CalEEMod. The earliest full calendar year of operation would be 2025 if construction begins in 2023. Emissions associated with build-out later than 2025 would be lower.

Traffic Information

CalEEMod allows the user to enter specific vehicle trip generation rates. Therefore, the weekday ITE Trip Generation Rate for the project's land use type provided by the traffic consultant was entered into the model.[16] The project would produce 1,204 daily trips. Saturday and Sunday trip rates were adjusted by multiplying the ratio of the CalEEMod default rates for Saturday and Sunday trips to the default weekday rate with the project-specific daily weekday trip rate. The default trip types and lengths specified by CalEEMod were used.

EMFAC2021 Adjustment

The vehicle emissions factors and fleet mix used in CalEEMod are based on EMFAC2017, which is an older CARB emissions model for on road mobile sources. Since the release of CalEEMod Version 2020.4.0, new emission factors have been produced by CARB. EMFAC2021 became available for use in January 2021. It includes the latest data on California's car and truck fleets and travel activity. The CalEEMod vehicle emission factors and fleet mix were updated with the emission rates and fleet mix from EMFAC2021. On road emission rates from 2025 San Mateo County were used (See *Attachment 3*). More details about the updates in emissions calculation methodologies and data are available in the EMFAC2021 Technical Support Document.[17]

Energy

CalEEMod defaults for energy use were used, which include the 2019 Title 24 Building Standards. Emissions modeling includes those indirect emissions from electricity consumption. The project applicant intends to have electricity service provided by Pacific Gas and Electric (PG&E).[18] PG&E

[16] Hexagon Transportation Consultants, Inc., *1010 Admiral Court Genesis & Hyundai Dealership Traffic Impact Analysis*, October 7, 2022.
[17] See CARB 2021: https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-modeling-tools-emfac
[18] Per Project Description provided by Brian Millar, Land Logistics. October 19, 2022.

has a default CalEEMod emission factor of 203.98 pounds of CO_2 per megawatt of electricity produced.

Summary of Computed Operational Period Emissions

Annual emissions were estimated using CalEEMod and daily emissions calculated assuming 365 days per year of operation. Table 5 shows average daily emissions of ROG, NO_X, total PM_{10}, and total $PM_{2.5}$ during operation of the project. The operational period emissions would not exceed the BAAQMD significance thresholds. Model summaries and output are provided in *Attachment 2*.

Table 5. Operational Period Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
2025 Project Operational Emissions (*tons/year*)	0.77	0.33	0.69	0.18
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Thresholds?	No	No	No	No
2025 Project Operational Emissions (*lbs./day*)[1]	4.22	1.79	3.79	0.96
BAAQMD Thresholds (lbs./day)	*54 lbs.*	*54 lbs.*	*82 lbs.*	*54 lbs.*
Exceed Threshold?	No	No	No	No

Notes: [1] Assumes 365-day operation.

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

A project can have health risk impacts by either generating TAC emissions and/or by introducing a new sensitive receptor in proximity to an existing source of TACs. A health risk assessment was prepared to address project construction impacts on the existing off-site sensitive receptors near the project site (CEQA Heath Risk Assessment) and the cumulative impacts of construction considering existing nearby sources of TACs (i.e., roadways and permitted stationary sources). The project would not create dwelling units or sensitive receptors. Therefore, no on-site health risk assessment was conducted.

Project construction activity is temporary but would generate emissions of DPM from equipment and trucks and generate dust that could affect nearby sensitive receptors. There would be a negligible increase in localized emissions during Project operation as the traffic increase associated with the proposed Project would be relatively small and no stationary sources of TAC emissions are proposed as part of the project. Therefore, construction-related TAC impacts to existing sensitive receptors are considered the overall project impacts.

The project is located near existing sources of TACs including permitted stationary sources and existing roadways with traffic over 10,000 vehicles per day (i.e., El Camino Real and Interstate 380). Therefore, cumulative impacts to existing sensitive receptors from the project and existing TAC sources were assessed.

Health Risk Assessment Methodology

Health risk impacts are assessed by predicting increased lifetime cancer risk, the increase in maximum annual $PM_{2.5}$ concentrations, and computing the Hazard Index (HI) for non-cancer

health risks. To evaluate the increased cancer risks from the project, a 30-year exposure period was used, per BAAQMD guidance.[19] The methodology for computing community risks impacts is provided in *Attachment 1*. This involved the calculation of TAC and $PM_{2.5}$ emissions, dispersion modeling of these emissions, and computations of cancer risk and non-cancer health effects.

Modeled Sensitive Receptors

Sensitive receptors include locations where infants and children would be present for extended periods of time (i.e., chronic exposures). This includes the existing multifamily residences adjacent to the west and northwest of the project site, as shown in Figure 1. Each residential receptor is assumed to include the most sensitive groups (i.e., third trimester and infants) with almost continuous exposure to project emissions.

Health Risks from Project Construction

Construction equipment and associated heavy-duty truck traffic generates DPM and fugitive dust, a portion of which is $PM_{2.5}$.[20] Both DPM and $PM_{2.5}$ pose health risks for sensitive receptors. A health risk assessment of the project construction activities was conducted that evaluated potential effects to nearby sensitive receptors from construction emissions of DPM and $PM_{2.5}$.

Construction Emissions[21]

CalEEMod was used to estimate emissions from on-site construction activity and construction vehicle trips. The CalEEMod model analysis previously described provided total annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment and EMFAC2021 provided PM_{10} exhaust emissions rates (assumed to be DPM) from on-road vehicles. The on-road emissions are a result of haul truck travel during grading activities, worker travel, and vendor deliveries during construction. A trip length of half a mile was used to represent vehicle travel while at or near the construction site. It was assumed that these emissions from on-road vehicles traveling at or near the site would occur at the construction site. Total uncontrolled DPM emissions from on-site construction activities was estimated to be 0.03 tons (57.9 pounds). Uncontrolled fugitive dust ($PM_{2.5}$) emissions were calculated by CalEEMod as less than 0.01 tons (4.6 pounds) for the project.

Dispersion Modeling

The U.S. EPA's AERMOD dispersion model was used to predict DPM and $PM_{2.5}$ concentrations at sensitive receptors (i.e., residences) in the vicinity of the project construction area. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling health risk

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

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

[21] Minor widening of Commodore Drive represents approximately a 7% increase in total construction area and would not materially change DPM or $PM_{2.5}$ concentrations at the MEI, nor would it influence the location of the MEI. Therefore, it would not change the conclusions of the health risk assessment.

impacts from these types of emission activities for CEQA projects.[22,23] Emission sources for the construction site were grouped into two categories: exhaust emissions of DPM and fugitive $PM_{2.5}$ dust emissions.

Figure 1. Locations of Project Construction Site, Off-Site Sensitive Receptors, and Maximum TAC Impacts (MEI)

Construction Sources

Both equipment exhaust emissions and fugitive dust emissions were modeled as area sources to represent the on-site construction emissions, one for exhaust emissions and one for fugitive dust emissions. The area source representing construction equipment exhaust emissions has a release height of 19.7 feet (6 meters) to reflect the height of the equipment exhaust pipes plus an additional distance. The additional distance for the height of the exhaust plume above the exhaust pipes

[22] BAAQMD, 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

[23] BAAQMD, 2020, *BAAQMD Health Risk Assessment Modeling Protocol.* December. Web: https://www.baaqmd.gov/~/media/files/ab617-community-health/facility-risk-reduction/documents/baaqmd_hra_modeling_protocol-pdf.pdf?la=en

accounts for plume rise of the exhaust gases. Emissions from the construction equipment, on-site, and off-site vehicle travel were distributed throughout the modeled area sources.

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 release height of 6.6 feet (2 meters) was used as the average release height across the construction site. Figure 1 shows the locations of both the area sources used in the analysis.

AERMOD Inputs and Meteorological Data

Annual DPM and $PM_{2.5}$ concentrations from construction activities were estimated using AERMOD. A five-year data set (2013 – 2017) of hourly meteorological data from the San Francisco International Airport prepared for the AERMOD model by BAAQMD was used. Construction emissions were modeled as occurring ten hours per day, between 7:00 a.m. and 5:00 p.m., when the majority of construction activity is expected to occur. DPM and $PM_{2.5}$ concentrations were calculated at nearby sensitive receptors. Receptor heights of 5 feet (1.5 meters), 15 feet (4.6 meters), and 25 feet (7.7 meters) were used to represent the receptor breathing heights on the first, second, and third floors of nearby multifamily residences.[24]

Health Risks from Project Operation

This is a compact commercial project that would not generate a significant number of daily vehicle trips. Significant heavy-duty diesel truck traffic or stationary equipment that could emit substantial TACs (e.g., emergency generators or fire pumps) are not anticipated as part of this project. Diesel powered vehicles are the primary concern with local traffic-generated TAC impacts. Per BAAQMD recommended risks and methodology, a road with less than 10,000 total vehicle per day is considered a low-impact source of TACs.[25] This project is anticipated to generate 1,204 new daily trips that would be dispersed on the roadway system with a majority of the trips being from light-duty vehicles (i.e., passenger automobiles), which is less than two percent of the 10,000 daily vehicles needed to be considered a significant source of TACs. Therefore, emissions from project operation are considered negligible and not included within this analysis.

Summary of Health Risk Impacts

The maximum increased cancer risks were calculated using the modeled TAC concentrations combined with the OEHHA guidance for age sensitivity factors and exposure parameters as

[24] 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

[25] BAAQMD, 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

recommended by BAAQMD (see *Attachment 1)*. Non-cancer health hazards (HI) and maximum $PM_{2.5}$ concentrations were also calculated and identified. Age-sensitivity factors reflect the greater sensitivity of infants and children to cancer causing TACs. Third-trimester, 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 dust concentrations. The maximum computed HI value was based on the ratio of the maximum DPM concentration modeled and the chronic inhalation reference exposure level of 5 $\mu g/m^3$.

The maximum modeled annual DPM and $PM_{2.5}$ 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 MEI was located on the second floor of the multi-family residential building located adjacent to the west side of the project site.

Table 5 summarizes the maximum cancer risks, $PM_{2.5}$ concentrations, and HI for project's construction activities at the MEI. *Attachment 4* to this report includes the emission calculations used for the construction area source modeling and the cancer risk calculations.

Increased cancer risks for infants/children would exceed the BAAQMD single-source significance threshold of 10 in a million increased risk. However, with the incorporation of the *Mitigation Measure AQ-1 and AQ-2*, the mitigated risk values would reduce emissions such that the cancer risk associated with construction would no longer exceed the BAAQMD single-source significance threshold. The unmitigated annual $PM_{2.5}$ concentration and HI at the MEI do not exceed their respective BAAQMD single-source significance thresholds.

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

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Construction	Unmitigated	**33.33 (infant)**	0.13	0.02
	Mitigated	8.33 (infant)	0.04	0.01
BAAQMD Single-Source Threshold		***10***	***0.3***	***1.0***
Exceed Threshold?	Unmitigated	***Yes***	*No*	*No*
	Mitigated	*No*	*No*	*No*

In order to meet BAAQMD single-source health risk thresholds for cancer risk, the project would require mitigating DPM emissions from construction. Therefore, *Mitigation Measure AQ-2* would be required.

Mitigation Measure AQ-2: **Selection of equipment during construction to minimize emissions.**

The project shall develop a plan demonstrating that the off-road equipment used onsite to construct the project would achieve a fleet-wide average 75-percent reduction in DPM exhaust emissions or greater. One feasible plan to achieve this reduction would include the following:

1. All diesel-powered off-road equipment, larger than 25 horsepower, operating on the site for more than two days continuously shall, at a minimum, meet U.S. EPA particulate matter emissions standards for Tier 4 engines or equivalent 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 with particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices that altogether achieve a 75 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. Alternatively, the applicant may develop another construction operations plan demonstrating that the construction equipment used on-site would achieve a reduction in construction diesel particulate matter emissions by 75 percent or greater. Elements of the plan could include a combination of some of the following measures:
    - Implementation of No. 1 above to use Tier 4 or alternatively fueled equipment,
    - Installation of electric power lines during early construction phases to avoid use of diesel generators and compressors,
    - Use of electrically powered equipment,
    - Forklifts and aerial lifts used for exterior and interior building construction shall be electric or propane/natural gas powered,
    - Change in construction build-out plans to lengthen phases, and
    - Implementation of different building techniques that result in less diesel equipment usage.

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

Effectiveness of Mitigation Measure AQ-2

A health risk assessment was conducted using 25 percent of the unmitigated (i.e., uncontrolled) DPM emissions. The results, as shown in Table 5, would reduce increased cancer risk below the BAAQMD threshold of 10 in a million increased risk. The results of this health risk assessment are presented in *Attachment 4*.

Additionally, CalEEMod was used to compute emissions assuming that all equipment met U.S. EPA Tier 4 interim engines standards and BAAQMD BMPs for construction. Tier 4 interim engines alone did not achieve the 75 percent reduction in DPM (as PM_{10} exhaust) needed to reduce the cancer risk below the BAAQMD single-source significance thresholds. The results of this health risk assessment are also provided in *Attachment 4*.

Cumulative Health Risks of all TAC Sources at the Project's Off-Site MEIs

Cumulative 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 existing stationary sources identified by BAAQMD.

A review of the project area conducted by the project's traffic consultant indicates traffic on El Camino Real and Interstate 380 (I-380) exceed 10,000 vehicles per day and would therefore be a significant source of TAC emissions. Other nearby streets would have less than 10,000 vehicles per day and are considered negligible sources of TACs. Additionally, four existing stationary sources of TACs were identified near the project using BAAQMD's stationary source geographic information systems (GIS) map tool.

Figure 2 shows the location of the project MEI and the existing TAC sources affecting it. Health risk impacts from these sources upon the MEIs are reported in Table 6.[26] Details of the modeling and community risk calculations are included in *Attachment 5*.

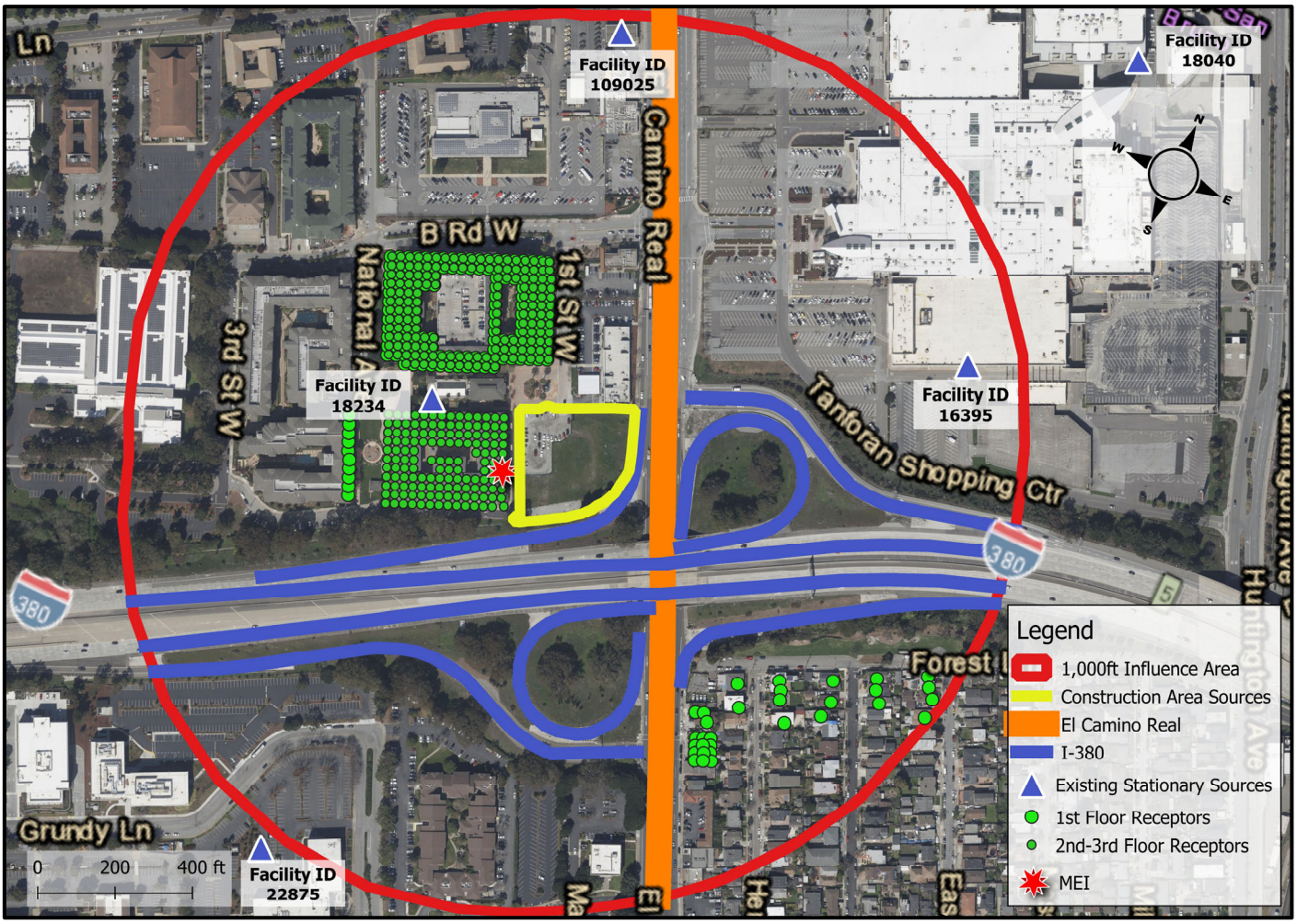
Roadways – I-380 and El Camino Real

A refined analysis of potential health impacts from vehicle traffic on I-380, El Camino Real, and the ramps at the I-380/El Camino Real interchange was conducted. This analysis involved predicting emissions for the traffic volume and mix of vehicle types on the roadway segments near the project site and using an atmospheric dispersion model to predict exposure to TACs. The associated health risks were then computed based on the modeled exposures. *Attachment 1* includes a description of how health risk impacts, including cancer risk, are computed.

The project site is adjacent to El Camino Real and westbound I-380. A review of the peak hour turning volume forecasts provided by the project's traffic consultant indicates the nearby segment of El Camino Real has a weekday traffic volume of approximately 48,000 vehicles per day and the interchange ramps have approximately 10,000 – 20,000 total vehicles per day.[27] Additionally, a review of Caltrans Traffic census data indicates I-380 has an estimated weekday traffic volume of approximately 139,000 vehicles per day west of El Camino Real and 163,000 vehicle per day east of El Camino Real.[28] I-380 connects I-280 in the west to US 101 in the east. As a result, the closest data recorders to the project site were those along I-280 and along US 101. Data from these interstates were used to estimate hourly traffic volume distributions for both El Camino Real and I-380 and to estimate hourly speeds along I-380. The truck percentage for the area was estimated using Caltrans Truck Census data for I-380, which yielded an average of 2.4 percent total trucks.

[26] Refer to Figure 1 for the location of the minor widening of Commodore Drive.
[27] Hexagon Transportation Consultants, Inc., *1010 Admiral Court Genesis & Hyundai Dealership Traffic Impact Analysis*, October 7, 2022.
[28] https://dot.ca.gov/programs/traffic-operations/census

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



Emissions Modeling

To estimate TAC and $PM_{2.5}$ emissions over a 30-year exposure period at the construction MEI location from traffic on El Camino Real and I-380, emissions rates for DPM, $PM_{2.5}$, and organic TACs (as TOG) were needed. The latest version of CARB's EMFAC emissions model (EMFAC2021) was used to develop the emissions rates needed.[29] EMFAC2021 includes the latest data on California's car and truck fleets and travel activity. EMFAC2021 produce emissions rates for either specific vehicle categories or aggregate rates emissions rates using county-wide vehicle populations. However, the rates produced are only for criteria pollutants, not TACs or DPM. Therefore, CT-EMFAC2017 was also used to aid in the development of TAC emissions rates used in the analysis.

CT-EMFAC2017 is the Caltrans version of the CARB's EMFAC2017 emissions model and provides emission factors for mobile source criteria pollutants and TACs, including DPM, based

[29] EMFAC2017 became available for use in March 2018 and approved by the EPA in August 2019. EMFAC2021 has not yet been approved by U.S. EPA at the time this report was prepared.

on specific truck fractions input by the user. CT-EMFAC2017 uses the fraction of Non-Truck vehicles and trucks (i.e., Truck 1 and Truck 2) to develop aggregate emissions factors for each of 15 speed bins. The truck percentage derived from Caltrans census data (2.4 percent) was input into CT-EMFAC2017 to develop emissions factors.

Next, the ratio of DMP to $PM_{2.5}$ produced by CT-EMFAC2017 was used to derive a DPM emissions rate using EMFAC2021 rates for each speed needed. The emissions processes modeled for the analysis include running exhaust and evaporative emissions for $PM_{2.5}$, DPM, and TOG. Fugitive $PM_{2.5}$ emissions were also estimated using the road dust emissions factors provided by CT-EMFAC2017 and the tire wear and brake wear emissions rates provided by EMFAC2021. Inputs to the emissions models (both EMFAC2021 and CT-EMFAC2017) include region (i.e., San Mateo), type of road (i.e., Freeway and Major/Collector), year of analysis (i.e., 2023), and season (i.e., annual). Roadway emissions modeling outputs and calculations are included in *Attachment 5*. More details about the updates in emissions calculation methodologies and data are available in the EMFAC2021 Technical Support Document.[30]

Year 2023 emissions were conservatively assumed as being representative of future conditions over the period that cancer risks were evaluated (30 years), since vehicle fleet emissions, in particular diesel truck emissions, will decrease in the future.

Hourly traffic distributions were estimated by averaging hourly traffic volumes from both I-280 and US 101 using Caltrans Performance Measurement System (PeMS) data. PeMS data is collected in real-time from nearly 40,000 individual detectors spanning the freeway system across all major metropolitan areas of California.[31] The average fraction of traffic volume each hour was calculated using PeMS data and applied to the traffic estimates for the roadways to obtain hourly traffic emission rates.

Likewise, PeMS data from I-280 and US 101 were used to estimate the hourly speeds on I-380 in the project area. Off-peak speeds were estimated to be 65 miles per hour (mph) and peak period speeds were estimated to average approximately 60 mph. For all hours of the day, I-380 on-ramps were assumed to be 45 mph, off-ramps were assumed to be 35 mph, and the loop-ramps were assumed to be 25 mph.

An average speed of 35 mph on El Camino Real was assumed during off-peak periods. Speeds during the peak periods were assumed to be 5 miles per hour slower (i.e., 30 mph) to account for peak period congestion and access control.

Hourly emissions rates were developed for DPM, organic TACs, and $PM_{2.5}$ for the applicable roadway/ramp segments within 1,000 feet of the project site. TAC and $PM_{2.5}$ concentrations at the project MEI location were developed using these emissions rates with an air quality dispersion model (AERMOD). Maximum increased lifetime cancer risks and maximum annual $PM_{2.5}$ concentrations for the MEI receptor were then computed using modeled TAC and $PM_{2.5}$ concentrations and BAAQMD methods and exposure parameters described in *Attachment 1*.

[30] See CARB 2021: https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-modeling-tools-emfac

[31] https://dot.ca.gov/programs/traffic-operations/mpr/pems-source

Dispersion Modeling

Annual TAC and $PM_{2.5}$ concentrations using 2023 emissions from traffic on nearby roadways and ramps were calculated using the EPA AERMOD air quality dispersion model, which is recommended by the BAAQMD for this type of analysis.[32] TAC and $PM_{2.5}$ emissions from traffic on roadways and ramps within 1,000 feet of the project site were evaluated. Traffic emissions for I-380 and ramps were modeled using a series of volume sources along a line (line volume sources) while emissions from El Camino Real were modeled as area sources along a line (line area sources) with line segments representing travel on the roadways. The same meteorological data and off-site sensitive receptors used in the previous construction site dispersion modeling scenario were used in the roadway modeling. Other inputs to the model included road geometry, elevations, hourly traffic emissions, and receptor locations and heights (4.6m at the MEI).

Computed Cancer and Non-Cancer Health Impacts

The cancer risk, $PM_{2.5}$ concentration, and HI impacts from I-380 and El Camino Real on the off-site MEIs are shown in Table 6. Figure 2 shows the roadway links modeled and receptor locations where concentrations were calculated. Details of the emission calculations, dispersion modeling, and cancer risk calculations for the receptors with the maximum cancer risk from traffic on I-380 and El Camino Real are provided in *Attachment 5*.

BAAQMD Permitted Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Permitted Stationary Sources 2020* geographic information system (GIS) map website.[33] This mapping tool identifies the location of nearby stationary sources and their estimated risk and hazard impacts. Five existing sources of TACs were identified nearby using this tool. Four of the five are diesel-powered emergency generators, while the fifth is a gasoline dispensing facility. A stationary source information request was submitted to BAAQMD in order to estimate health risk impacts from the gasoline dispensing facility.[34] The BAAQMD GIS website provided screening risks and hazards for the generators.

CARB's gas station screening tool was used along with the fuel throughput limits obtained from BAAQMD to estimate health risks from the nearby gasoline dispensing facility.[35] BAAQMD's *Distance Adjustment Multiplier Tool for Generic Equipment* was used to estimate the risk and hazard levels from the identified diesel-powered emergency generators. Health risk impacts from the existing stationary TAC sources on the off-site MEIs are reported in Table 6.

[32] BAAQMD. *Recommended Methods for Screening and Modeling Local Risks and Hazards*. May 2012
[33] BAAQMD, Web: https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=845658c19eae4594b9f4b805fb9d89a3
[34] SSIF submitted by Jordyn Bauer to BAAQMD via Public records request #2022-11-0078 on November 8, 2022.
[35] SSIF correspondence with BAAQMD, November 30, 2022.

Summary of Cumulative Health Risks at Off-Site Project MEIs

Table 6 reports the cumulative community risk impacts at the off-site sensitive receptors most affected by the project (i.e., the off-site MEI). While construction of the project would exceed the BAAQMD single source threshold for cancer risk when unmitigated, it would not exceed the cumulative source thresholds for cancer risk. The cumulative source thresholds for maximum annual $PM_{2.5}$ concentration would not be exceeded, nor would the HI for non-cancer health risks.

Table 6. Cumulative Health Risk Impacts at the Project MEIs

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Total/Maximum Project Impact (Years 0-30)	Unmitigated	**33.33 (infant)**	0.13	0.02
	Mitigated	8.33 (infant)	0.04	0.01
I-380 (mainline and ramps)		4.40	0.17	<0.01
El Camino Real		0.62	0.05	<0.01
JC Penny Company Store (Facility ID #16395, Generator)		<0.01	<0.01	<0.01
The Shops at Tanforan (Facility ID #18040, Generator)		0.50	<0.01	<0.01
Avalon San Bruno (Facility ID #18234, Generator)		0.01	<0.01	<0.01
Tanforan Shell (Facility ID #109025_1, Gas Dispensing Facility)		0.63	NA	0.02
Walmart eCommerce (Facility ID #22875, Generator)		0.29	<0.01	<0.01
Cumulative Total	Unmitigated	39.79	<0.39	<0.10
	Mitigated	14.79	<0.30	<0.09
BAAQMD Cumulative Source Threshold		***100***	***0.8***	***10.0***
Exceed Threshold?	Unmitigated	*No*	*No*	*No*
	Mitigated	*No*	*No*	*No*

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

The project would generate localized emissions of diesel exhaust during construction equipment operation and truck activity. These emissions may be noticeable from time to time by adjacent receptors. However, they would be localized and are not likely to adversely affect people off-site by resulting in confirmed odor complaints. The project would not include any sources of significant odors that would cause complaints from surrounding uses.

GREENHOUSE GAS EMISSIONS

Setting

Greenhouse gases (GHGs) are chemical compounds that trap heat in the earth's atmosphere, raising its temperature. The most common GHGs are carbon dioxide (CO_2) and water vapor but there are also several others, most importantly methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These are released into the earth's atmosphere through a variety of natural processes and human activities. Sources of GHGs are generally as follows:

- CO_2, CH_4, and N_2O are byproducts of fossil fuel combustion.
- N_2O is associated with agricultural operations such as fertilization of crops.
- CH_4 is commonly created by off-gassing from agricultural practices (e.g., keeping livestock) and landfill operations.
- Chlorofluorocarbons (CFCs) were widely used as refrigerants, propellants, and cleaning solvents but their production has been stopped by international treaty.
- HFCs are now used as a substitute for CFCs in refrigeration and cooling.
- PFCs and sulfur hexafluoride emissions are commonly created by industries such as aluminum production and semi-conductor manufacturing.

Each GHG has its own potency and effect upon the earth's energy balance. This is expressed in terms of a global warming potential (GWP), with CO_2 being assigned a value of 1 and sulfur hexafluoride being several orders of magnitude stronger. In GHG emission inventories, the weight of each gas is multiplied by its GWP and is measured in units of CO_2 equivalents (CO_2e).

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

Federal and State Regulatory Actions for GHG Emissions

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

Executive Order (EO) S-3-05 was signed by Governor Arnold Schwarzenegger in 2005 to set GHG emission reduction targets for California. The three targets established by this EO are as follows: (1) reduce California's GHG emissions to 2000 levels by 2010, (2) reduce California's GHG emissions to 1990 levels by 2020, and (3) reduce California's GHG emissions by 80 percent below 1990 levels by 2050.

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

Assembly Bill (AB) 32, the Global Warming Solutions Act of 2006, codified the State's GHG emissions target by directing CARB to reduce the State's global warming emissions to 1990 levels by 2020. AB 32 was signed and passed into law by Governor Schwarzenegger on September 27, 2006. Since that time, the CARB, CEC, California Public Utilities Commission (CPUC), and Building Standards Commission have all been developing regulations that will help meet the goals of AB 32 and Executive Order S-3-05, which has a target of reducing GHG emissions 80 percent below 1990 levels.

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

As directed by AB 32, CARB has also approved a statewide GHG emissions limit. On December 6, 2007, CARB staff resolved an amount of 427 million metric tons (MMT) of CO_2e as the total statewide GHG 1990 emissions level and 2020 emissions limit. The limit is a cumulative statewide limit, not a sector- or facility-specific limit. CARB updated the future 2020 BAU annual emissions forecast, due to the economic downturn, to 545 MMT of CO_2e. Two GHG emissions reduction measures currently enacted that were not previously included in the 2008 Scoping Plan baseline inventory were included, further reducing the baseline inventory to 507 MMT of CO_2e. Thus, an estimated reduction of 80 MMT of CO_2e is necessary to reduce statewide emissions to meet the AB 32 target by 2020.

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

In April 2015, Governor Brown signed EO B-30-15, which extended the goals of AB 32, setting a greenhouse gas emissions target at 40 percent of 1990 levels by 2030. On September 8, 2016, Governor Brown signed Senate Bill (SB) 32, which legislatively established the GHG reduction target of 40 percent of 1990 levels by 2030. In November 2017, CARB issued *California's 2017 Climate Change Scoping Plan*.[36] While the State is on track to exceed the AB 32 scoping plan 2020 targets, this plan is an update to reflect the enacted SB 32 reduction target.

SB 32 was passed in 2016, which codified a 2030 GHG emissions reduction target of 40 percent below 1990 levels. CARB has released a proposed final 2022 Scoping Plan to reflect the 2030 target set by Executive Order B-30-15 and codified by SB 32. The 2022 plan:

- Identifies a path to keep California on track to meet its SB 32 GHG reduction target of at

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

least 40 percent below 1990 emissions by 2030.

- Identifies a technologically feasible, cost-effective path to achieve carbon neutrality by 2045 or earlier.
- Focuses on strategies for reducing California's dependency on petroleum to provide consumers with clean energy options that address climate change, improve air quality, and support economic growth and clean sector jobs.
- Integrates equity and protecting California's most impacted communities as a driving principle.
- Incorporates the contribution of natural and working lands to the state's GHG emissions, as well as its role in achieving carbon neutrality.
- Relies on the most up to date science, including the need to deploy all viable tools, including carbon capture and sequestration as well a direct air capture.
- Evaluates multiple options for achieving our GHG and carbon neutrality targets, as well as the public health benefits and economic impacts associated with each.

The proposed final 2022 Scoping Plan was released by CARB on November 16, 2022 and once adopted, will lay out how the state can get to carbon neutrality by 2045 or earlier. It is also the first Scoping Plan that adds carbon neutrality as a science-based guide and touchstone beyond statutorily established emission reduction targets.[37]

The mid-term 2030 target is considered critical by CARB on the path to obtaining an even deeper GHG emissions target of 80 percent below 1990 levels by 2050, as directed in Executive Order S-3-05. The 2022 Scoping Plan outlines the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure, providing a blueprint to continue driving down GHG emissions and to not only obtain the statewide goals, but cost-effectively achieve carbon-neutrality by 2045 or earlier. In the 2022 Scoping Plan, CARB recommends:

- VMT per capita reduced 12% below 2019 levels by 2030 and 22% below 2019 levels by 2045.
- 100% of Light-duty vehicle sales are zero emissions vehicles (ZEV) by 2035.
- 100% of medium duty/heavy duty vehicle sales are ZEV by 2040.
- 100% of passenger and other locomotive sales are ZEV by 2030.
- 100% of line haul locomotive sales are ZEV by 2035.
- All electric appliances in new residential and commercial building beginning 2026 (residential) and 2029 (commercial).
- 80% of residential appliance sales are electric by 2030 and 100% of residential appliance sales are electric by 2035.
- 80% of commercial appliance sales are electric by 2030 and 100% of commercial appliance sales are electric by 2045.

Executive Order B-55-18 – Carbon Neutrality

In 2018, a new statewide goal was established to achieve carbon neutrality as soon as possible, but no later than 2045, and to maintain net negative emissions thereafter. CARB and other relevant

[37] https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents

state agencies are tasked with establishing sequestration targets and create policies/programs that would meet this goal. The Draft 2022 Scoping Plan Update addresses EO B-55-18 and would cost-effectively achieve carbon-neutrality by 2045 or earlier.

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

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

Senate Bill 350 - Renewable Portfolio Standards

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

Senate Bill 100 – Current Renewable Portfolio Standards

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

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

The California Green Building Standards Code (CALGreen Code) is part of the California Building Standards Code under Title 24, Part 11.[38] The CALGreen Code encourages sustainable

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

construction standards that involve planning/design, energy efficiency, water efficiency resource efficiency, and environmental quality. These green building standard codes consist of a set of mandatory standards required for new development, as well as two more voluntary standards known as Tier 1 and Tier 2 applicable to residential and non-residential developments. The most recent CALGreen Code (2019 California Building Standard Code) was effective as of January 1, 2020. However, the CALGreen Code is updated every three years. A revised Code (2022 California Building Standard Code) will be effective as of January 1, 2023.

The California Building Energy Efficiency Standards (California Energy Code) is under Title 24, Part 6 and is overseen by the California Energy Commission (CEC). This code includes design requirements to conserve energy in new residential and non-residential developments, while being cost effective for homeowners. This Energy Code is enforced and verified by cities during the planning and building permit process.

The current energy efficiency standards (2019 Energy Code) replaced the 2016 Energy Code as of January 1,2020. Under the 2019 standards, single-family homes are predicted to be 53 percent more efficient than homes built under the 2016 standard due more stringent energy-efficiency standards and mandatory installation of solar photovoltaic systems. For nonresidential developments, it is predicted that these buildings will use 30 percent less energy due to lightening upgrades.[39]

The 2022 CALGreen Code makes minor refinements to the 2019 Code, but there are a few notable additions including requirements that new construction be "all electric ready," include energy storage systems (ESS), further improve indoor air quality, and increased deployment of EV chargers in various building types, including multifamily residential and nonresidential land uses. This means new construction needs to include EV readiness, EV capable parking spaces, installation of EV chargers, and the installation of Level 2 EV supply equipment. Providing EV charging infrastructure that meets current (2019) CALGreen requirements will not be sufficient to power the anticipated more extensive level of EV penetration in the future that is needed to meet SB 30 climate goals.

CEC studies have identified the most aggressive electrification scenario as putting the building sector on track to reach the carbon neutrality goal by 2045.[40] Installing new natural gas infrastructure in new buildings will interfere with this goal. To meet the State's goal, communities have been adopting "Reach" codes that prohibit natural gas connections in new and remodeled buildings.

SB 743 Transportation Impacts

Senate Bill 743 required lead agencies to abandon the old "level of service" metric for evaluating a project's transportation impacts, which was based solely on the amount of delay experienced by motor vehicles. In response, the Governor's Office of Planning and Research (OPR) developed a VMT metric that considered other factors such as reducing GHG emissions and developing

[39] See: https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf
[40] California Energy Commission. 2021. F*inal Commission Report: California Building Decarbonization Assessment. Publication Number CEC-400-2021-006-CMF*.August

multimodal transportation[41]. A VMT-per-capita metric was adopted into the CEQA Guidelines Section 15064.3 in November 2017. Given current baseline per-capita VMT levels computed by CARB in the 2030 Scoping Plan of 22.24 miles per day for light-duty vehicles and 24.61 miles per day for all vehicle types, the reductions needed to achieve the 2050 climate goal are 16.8 percent for light-duty vehicles and 14.3 percent for all vehicle types combined. *Based on this analysis (as well as other factors), OPR recommended using a 15-percent reduction in per capita VMT as an appropriate threshold of significance for evaluating transportation impacts.*

Federal and Statewide GHG Emissions

The U.S. EPA reported that in 2022, total gross nationwide GHG emissions were 5,215.6 million metric tons (MMT) carbon dioxide equivalent (CO_2e).[42] These emissions were lower than peak levels of 7,416 MMT that were emitted in 2007. CARB updates the statewide GHG emission inventory on an annual basis where the latest inventory includes 2000 through 2019 emissions.[43] In 2019, GHG emissions from statewide emitting activities were 418.2 MMT CO_2e. The 2019 emissions have decreased by 30 percent since peak levels in 2007 and are 7.2 MMT CO_2e lower than 2018 emissions level and almost 13 MMT CO_2e below the State's 2020 GHG limit of 431 MMT CO_2e. Per capita GHG emissions in California have dropped from a 2001 peak of 14.0 MT CO_2e per person to 10.5 MT CO_2e per person in 2019. The most recent Bay Area emission inventory was computed for the year 2011.[44] The Bay Area GHG emission were 87 MMT. As a point of comparison, statewide emissions were about 444 MMT in 2011.

Local Climate Action Planning

While the City of San Bruno doesn't have a specific Climate Action Plan (CAP), it is part of the County's Regionally Integrated Climate Action Planning Suite (RICAPS). Early in 2010, the City/County Association of Governments (C/CAG) and San Mateo County staff noted the larger cities in San Mateo County were drafting and adopting CAPs to reduce GHG emissions, while the smaller cities, like San Bruno, were not due to funding limitations. C/CAG and the County began to explore solutions to this challenge. Their solution, RICAPS, allows smaller cities to limit their actions to the things within their control: energy efficiency, renewable energy, waste reduction, and active transportation measures. Over time, the efforts have shifted to renewable energy and electrification of buildings and transportation, along with a variety of other GHG reduction measures.

The RICAPS has also created a local government partnership between PG&E and C/CAG, called the San Mateo County Energy Watch (SMCEW). SMCEW is administered by the County of San Mateo Office of Sustainability. SMCEW assists local governments, schools, non-profits, and small

[41] Governor's Office of Planning and Research. 2018. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. December.
[42] United States Environmental Protection Agency, 2022. *Draft Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2020*. February. Web: https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks
[43] CARB. 2021. *California Greenhouse Gas Emission for 2000 to 2019*. Web: https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2019/ghg_inventory_trends_00-19.pdf
[44] BAAQMD. 2015. *Bay Area Emissions Inventory Summary Report: Greenhouse Gases Base Year 2011*. January. Web: http://www.baaqmd.gov/~/media/files/planning-and-research/emission-inventory/by2011_ghgsummary.pdf.

businesses in accessing energy efficiency programs, trade professionals, and financing opportunities. SMCEW provides coordination, outreach, referrals, and educational resources to help community members pursue energy efficiency projects.

Through its participation in RICAPS and SMCEW, the City of San Bruno is working to reduce their energy, water, and fuel use, and to reduce waste disposal into the landfill. Through the City's planning department, it is asking new developments to transition to more renewable sources of electricity, and less use of natural gas.

BAAQMD GHG Significance Thresholds

On April 20, 2022, BAAQMD adopted new thresholds of significance for operational GHG emissions from land use projects for projects beginning the CEQA process. The following framework is how BAAQMD will determine GHG significance moving forward.[45] Note BAAQMD intends that the thresholds apply to projects that begin the CEQA process after adoption of the thresholds, unless otherwise directed by the lead agency. The new thresholds of significance are:

A. Projects must include, at a minimum, the following project design elements:
    a. Buildings
        i. The project will not include natural gas appliances or natural gas plumbing (in both residential and non-residential development).
        ii. The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines.
    b. Transportation
        i. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA:
            1. Residential Projects: 15 percent below the existing VMT per capita
            2. Office Projects: 15 percent below the existing VMT per employee
            3. Retail Projects: no net increase in existing VMT
        ii. Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.

B. Be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b).

Any new land use project would have to include either section A or B from the above list, not both, to be considered in compliance with BAAQMD's GHG thresholds of significance.

[45] Justification Report: BAAQMD CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Project and Plans. Web: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-thresholds-2022/justification-report-pdf.pdf?la=en

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

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

There are no quantified thresholds for GHG emissions adopted by the City or BAAQMD for evaluation of project GHG emissions. BAAQMD in their latest adopted GHG thresholds recommend that the significance of project GHG emissions be evaluated based on consistency with an adopted GHG reduction plan (Threshold B) or meet design elements that are critical in reducing GHG emissions (Threshold A). As described above, the City has not adopted a CAP that meets the requirements for a local GHG reduction strategy per the criteria under State CEQA Guidelines Section 15183.5(b). Therefore, the Project must demonstrate its meets BAAQMD's GHG significance Threshold A.

The Project generally meets the requirements for BAAQMD Threshold A.

To meet BAAQMD's threshold of less-than-significant and avoid interference with statewide GHG reduction measures identified in CARB's Scoping Plan and SB 100 goals, the project would need to include the following standard requirements:

1. Avoid construction of new natural gas appliances or natural gas plumbing.
    - **Possibly Conforms** – there is currently no Reach Code in San Bruno that would prohibit natural gas infrastructure in new buildings. However, the 2022 CALGreen Code adopted by the City as of January1, 2023 would require the building to be "all electric ready." Therefore, if the project meets the new 2022 CALGreen Code, it will not be dependent on natural gas and could be operated as an all-electric facility.
2. Avoid wasteful or inefficient use of electricity.
    - **Conforms** – The Project would meet the 2019 CALGreen Building Standards Code requirements for energy efficiency. Additionally, the project includes roof-top solar power generation.
3. Include electric vehicle (EV) charging infrastructure that meets current Building Code CALGreen Tier 2 compliance.
    - **Conforms** – The project would include 12 EV spaces which exceeds the five required by the 2019 CALGreen Building Code, which complies with this requirement.
4. Achieve a reduction in project generated VMT below the regional average or meet a locally adopted Senate Bill 743 VMT target.
    - **Conforms** – According to the traffic analysis, the City of San Bruno has not adopted any guidelines or thresholds related to VMT. However, San Mateo

County has, and since the project's total retail square footage is less than 50,000-sf, it would not result in a significant VMT impact. [46]

Therefore, the project is considered to be less than significant under BAAQMD Threshold A. The 2022 CALGreen and the Title 24 Building Code becomes effective in the City of San Bruno on January 1, 2023. Compliance with the 2022 CALGreen Code would help to ensure the project meets BAAQMD Threshold A.

Impact GHG-2: Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The City of San Bruno does not have a CAP, but the City does enforce it building codes which aim to reduce GHG emissions. Therefore, as long as the project conforms to City building Codes, it will not conflict with local plans, policies, or regulations applicable to GHG emissions. The proposed building would be constructed in conformance with at a minimum 2019 CALGreen and the Title 24 Building Code, which requires high-efficiency water fixtures, water-efficient irrigation systems, and compliance with current energy efficacy standards. Compliance with these standards ensures compliance with State and federal plans, policies, and regulations applicable to GHG emissions.

[46] Hexagon Transportation Consultants, Inc., *1010 Admiral Court Genesis & Hyundai Dealership Traffic Impact Analysis*, October 7, 2022.

Supporting Documentation

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

Attachment 2 includes the CalEEMod output for project construction and operational criteria air pollutant. Also included are any modeling assumptions.

Attachment 3 includes the EMFAC2021 emissions modeling to support CalEEMod modeling.

Attachment 4 is the construction health risk assessment. This includes the cancer risk calculations for construction and operation (if applicable). The 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 health risk calculations from existing TAC sources affecting the construction/project MEI.

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.[47] 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.[48] 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.[49] 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

[47] 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.
[48] CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.
[49] 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: Hyundai/Genesis San Bruno

Complete ALL Portions in Yellow

See Equipment Type TAB for type, horsepower and load factor

Project Size

	Dwelling Units	1.5	total project acres disturbed
	s.f. residential		
	s.f. retail		
43,254	s.f. office/commercial		
	s.f. other, specify:		
128,356	s.f. parking garage	278	spaces
12,143	s.f. parking lot	16	spaces

Construction Days Monday to Friday

Construction Hours 7 am to 5 pm

Pile Driving? Y/N? YES

Project include on-site GENERATOR OR FIRE PUMP during project OPERATION

IF YES (if BOTH separate values) --> NO

Kilowatts/Horsepower: _____

Fuel Type: _____

Location in project (Plans Desired if Available):

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

Quantity	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	HP Annual Hours	Comments
	Demolition	**Start Date:**	**2/7/2023**	**Total phase:**	**5**			**Overall Import/Export Volumes**
		End Date:	**2/13/2023**					
0	Concrete/Industrial Saws	81	0.73			0.0	0	**Demolition Volume**
1	Excavators	158	0.38	8	5	8.0	2402	Square footage of buildings to be demolished
1	Rubber-Tired Dozers	247	0.4	8	5	8.0	3952	(*or* total tons to be hauled)
1	Tractors/Loaders/Backhoes	97	0.37	8	5	8.0	1436	**0** square feet *or*
	Other Equipment?							**0** Hauling volume (tons)
								Any pavement demolished and hauled? **0 tons**
	Site Preparation	**Start Date:**		**Total phase:**				
		End Date:						
	Graders	187	0.41			#DIV/0!	0	
	Rubber Tired Dozers	247	0.4			#DIV/0!	0	
	Tractors/Loaders/Backhoes	97	0.37			#DIV/0!	0	
	Other Equipment?							
	Grading / Excavation	**Start Date:**	**2/14/2023**	**Total phase:**	**45**			
		End Date:	**4/17/2023**					**Soil Hauling Volume**
2	Excavators	158	0.38	8	45	8.0	43229	Export volume = **45,000** cubic yards?
1	Graders	187	0.41	8	45	8.0	27601	Import volume = **0** cubic yards?
0	Rubber Tired Dozers	247	0.4			0.0	0	
0	Concrete/Industrial Saws	81	0.73			0.0	0	
2	Tractors/Loaders/Backhoes	97	0.37	8	45	8.0	25841	
1	*Piling Rig*	221	0.5	8	20	3.6	17680	
	Trenching/Foundation	**Start Date:**	**4/18/2023**	**Total phase:**	**120**			
		End Date:	**10/2/2023**					
2	Tractor/Loader/Backhoe	97	0.37	8	90	6.0	51682	
0	Excavators	158	0.38			0.0	0	
	Other Equipment?							
	Building - Exterior	**Start Date:**	**12/12/2023**	**Total phase:**	**136**			**Cement Trucks? 650 Total Round-Trips**
		End Date:	**6/18/2024**					
1	Cranes	231	0.29	8	10	0.6	5359	Electric? (Y/N) NO Otherwise assumed diesel
1	Forklifts	89	0.2	4	136	4.0	9683	Liquid Propane (LPG)? (Y/N) NO Otherwise Assumed diesel
0	Generator Sets	84	0.74			0.0	0	Or temporary line power? (Y/N) YES
1	Tractors/Loaders/Backhoes	97	0.37	8	5	0.3	1436	
1	Welders	46	0.45	8	54	3.2	8942	
	Other Equipment?							
	Building - Interior/Architectural Coating	**Start Date:**	**2/20/2024**	**Total phase:**	**133**			
		End Date:	**8/22/2024**					
2	Air Compressors	78	0.48	8	10	0.6	5990	
4	Aerial Lift	62	0.31	8	95	5.7	58429	
	Other Equipment?							
	Paving	**Start Date:**	**4/18/2023**	**Total phase:**	**44**			
		Start Date:	**6/18/2024**					
1	Cement and Mortar Mixers	9	0.56	4	5	0.5	101	
2	Pavers	130	0.42	8	4	0.7	3494	**Asphalt? 2,900 cubic yards or ____ round trips?**
3	Paving Equipment	132	0.36	8	4	0.7	4562	
2	Rollers	80	0.38	8	4	0.7	1946	
2	Tractors/Loaders/Backhoes	97	0.37	8	20	3.6	11485	
	Other Equipment?							
	Additional Phases	**Start Date:**		**Total phase:**				
		Start Date:						
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	278.00	Space	0.00	128,356.00	0
Parking Lot	16.00	Space	0.00	12,143.00	0
Regional Shopping Center	43.25	1000sqft	1.50	43,254.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E will be used according to provided Project Description.

Land Use - Provided total lot acreage and parking spaces/ parking lot square footage from provided construction worksheet. Square footage for enclosed parking with elevator and regional shopping center from traffic.

Construction Phase - Provided in construction worksheet provided by applicant.

Off-road Equipment - Provided in construction worksheet.

Off-road Equipment - Provided by construction sheet.

Off-road Equipment - Provided in equipment sheet.

Off-road Equipment - Provided by construction worksheet.

Off-road Equipment - Provided in construction worksheet.

Off-road Equipment - Prvided in construction worksheet.

Trips and VMT - EMFAC2021 adjustment 0 trips, building const = 650 concrete truck round trips, paving = 2,900-cy of asphalt.

Demolition - No existing building

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Grading - Grading = 45,000-cy soil exported.

Construction Off-road Equipment Mitigation - BMPs, tier 4 interim mitigation

Vehicle Trips - Provided trip gen.

Vehicle Emission Factors - EMFAC2021 vehicle emissions factors San Mateo County 2025.

Vehicle Emission Factors -

Fleet Mix - EMFAC2021 fleet mix San Mateo 2025.

Energy Use - Reach code only says "all-electric ready"

Water And Wastewater - Wastewater = 100% aerobic - no septic tanks or lagoons.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

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tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	NumDays	4.00	45.00
tblConstructionPhase	NumDays	200.00	136.00
tblConstructionPhase	NumDays	10.00	133.00
tblConstructionPhase	NumDays	10.00	44.00
tblFleetMix	HHD	2.0600e-003	2.5580e-003
tblFleetMix	HHD	2.0600e-003	2.5580e-003
tblFleetMix	HHD	2.0600e-003	2.5580e-003
tblFleetMix	LDA	0.47	0.45
tblFleetMix	LDA	0.47	0.45
tblFleetMix	LDA	0.47	0.45
tblFleetMix	LDT1	0.07	0.04
tblFleetMix	LDT1	0.07	0.04
tblFleetMix	LDT1	0.07	0.04
tblFleetMix	LDT2	0.24	0.28
tblFleetMix	LDT2	0.24	0.28
tblFleetMix	LDT2	0.24	0.28
tblFleetMix	LHD1	0.03	0.03
tblFleetMix	LHD1	0.03	0.03
tblFleetMix	LHD1	0.03	0.03

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tblFleetMix	LHD2	6.4120e-003	6.3300e-003
tblFleetMix	LHD2	6.4120e-003	6.3300e-003
tblFleetMix	LHD2	6.4120e-003	6.3300e-003
tblFleetMix	MCY	0.03	0.02
tblFleetMix	MCY	0.03	0.02
tblFleetMix	MCY	0.03	0.02
tblFleetMix	MDV	0.15	0.16
tblFleetMix	MDV	0.15	0.16
tblFleetMix	MDV	0.15	0.16
tblFleetMix	MH	2.6570e-003	2.0400e-003
tblFleetMix	MH	2.6570e-003	2.0400e-003
tblFleetMix	MH	2.6570e-003	2.0400e-003
tblFleetMix	MHD	0.01	8.7430e-003
tblFleetMix	MHD	0.01	8.7430e-003
tblFleetMix	MHD	0.01	8.7430e-003
tblFleetMix	OBUS	1.4460e-003	2.3100e-003
tblFleetMix	OBUS	1.4460e-003	2.3100e-003
tblFleetMix	OBUS	1.4460e-003	2.3100e-003
tblFleetMix	SBUS	4.3200e-004	4.1800e-004
tblFleetMix	SBUS	4.3200e-004	4.1800e-004
tblFleetMix	SBUS	4.3200e-004	4.1800e-004
tblFleetMix	UBUS	5.7200e-004	7.4300e-004
tblFleetMix	UBUS	5.7200e-004	7.4300e-004
tblFleetMix	UBUS	5.7200e-004	7.4300e-004
tblGrading	MaterialExported	0.00	45,000.00
tblLandUse	LandUseSquareFeet	111,200.00	128,356.00
tblLandUse	LandUseSquareFeet	6,400.00	12,143.00
tblLandUse	LandUseSquareFeet	43,250.00	43,254.00
tblLandUse	LotAcreage	2.50	0.00
tblLandUse	LotAcreage	0.14	0.00

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tblLandUse	LotAcreage	0.99	1.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	6.00	0.60
tblOffRoadEquipment	UsageHours	6.00	0.50
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.60
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.70
tblOffRoadEquipment	UsageHours	8.00	0.70
tblOffRoadEquipment	UsageHours	7.00	0.70
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.30
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	3.60
tblOffRoadEquipment	UsageHours	8.00	3.20
tblTripsAndVMT	HaulingTripNumber	5,625.00	0.00
tblTripsAndVMT	VendorTripNumber	30.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00

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tblTripsAndVMT	WorkerTripNumber	73.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	25.00	0.00
tblVehicleEF	HHD	0.03	0.27
tblVehicleEF	HHD	0.18	0.25
tblVehicleEF	HHD	3.0000e-006	1.0000e-006
tblVehicleEF	HHD	5.29	4.67
tblVehicleEF	HHD	0.95	1.65
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	931.63	768.77
tblVehicleEF	HHD	1,585.25	1,745.93
tblVehicleEF	HHD	0.28	0.28
tblVehicleEF	HHD	0.15	0.13
tblVehicleEF	HHD	0.26	0.28
tblVehicleEF	HHD	3.0000e-006	1.0000e-006
tblVehicleEF	HHD	5.24	3.87
tblVehicleEF	HHD	3.05	2.50
tblVehicleEF	HHD	2.40	2.74
tblVehicleEF	HHD	3.7460e-003	3.0270e-003
tblVehicleEF	HHD	0.06	0.09
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	0.02	0.02
tblVehicleEF	HHD	2.0000e-006	4.0000e-006
tblVehicleEF	HHD	3.5840e-003	2.8900e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.7190e-003	8.6260e-003
tblVehicleEF	HHD	0.02	0.02
tblVehicleEF	HHD	2.0000e-006	4.0000e-006
tblVehicleEF	HHD	4.0000e-006	5.8500e-004
tblVehicleEF	HHD	2.0300e-004	1.7500e-004

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tblVehicleEF	HHD	0.36	0.29
tblVehicleEF	HHD	3.0000e-006	0.00
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	9.4000e-005	1.3050e-003
tblVehicleEF	HHD	1.4000e-005	3.0000e-006
tblVehicleEF	HHD	8.3030e-003	6.3920e-003
tblVehicleEF	HHD	0.01	0.02
tblVehicleEF	HHD	4.0000e-006	5.8500e-004
tblVehicleEF	HHD	2.0300e-004	1.7500e-004
tblVehicleEF	HHD	0.42	0.58
tblVehicleEF	HHD	3.0000e-006	0.00
tblVehicleEF	HHD	0.21	0.29
tblVehicleEF	HHD	9.4000e-005	1.3050e-003
tblVehicleEF	HHD	1.6000e-005	3.0000e-006
tblVehicleEF	LDA	1.3630e-003	1.6200e-003
tblVehicleEF	LDA	0.04	0.06
tblVehicleEF	LDA	0.46	0.53
tblVehicleEF	LDA	2.01	2.73
tblVehicleEF	LDA	223.03	236.28
tblVehicleEF	LDA	47.59	61.79
tblVehicleEF	LDA	3.5080e-003	3.5770e-003
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	0.15	0.21
tblVehicleEF	LDA	0.04	6.3990e-003
tblVehicleEF	LDA	1.2000e-003	1.1140e-003
tblVehicleEF	LDA	1.6180e-003	1.9130e-003
tblVehicleEF	LDA	0.02	2.2400e-003
tblVehicleEF	LDA	1.1050e-003	1.0250e-003
tblVehicleEF	LDA	1.4870e-003	1.7590e-003

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tblVehicleEF	LDA	0.03	0.24
tblVehicleEF	LDA	0.08	0.07
tblVehicleEF	LDA	0.03	0.00
tblVehicleEF	LDA	5.0920e-003	6.1730e-003
tblVehicleEF	LDA	0.03	0.19
tblVehicleEF	LDA	0.17	0.27
tblVehicleEF	LDA	2.2060e-003	2.3360e-003
tblVehicleEF	LDA	4.7100e-004	6.1100e-004
tblVehicleEF	LDA	0.03	0.24
tblVehicleEF	LDA	0.08	0.07
tblVehicleEF	LDA	0.03	0.00
tblVehicleEF	LDA	7.4000e-003	8.9940e-003
tblVehicleEF	LDA	0.03	0.19
tblVehicleEF	LDA	0.19	0.30
tblVehicleEF	LDT1	2.1260e-003	4.1000e-003
tblVehicleEF	LDT1	0.04	0.08
tblVehicleEF	LDT1	0.59	0.99
tblVehicleEF	LDT1	2.12	4.22
tblVehicleEF	LDT1	263.34	307.95
tblVehicleEF	LDT1	56.19	80.32
tblVehicleEF	LDT1	4.1590e-003	6.8480e-003
tblVehicleEF	LDT1	0.02	0.03
tblVehicleEF	LDT1	0.04	0.09
tblVehicleEF	LDT1	0.17	0.31
tblVehicleEF	LDT1	0.04	8.0170e-003
tblVehicleEF	LDT1	1.4220e-003	1.5650e-003
tblVehicleEF	LDT1	1.8860e-003	2.4740e-003
tblVehicleEF	LDT1	0.02	2.8060e-003
tblVehicleEF	LDT1	1.3090e-003	1.4400e-003
tblVehicleEF	LDT1	1.7340e-003	2.2750e-003

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tblVehicleEF	LDT1	0.04	0.42
tblVehicleEF	LDT1	0.09	0.12
tblVehicleEF	LDT1	0.04	0.00
tblVehicleEF	LDT1	8.5960e-003	0.02
tblVehicleEF	LDT1	0.06	0.34
tblVehicleEF	LDT1	0.20	0.42
tblVehicleEF	LDT1	2.6060e-003	3.0440e-003
tblVehicleEF	LDT1	5.5600e-004	7.9400e-004
tblVehicleEF	LDT1	0.04	0.42
tblVehicleEF	LDT1	0.09	0.12
tblVehicleEF	LDT1	0.04	0.00
tblVehicleEF	LDT1	0.01	0.03
tblVehicleEF	LDT1	0.06	0.34
tblVehicleEF	LDT1	0.22	0.46
tblVehicleEF	LDT2	1.9400e-003	1.9300e-003
tblVehicleEF	LDT2	0.05	0.07
tblVehicleEF	LDT2	0.56	0.60
tblVehicleEF	LDT2	2.52	3.01
tblVehicleEF	LDT2	275.26	312.37
tblVehicleEF	LDT2	59.15	79.36
tblVehicleEF	LDT2	4.2420e-003	4.4120e-003
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	0.19	0.25
tblVehicleEF	LDT2	0.04	7.6970e-003
tblVehicleEF	LDT2	1.3050e-003	1.1980e-003
tblVehicleEF	LDT2	1.6860e-003	1.9510e-003
tblVehicleEF	LDT2	0.02	2.6940e-003
tblVehicleEF	LDT2	1.2010e-003	1.1020e-003
tblVehicleEF	LDT2	1.5500e-003	1.7940e-003

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tblVehicleEF	LDT2	0.03	0.19
tblVehicleEF	LDT2	0.07	0.06
tblVehicleEF	LDT2	0.04	0.00
tblVehicleEF	LDT2	7.4300e-003	7.2480e-003
tblVehicleEF	LDT2	0.05	0.14
tblVehicleEF	LDT2	0.22	0.29
tblVehicleEF	LDT2	2.7230e-003	3.0880e-003
tblVehicleEF	LDT2	5.8500e-004	7.8500e-004
tblVehicleEF	LDT2	0.03	0.19
tblVehicleEF	LDT2	0.07	0.06
tblVehicleEF	LDT2	0.04	0.00
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.05	0.14
tblVehicleEF	LDT2	0.24	0.32
tblVehicleEF	LHD1	4.6830e-003	5.0900e-003
tblVehicleEF	LHD1	5.8360e-003	5.0980e-003
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	0.18	0.20
tblVehicleEF	LHD1	0.51	0.68
tblVehicleEF	LHD1	0.97	2.39
tblVehicleEF	LHD1	8.57	8.29
tblVehicleEF	LHD1	751.95	745.68
tblVehicleEF	LHD1	11.12	18.86
tblVehicleEF	LHD1	7.2100e-004	5.7300e-004
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	0.05	0.04
tblVehicleEF	LHD1	0.34	0.35
tblVehicleEF	LHD1	0.26	0.39
tblVehicleEF	LHD1	8.5300e-004	6.1900e-004

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tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	9.7990e-003	9.3030e-003
tblVehicleEF	LHD1	7.0500e-003	8.5920e-003
tblVehicleEF	LHD1	2.2400e-004	1.6500e-004
tblVehicleEF	LHD1	8.1600e-004	5.9200e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.4500e-003	2.3260e-003
tblVehicleEF	LHD1	6.6990e-003	8.1840e-003
tblVehicleEF	LHD1	2.0600e-004	1.5100e-004
tblVehicleEF	LHD1	1.0710e-003	0.08
tblVehicleEF	LHD1	0.05	0.02
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	6.9000e-004	0.00
tblVehicleEF	LHD1	0.07	0.06
tblVehicleEF	LHD1	0.14	0.12
tblVehicleEF	LHD1	0.05	0.09
tblVehicleEF	LHD1	8.3000e-005	8.1000e-005
tblVehicleEF	LHD1	7.3400e-003	7.2890e-003
tblVehicleEF	LHD1	1.1000e-004	1.8600e-004
tblVehicleEF	LHD1	1.0710e-003	0.08
tblVehicleEF	LHD1	0.05	0.02
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	6.9000e-004	0.00
tblVehicleEF	LHD1	0.09	0.07
tblVehicleEF	LHD1	0.14	0.12
tblVehicleEF	LHD1	0.06	0.10
tblVehicleEF	LHD2	2.8930e-003	2.9140e-003
tblVehicleEF	LHD2	5.4660e-003	4.9480e-003
tblVehicleEF	LHD2	5.9890e-003	0.01
tblVehicleEF	LHD2	0.14	0.14

Crossing Site Genesis Hyundai Dealership, San Bruno - San Mateo County, Annual

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

tblVehicleEF	LHD2	0.46	0.43
tblVehicleEF	LHD2	0.57	1.33
tblVehicleEF	LHD2	13.29	13.09
tblVehicleEF	LHD2	728.51	785.97
tblVehicleEF	LHD2	7.48	10.02
tblVehicleEF	LHD2	1.6500e-003	1.5680e-003
tblVehicleEF	LHD2	0.06	0.08
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.08	0.07
tblVehicleEF	LHD2	0.37	0.47
tblVehicleEF	LHD2	0.15	0.22
tblVehicleEF	LHD2	1.4140e-003	1.3360e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	1.2000e-004	8.0000e-005
tblVehicleEF	LHD2	1.3530e-003	1.2780e-003
tblVehicleEF	LHD2	0.04	0.03
tblVehicleEF	LHD2	2.6890e-003	2.6520e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	1.1000e-004	7.4000e-005
tblVehicleEF	LHD2	5.6800e-004	0.05
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.7300e-004	0.00
tblVehicleEF	LHD2	0.09	0.08
tblVehicleEF	LHD2	0.07	0.07
tblVehicleEF	LHD2	0.03	0.05
tblVehicleEF	LHD2	1.2700e-004	1.2600e-004
tblVehicleEF	LHD2	7.0360e-003	7.5740e-003

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

tblVehicleEF	LHD2	7.4000e-005	9.9000e-005
tblVehicleEF	LHD2	5.6800e-004	0.05
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.7300e-004	0.00
tblVehicleEF	LHD2	0.11	0.10
tblVehicleEF	LHD2	0.07	0.07
tblVehicleEF	LHD2	0.03	0.06
tblVehicleEF	MCY	0.33	0.14
tblVehicleEF	MCY	0.26	0.17
tblVehicleEF	MCY	18.30	10.67
tblVehicleEF	MCY	9.27	7.69
tblVehicleEF	MCY	212.79	186.43
tblVehicleEF	MCY	59.80	44.64
tblVehicleEF	MCY	0.07	0.04
tblVehicleEF	MCY	0.02	7.1110e-003
tblVehicleEF	MCY	1.15	0.51
tblVehicleEF	MCY	0.27	0.12
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	2.1570e-003	2.0310e-003
tblVehicleEF	MCY	3.1010e-003	3.7190e-003
tblVehicleEF	MCY	5.0400e-003	4.2000e-003
tblVehicleEF	MCY	2.0130e-003	1.8970e-003
tblVehicleEF	MCY	2.9050e-003	3.4890e-003
tblVehicleEF	MCY	0.60	3.15
tblVehicleEF	MCY	0.51	3.55
tblVehicleEF	MCY	0.35	0.00
tblVehicleEF	MCY	2.17	0.89
tblVehicleEF	MCY	0.41	3.70
tblVehicleEF	MCY	1.93	1.22

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

tblVehicleEF	MCY	2.1060e-003	1.8430e-003
tblVehicleEF	MCY	5.9200e-004	4.4100e-004
tblVehicleEF	MCY	0.60	0.07
tblVehicleEF	MCY	0.51	3.55
tblVehicleEF	MCY	0.35	0.00
tblVehicleEF	MCY	2.71	1.08
tblVehicleEF	MCY	0.41	3.70
tblVehicleEF	MCY	2.10	1.33
tblVehicleEF	MDV	1.9550e-003	2.1320e-003
tblVehicleEF	MDV	0.05	0.07
tblVehicleEF	MDV	0.55	0.62
tblVehicleEF	MDV	2.62	3.10
tblVehicleEF	MDV	330.48	373.60
tblVehicleEF	MDV	69.96	94.35
tblVehicleEF	MDV	5.5310e-003	5.3190e-003
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.04	0.05
tblVehicleEF	MDV	0.21	0.29
tblVehicleEF	MDV	0.04	7.7240e-003
tblVehicleEF	MDV	1.3170e-003	1.2030e-003
tblVehicleEF	MDV	1.6910e-003	1.9650e-003
tblVehicleEF	MDV	0.02	2.7040e-003
tblVehicleEF	MDV	1.2140e-003	1.1080e-003
tblVehicleEF	MDV	1.5550e-003	1.8070e-003
tblVehicleEF	MDV	0.04	0.21
tblVehicleEF	MDV	0.08	0.06
tblVehicleEF	MDV	0.04	0.00
tblVehicleEF	MDV	7.6550e-003	8.4160e-003
tblVehicleEF	MDV	0.05	0.16
tblVehicleEF	MDV	0.25	0.34

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

tblVehicleEF	MDV	3.2660e-003	3.6910e-003
tblVehicleEF	MDV	6.9200e-004	9.3300e-004
tblVehicleEF	MDV	0.04	0.21
tblVehicleEF	MDV	0.08	0.06
tblVehicleEF	MDV	0.04	0.00
tblVehicleEF	MDV	0.01	0.01
tblVehicleEF	MDV	0.05	0.16
tblVehicleEF	MDV	0.27	0.38
tblVehicleEF	MH	5.5960e-003	8.1070e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.42	0.70
tblVehicleEF	MH	1.78	2.27
tblVehicleEF	MH	1,419.69	1,667.34
tblVehicleEF	MH	16.60	21.42
tblVehicleEF	MH	0.05	0.07
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	0.92	1.15
tblVehicleEF	MH	0.23	0.27
tblVehicleEF	MH	0.13	0.04
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	2.4300e-004	2.9600e-004
tblVehicleEF	MH	0.06	0.02
tblVehicleEF	MH	3.2800e-003	3.3240e-003
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	2.2300e-004	2.7200e-004
tblVehicleEF	MH	0.25	21.03
tblVehicleEF	MH	0.02	5.78
tblVehicleEF	MH	0.11	0.00
tblVehicleEF	MH	0.04	0.06

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tblVehicleEF	MH	5.8350e-003	0.14
tblVehicleEF	MH	0.08	0.10
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	1.6400e-004	2.1200e-004
tblVehicleEF	MH	0.25	21.03
tblVehicleEF	MH	0.02	5.78
tblVehicleEF	MH	0.11	0.00
tblVehicleEF	MH	0.05	0.07
tblVehicleEF	MH	5.8350e-003	0.14
tblVehicleEF	MH	0.09	0.11
tblVehicleEF	MHD	3.9340e-003	0.01
tblVehicleEF	MHD	1.4090e-003	0.01
tblVehicleEF	MHD	9.5150e-003	0.01
tblVehicleEF	MHD	0.38	0.67
tblVehicleEF	MHD	0.19	0.33
tblVehicleEF	MHD	1.06	1.26
tblVehicleEF	MHD	61.97	147.67
tblVehicleEF	MHD	1,043.81	1,250.18
tblVehicleEF	MHD	9.62	10.56
tblVehicleEF	MHD	8.7820e-003	0.02
tblVehicleEF	MHD	0.13	0.14
tblVehicleEF	MHD	8.1610e-003	8.0710e-003
tblVehicleEF	MHD	0.34	0.80
tblVehicleEF	MHD	1.30	0.99
tblVehicleEF	MHD	1.66	1.31
tblVehicleEF	MHD	2.4000e-004	1.8050e-003
tblVehicleEF	MHD	0.13	0.05
tblVehicleEF	MHD	6.2030e-003	0.01
tblVehicleEF	MHD	1.1800e-004	1.3100e-004
tblVehicleEF	MHD	2.3000e-004	1.7260e-003

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

tblVehicleEF	MHD	0.06	0.02
tblVehicleEF	MHD	5.9280e-003	0.01
tblVehicleEF	MHD	1.0900e-004	1.2000e-004
tblVehicleEF	MHD	2.6600e-004	0.02
tblVehicleEF	MHD	0.02	6.3670e-003
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	1.7600e-004	0.00
tblVehicleEF	MHD	0.01	0.04
tblVehicleEF	MHD	0.02	0.05
tblVehicleEF	MHD	0.05	0.06
tblVehicleEF	MHD	5.8900e-004	1.3680e-003
tblVehicleEF	MHD	9.9640e-003	0.01
tblVehicleEF	MHD	9.5000e-005	1.0400e-004
tblVehicleEF	MHD	2.6600e-004	0.02
tblVehicleEF	MHD	0.02	6.3670e-003
tblVehicleEF	MHD	0.03	0.05
tblVehicleEF	MHD	1.7600e-004	0.00
tblVehicleEF	MHD	0.02	0.05
tblVehicleEF	MHD	0.02	0.05
tblVehicleEF	MHD	0.05	0.06
tblVehicleEF	OBUS	6.7000e-003	6.5670e-003
tblVehicleEF	OBUS	2.5540e-003	7.1970e-003
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.63	0.49
tblVehicleEF	OBUS	0.31	0.22
tblVehicleEF	OBUS	1.48	1.05
tblVehicleEF	OBUS	103.58	90.16
tblVehicleEF	OBUS	1,286.62	1,296.63
tblVehicleEF	OBUS	12.91	9.34
tblVehicleEF	OBUS	0.01	0.01

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

tblVehicleEF	OBUS	0.13	0.17
tblVehicleEF	OBUS	0.01	9.8750e-003
tblVehicleEF	OBUS	0.44	0.39
tblVehicleEF	OBUS	1.48	0.72
tblVehicleEF	OBUS	1.21	1.13
tblVehicleEF	OBUS	1.4300e-004	2.3300e-004
tblVehicleEF	OBUS	0.13	0.05
tblVehicleEF	OBUS	7.6570e-003	8.2930e-003
tblVehicleEF	OBUS	1.4400e-004	9.9000e-005
tblVehicleEF	OBUS	1.3700e-004	2.2300e-004
tblVehicleEF	OBUS	0.06	0.02
tblVehicleEF	OBUS	7.3130e-003	7.9280e-003
tblVehicleEF	OBUS	1.3300e-004	9.1000e-005
tblVehicleEF	OBUS	7.6700e-004	0.03
tblVehicleEF	OBUS	0.01	8.1250e-003
tblVehicleEF	OBUS	0.05	0.03
tblVehicleEF	OBUS	4.0100e-004	0.00
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.03	0.04
tblVehicleEF	OBUS	0.07	0.05
tblVehicleEF	OBUS	9.8300e-004	8.5000e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	1.2800e-004	9.2000e-005
tblVehicleEF	OBUS	7.6700e-004	0.03
tblVehicleEF	OBUS	0.01	8.1250e-003
tblVehicleEF	OBUS	0.06	0.04
tblVehicleEF	OBUS	4.0100e-004	0.00
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.03	0.04
tblVehicleEF	OBUS	0.08	0.06

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

tblVehicleEF	SBUS	0.11	0.10
tblVehicleEF	SBUS	8.8090e-003	0.08
tblVehicleEF	SBUS	0.01	8.5690e-003
tblVehicleEF	SBUS	4.01	2.38
tblVehicleEF	SBUS	0.80	1.39
tblVehicleEF	SBUS	1.56	1.23
tblVehicleEF	SBUS	367.56	204.35
tblVehicleEF	SBUS	971.83	958.41
tblVehicleEF	SBUS	8.11	6.00
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.10	0.11
tblVehicleEF	SBUS	8.1850e-003	5.6650e-003
tblVehicleEF	SBUS	3.13	1.36
tblVehicleEF	SBUS	4.12	2.53
tblVehicleEF	SBUS	0.74	0.47
tblVehicleEF	SBUS	3.4540e-003	1.3780e-003
tblVehicleEF	SBUS	0.74	0.04
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.01
tblVehicleEF	SBUS	1.3000e-004	7.9000e-005
tblVehicleEF	SBUS	3.3050e-003	1.3170e-003
tblVehicleEF	SBUS	0.32	0.02
tblVehicleEF	SBUS	2.5240e-003	2.5140e-003
tblVehicleEF	SBUS	0.02	0.01
tblVehicleEF	SBUS	1.1900e-004	7.3000e-005
tblVehicleEF	SBUS	6.7200e-004	0.05
tblVehicleEF	SBUS	8.3910e-003	0.01
tblVehicleEF	SBUS	0.48	0.28
tblVehicleEF	SBUS	3.3200e-004	0.00
tblVehicleEF	SBUS	0.09	0.07

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

tblVehicleEF	SBUS	0.01	0.04
tblVehicleEF	SBUS	0.06	0.05
tblVehicleEF	SBUS	3.5190e-003	1.8720e-003
tblVehicleEF	SBUS	9.3510e-003	8.9820e-003
tblVehicleEF	SBUS	8.0000e-005	5.9000e-005
tblVehicleEF	SBUS	6.7200e-004	0.05
tblVehicleEF	SBUS	8.3910e-003	0.01
tblVehicleEF	SBUS	0.70	0.44
tblVehicleEF	SBUS	3.3200e-004	0.00
tblVehicleEF	SBUS	0.11	0.17
tblVehicleEF	SBUS	0.01	0.04
tblVehicleEF	SBUS	0.06	0.05
tblVehicleEF	UBUS	1.52	0.55
tblVehicleEF	UBUS	0.01	6.4140e-003
tblVehicleEF	UBUS	11.42	6.30
tblVehicleEF	UBUS	0.83	0.87
tblVehicleEF	UBUS	1,603.69	1,061.97
tblVehicleEF	UBUS	9.21	5.58
tblVehicleEF	UBUS	0.26	0.16
tblVehicleEF	UBUS	7.3110e-003	9.5510e-003
tblVehicleEF	UBUS	0.69	0.25
tblVehicleEF	UBUS	0.10	0.07
tblVehicleEF	UBUS	0.08	0.14
tblVehicleEF	UBUS	0.03	0.05
tblVehicleEF	UBUS	4.9940e-003	4.6870e-003
tblVehicleEF	UBUS	5.3000e-005	2.3000e-005
tblVehicleEF	UBUS	0.03	0.05
tblVehicleEF	UBUS	7.8010e-003	0.01
tblVehicleEF	UBUS	4.7760e-003	4.4790e-003
tblVehicleEF	UBUS	4.9000e-005	2.1000e-005

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

tblVehicleEF	UBUS	6.3800e-004	0.02
tblVehicleEF	UBUS	0.01	8.0370e-003
tblVehicleEF	UBUS	4.9700e-004	0.00
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	4.4160e-003	0.02
tblVehicleEF	UBUS	0.06	0.02
tblVehicleEF	UBUS	0.01	8.5230e-003
tblVehicleEF	UBUS	9.1000e-005	5.5000e-005
tblVehicleEF	UBUS	6.3800e-004	0.02
tblVehicleEF	UBUS	0.01	8.0370e-003
tblVehicleEF	UBUS	4.9700e-004	0.00
tblVehicleEF	UBUS	1.55	0.61
tblVehicleEF	UBUS	4.4160e-003	0.02
tblVehicleEF	UBUS	0.07	0.03
tblVehicleTrips	ST_TR	46.12	34.01
tblVehicleTrips	SU_TR	21.10	15.56
tblVehicleTrips	WD_TR	37.75	27.84
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction

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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

	ROG	NOx	CO	SO2	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					
2023	0.0436	0.4376	0.5382	9.6000e-004	0.0145	0.0194	0.0338	1.67E-03	0.0178	0.0195	0.0000	83.8679	83.8679	0.0270	0.0000	84.5432
2024	0.2794	0.2463	0.3976	6.2000e-004	0.0000	8.45E-03	8.4500e-003	0	7.93E-03	7.9300e-003	0.0000	53.0171	53.0171	0.0152	0.0000	53.3973
Maximum	**0.2794**	**0.4376**	**0.5382**	**9.6000e-004**	**0.0145**	**0.0194**	**0.0338**	**1.6700e-003**	**0.0178**	**0.0195**	**0.0000**	**83.8679**	**83.8679**	**0.0270**	**0.0000**	**84.5432**

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					
2023	0.0173	0.3729	0.6604	9.6000e-004	6.5100e-003	1.68E-03	8.1900e-003	7.50E-04	1.6800e-003	2.4300e-003	0.0000	83.8678	83.8678	0.0270	0.0000	84.5431
2024	0.2682	0.3137	0.4429	6.2000e-004	0.0000	8.82E-03	8.8200e-003	0	8.8200e-003	8.8200e-003	0.0000	53.0170	53.0170	0.0152	0.0000	53.3973
Maximum	**0.2682**	**0.3729**	**0.6604**	**9.6000e-004**	**6.5100e-003**	**8.8200e-003**	**8.8200e-003**	**7.5000e-004**	**8.8200e-003**	**8.8200e-003**	**0.0000**	**83.8678**	**83.8678**	**0.0270**	**0.0000**	**84.5431**

	ROG	NOx	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	**11.62**	**-0.38**	**-17.90**	**0.00**	**55.04**	**62.23**	**59.77**	**55.09**	**59.22**	**58.97**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)

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1	**2-7-2023**	**5-6-2023**	0.3355	0.2680
2	**5-7-2023**	**8-6-2023**	0.0831	0.0702
3	**8-7-2023**	**11-6-2023**	0.0515	0.0435
4	**11-7-2023**	**2-6-2024**	0.0309	0.0246
5	**2-7-2024**	**5-6-2024**	0.2218	0.2436
6	**5-7-2024**	**8-6-2024**	0.2492	0.2802
7	**8-7-2024**	**9-30-2024**	0.0326	0.0392
		Highest	0.3355	0.2802

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2038	3.0000e-005	3.0900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.0300e-003	6.0300e-003	2.0000e-005	0.0000	6.42E-03
Energy	1.0600e-003	9.6700e-003	8.1200e-003	6.0000e-005		7.3000e-004	7.3000e-004		7.3000e-004	7.3000e-004	0.0000	116.5047	116.5047	0.0174	2.2700e-003	117.6152
Mobile	0.5612	0.3165	3.2905	7.3800e-003	0.6857	4.7300e-003	0.6904	0.1709	4.4000e-003	0.1753	0.0000	680.7159	680.7159	0.0406	0.0309	690.9364
Waste						0.0000	0.0000		0.0000	0.0000	9.2178	0.0000	9.2178	0.5448	0.0000	22.8368
Water						0.0000	0.0000		0.0000	0.0000	1.1335	2.2397	3.3732	4.2600e-003	2.5100e-003	4.2274
Total	**0.7661**	**0.3262**	**3.3017**	**7.4400e-003**	**0.6857**	**5.47E-03**	**0.6912**	**0.1709**	**5.14E-03**	**0.176**	**10.3513**	**799.4664**	**809.8177**	**0.6070**	**0.0357**	**835.6221**

Mitigated Operational

Crossing Site Genesis Hyundai Dealership, San Bruno - San Mateo 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					
Area	0.2038	3.0000e-005	3.0900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.0300e-003	6.0300e-003	2.0000e-005	0.0000	6.4200e-003
Energy	1.0600e-003	9.6700e-003	8.1200e-003	6.0000e-005		7.3000e-004	7.3000e-004		7.3000e-004	7.3000e-004	0.0000	116.5047	116.5047	0.0174	2.2700e-003	117.6152
Mobile	0.5612	0.3165	3.2905	7.3800e-003	0.6857	4.7300e-003	0.6904	0.1709	4.4000e-003	0.1753	0.0000	680.7159	680.7159	0.0406	0.0309	690.9364
Waste						0.0000	0.0000		0.0000	0.0000	9.2178	0.0000	9.2178	0.5448	0.0000	22.8368
Water						0.0000	0.0000		0.0000	0.0000	1.1335	2.2397	3.3732	4.2600e-003	2.5100e-003	4.2274
Total	**0.7661**	**0.3262**	**3.3017**	**7.4400e-003**	**0.6857**	**5.4700e-003**	**0.6912**	**0.1709**	**5.1400e-003**	**0.1760**	**10.3513**	**799.4664**	**809.8177**	**0.6070**	**0.0357**	**835.6221**

	ROG	NOx	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

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	2/7/2023	2/13/2023	5	5	
2	Grading	Grading	2/14/2023	4/17/2023	5	45	
3	Trenching	Trenching	4/18/2023	10/2/2023	5	120	
4	Building Construction	Building Construction	12/12/2023	6/18/2024	5	136	
5	Architectural Coating	Architectural Coating	2/20/2024	8/22/2024	5	133	
6	Paving	Paving	4/18/2024	6/18/2024	5	44	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 22.5

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Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 64,881; Non-Residential Outdoor: 21,627; Striped Parking Area: 8,430

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	0.00	81	0.73
Demolition	Excavators	1	8.00	158	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Bore/Drill Rigs	1	3.60	221	0.50
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	0	0.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Trenching	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	0.60	231	0.29
Building Construction	Forklifts	1	4.00	89	0.20
Building Construction	Generator Sets	0	0.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	0.30	97	0.37
Building Construction	Welders	1	3.20	46	0.45
Architectural Coating	Aerial Lifts	4	5.70	63	0.31
Architectural Coating	Air Compressors	2	0.60	78	0.48
Paving	Cement and Mortar Mixers	1	0.50	9	0.56
Paving	Pavers	2	0.70	130	0.42
Paving	Paving Equipment	3	0.70	132	0.36
Paving	Rollers	2	0.70	80	0.38
Paving	Tractors/Loaders/Backhoes	2	3.60	97	0.37

Trips and VMT

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

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
Grading	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	10	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 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	2.5600e-003	0.0255	0.0215	4.0000e-005		1.1800e-003	1.1800e-003		1.0900e-003	1.0900e-003	0.0000	3.6938	3.6938	1.1900e-003	0.0000	3.7237
Total	**2.5600e-003**	**0.0255**	**0.0215**	**4.0000e-005**		**1.1800e-003**	**1.1800e-003**		**1.0900e-003**	**1.0900e-003**	**0.0000**	**3.6938**	**3.6938**	**1.1900e-003**	**0.0000**	**3.7237**

Unmitigated Construction Off-Site

Crossing Site Genesis Hyundai Dealership, San Bruno - San Mateo 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					
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	6.8000e-004	0.0147	0.0270	4.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	3.6938	3.6938	1.1900e-003	0.0000	3.7237
Total	**6.8000e-004**	**0.0147**	**0.0270**	**4.0000e-005**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**	**0.0000**	**3.6938**	**3.6938**	**1.1900e-003**	**0.0000**	**3.7237**

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					

Crossing Site Genesis Hyundai Dealership, San Bruno - San Mateo County, Annual

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**

3.3 Grading - 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					
Fugitive Dust					0.0145	0.0000	0.0145	1.6700e-003	0.0000	1.6700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0261	0.2641	0.3057	6.2000e-004		0.0109	0.0109		0.0100	0.0100	0.0000	54.2164	54.2164	0.0175	0.0000	54.6548
Total	**0.0261**	**0.2641**	**0.3057**	**6.2000e-004**	**0.0145**	**0.0109**	**0.0254**	**1.6700e-003**	**0.0100**	**0.0117**	**0.0000**	**54.2164**	**54.2164**	**0.0175**	**0.0000**	**54.6548**

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

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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**

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					6.5100e-003	0.0000	6.5100e-003	7.5000e-004	0.0000	7.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0100	0.2281	0.4121	6.2000e-004		1.0100e-003	1.0100e-003		1.0100e-003	1.0100e-003	0.0000	54.2164	54.2164	0.0175	0.0000	54.6547
Total	**0.0100**	**0.2281**	**0.4121**	**6.2000e-004**	**6.5100e-003**	**1.0100e-003**	**7.5200e-003**	**7.5000e-004**	**1.0100e-003**	**1.7600e-003**	**0.0000**	**54.2164**	**54.2164**	**0.0175**	**0.0000**	**54.6547**

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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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 Trenching - 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	0.0136	0.1382	0.2008	2.8000e-004		6.8200e-003	6.8200e-003		6.2800e-003	6.2800e-003	0.0000	24.6227	24.6227	7.9600e-003	0.0000	24.8218
Total	**0.0136**	**0.1382**	**0.2008**	**2.8000e-004**		**6.8200e-003**	**6.8200e-003**		**6.2800e-003**	**6.2800e-003**	**0.0000**	**24.6227**	**24.6227**	**7.9600e-003**	**0.0000**	**24.8218**

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					
Off-Road	6.2700e-003	0.1219	0.2108	2.8000e-004		4.6000e-004	4.6000e-004		4.6000e-004	4.6000e-004	0.0000	24.6227	24.6227	7.9600e-003	0.0000	24.8218
Total	**6.2700e-003**	**0.1219**	**0.2108**	**2.8000e-004**		**4.6000e-004**	**4.6000e-004**		**4.6000e-004**	**4.6000e-004**	**0.0000**	**24.6227**	**24.6227**	**7.9600e-003**	**0.0000**	**24.8218**

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 Construction - 2023

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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 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	1.3000e-003	9.7400e-003	0.0103	2.0000e-005		4.7000e-004	4.7000e-004		4.4000e-004	4.4000e-004	0.0000	1.3350	1.3350	3.2000e-004	0.0000	1.3430
Total	**1.3000e-003**	**9.7400e-003**	**0.0103**	**2.0000e-005**		**4.7000e-004**	**4.7000e-004**		**4.4000e-004**	**4.4000e-004**	**0.0000**	**1.3350**	**1.3350**	**3.2000e-004**	**0.0000**	**1.3430**

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

Crossing Site Genesis Hyundai Dealership, San Bruno - San Mateo 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	3.1000e-004	8.1600e-003	0.0105	2.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	1.3350	1.3350	3.2000e-004	0.0000	1.3430
Total	**3.1000e-004**	**8.1600e-003**	**0.0105**	**2.0000e-005**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**	**0.0000**	**1.3350**	**1.3350**	**3.2000e-004**	**0.0000**	**1.3430**

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 Construction - 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					

Crossing Site Genesis Hyundai Dealership, San Bruno - San Mateo County, Annual

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

Off-Road	0.0105	0.0800	0.0886	1.4000e-004		3.5300e-003	3.5300e-003		3.3400e-003	3.3400e-003	0.0000	11.6340	11.6340	2.7500e-003	0.0000	11.7026
Total	**0.0105**	**0.0800**	**0.0886**	**1.4000e-004**		**3.5300e-003**	**3.5300e-003**		**3.3400e-003**	**3.3400e-003**	**0.0000**	**11.6340**	**11.6340**	**2.7500e-003**	**0.0000**	**11.7026**

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	2.7100e-003	0.0711	0.0914	1.4000e-004		1.2700e-003	1.2700e-003		1.2700e-003	1.2700e-003	0.0000	11.6339	11.6339	2.7500e-003	0.0000	11.7026
Total	**2.7100e-003**	**0.0711**	**0.0914**	**1.4000e-004**		**1.2700e-003**	**1.2700e-003**		**1.2700e-003**	**1.2700e-003**	**0.0000**	**11.6339**	**11.6339**	**2.7500e-003**	**0.0000**	**11.7026**

Crossing Site Genesis Hyundai Dealership, San Bruno - San Mateo 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**

3.6 Architectural Coating - 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	0.2549					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.9600e-003	0.1160	0.2312	3.6000e-004		2.5400e-003	2.5400e-003		2.4000e-003	2.4000e-003	0.0000	31.3557	31.3557	9.2300e-003	0.0000	31.5866
Total	**0.2638**	**0.1160**	**0.2312**	**3.6000e-004**		**2.5400e-003**	**2.5400e-003**		**2.4000e-003**	**2.4000e-003**	**0.0000**	**31.3557**	**31.3557**	**9.2300e-003**	**0.0000**	**31.5866**

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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	0.2549					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.5600e-003	0.1930	0.2659	3.6000e-004		7.3600e-003	7.3600e-003		7.3600e-003	7.3600e-003	0.0000	31.3557	31.3557	9.2300e-003	0.0000	31.5866
Total	**0.2634**	**0.1930**	**0.2659**	**3.6000e-004**		**7.3600e-003**	**7.3600e-003**		**7.3600e-003**	**7.3600e-003**	**0.0000**	**31.3557**	**31.3557**	**9.2300e-003**	**0.0000**	**31.5866**

Mitigated Construction Off-Site

Crossing Site Genesis Hyundai Dealership, San Bruno - San Mateo 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					
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 Paving - 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	5.1500e-003	0.0504	0.0778	1.1000e-004		2.3800e-003	2.3800e-003		2.1900e-003	2.1900e-003	0.0000	10.0274	10.0274	3.2300e-003	0.0000	10.1081
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.1500e-003**	**0.0504**	**0.0778**	**1.1000e-004**		**2.3800e-003**	**2.3800e-003**		**2.1900e-003**	**2.1900e-003**	**0.0000**	**10.0274**	**10.0274**	**3.2300e-003**	**0.0000**	**10.1081**

Unmitigated Construction Off-Site

Crossing Site Genesis Hyundai Dealership, San Bruno - San Mateo 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					
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	2.1200e-003	0.0496	0.0856	1.1000e-004		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	10.0274	10.0274	3.2300e-003	0.0000	10.1081
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.1200e-003**	**0.0496**	**0.0856**	**1.1000e-004**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**	**0.0000**	**10.0274**	**10.0274**	**3.2300e-003**	**0.0000**	**10.1081**

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**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5612	0.3165	3.2905	7.3800e-003	0.6857	4.7300e-003	0.6904	0.1709	4.4000e-003	0.1753	0.0000	680.7159	680.7159	0.0406	0.0309	690.9364
Unmitigated	0.5612	0.3165	3.2905	7.3800e-003	0.6857	4.7300e-003	0.6904	0.1709	4.4000e-003	0.1753	0.0000	680.7159	680.7159	0.0406	0.0309	690.9364

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	1,204.08	1,470.93	672.97	2,044,930	2,044,930

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Total	1,204.08	1,470.93	672.97	2,044,930	2,044,930

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
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
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	0.448243	0.043109	0.275360	0.157817	0.028829	0.006330	0.008743	0.002558	0.002310	0.000743	0.023500	0.000418	0.002040
Parking Lot	0.448243	0.043109	0.275360	0.157817	0.028829	0.006330	0.008743	0.002558	0.002310	0.000743	0.023500	0.000418	0.002040
Regional Shopping Center	0.448243	0.043109	0.275360	0.157817	0.028829	0.006330	0.008743	0.002558	0.002310	0.000743	0.023500	0.000418	0.002040

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	105.9793	105.9793	0.0172	2.0800e-003	107.0272
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	105.9793	105.9793	0.0172	2.0800e-003	107.0272
NaturalGas Mitigated	1.0600e-003	9.6700e-003	8.1200e-003	6.0000e-005		7.3000e-004	7.3000e-004		7.3000e-004	7.3000e-004	0.0000	10.5254	10.5254	2.0000e-004	1.9000e-004	10.5879

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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	1.0600e-003	9.6700e-003	8.1200e-003	6.0000e-005		7.3000e-004	7.3000e-004		7.3000e-004	7.3000e-004	0.0000	10.5254	10.5254	2.0000e-004	1.9000e-004	10.5879

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	197238	1.0600e-003	9.6700e-003	8.1200e-003	6.0000e-005		7.3000e-004	7.3000e-004		7.3000e-004	7.3000e-004	0.0000	10.5254	10.5254	2.0000e-004	1.9000e-004	10.5879
Total		**1.0600e-003**	**9.6700e-003**	**8.1200e-003**	**6.0000e-005**		**7.3000e-004**	**7.3000e-004**		**7.3000e-004**	**7.3000e-004**	**0.0000**	**10.5254**	**10.5254**	**2.0000e-004**	**1.9000e-004**	**10.5879**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	197238	1.0600e-003	9.6700e-003	8.1200e-003	6.0000e-005		7.3000e-004	7.3000e-004		7.3000e-004	7.3000e-004	0.0000	10.5254	10.5254	2.0000e-004	1.9000e-004	10.5879

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Total		**1.0600e-003**	**9.6700e-003**	**8.1200e-003**	**6.0000e-005**		**7.3000e-004**	**7.3000e-004**		**7.3000e-004**	**7.3000e-004**	**0.0000**	**10.5254**	**10.5254**	**2.0000e-004**	**1.9000e-004**	**10.5879**

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	698257	64.6053	0.0105	1.2700e-003	65.2442
Parking Lot	4250.05	0.3932	6.0000e-005	1.0000e-005	0.3971
Regional Shopping Center	442921	40.9807	6.6300e-003	8.0000e-004	41.3859
Total		**105.9793**	**0.0171**	**2.0800e-003**	**107.0272**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	698257	64.6053	0.0105	1.2700e-003	65.2442
Parking Lot	4250.05	0.3932	6.0000e-005	1.0000e-005	0.3971
Regional Shopping Center	442921	40.9807	6.6300e-003	8.0000e-004	41.3859

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

Total		**105.9793**	**0.0171**	**2.0800e-003**	**107.0272**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2038	3.0000e-005	3.0900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.0300e-003	6.0300e-003	2.0000e-005	0.0000	6.4200e-003
Unmitigated	0.2038	3.0000e-005	3.0900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.0300e-003	6.0300e-003	2.0000e-005	0.0000	6.4200e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0255					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1780					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.8000e-004	3.0000e-005	3.0900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.0300e-003	6.0300e-003	2.0000e-005	0.0000	6.4200e-003

Crossing Site Genesis Hyundai Dealership, San Bruno - San Mateo County, Annual

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

Total	**0.2038**	**3.0000e-005**	**3.0900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.0300e-003**	**6.0300e-003**	**2.0000e-005**	**0.0000**	**6.4200e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0255					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1780					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.8000e-004	3.0000e-005	3.0900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.0300e-003	6.0300e-003	2.0000e-005	0.0000	6.4200e-003
Total	**0.2038**	**3.0000e-005**	**3.0900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**6.0300e-003**	**6.0300e-003**	**2.0000e-005**	**0.0000**	**6.4200e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	3.3732	4.2600e-003	2.5100e-003	4.2274

Crossing Site Genesis Hyundai Dealership, San Bruno - San Mateo County, Annual

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

Unmitigated	3.3732	4.2600e-003	2.5100e-003	4.2274

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	3.20364 / 1.96352	3.3732	4.2600e-003	2.5100e-003	4.2274
Total		**3.3732**	**4.2600e-003**	**2.5100e-003**	**4.2274**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	3.20364 / 1.96352	3.3732	4.2600e-003	2.5100e-003	4.2274

Crossing Site Genesis Hyundai Dealership, San Bruno - San Mateo County, Annual

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

Total	**3.3732**	**4.2600e-003**	**2.5100e-003**	**4.2274**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	9.2178	0.5448	0.0000	22.8368
Unmitigated	9.2178	0.5448	0.0000	22.8368

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	45.41	9.2178	0.5448	0.0000	22.8368

Crossing Site Genesis Hyundai Dealership, San Bruno - San Mateo County, Annual

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

Total		**9.2178**	**0.5448**	**0.0000**	**22.8368**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	45.41	9.2178	0.5448	0.0000	22.8368
Total		**9.2178**	**0.5448**	**0.0000**	**22.8368**

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

Crossing Site Genesis Hyundai Dealership, San Bruno - San Mateo County, Annual

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

Equipment Type	Number

11.0 Vegetation

Attachment 3: CalEEMod EMFAC2021 Calculations

CalEEMod EMFAC2021 Emission Factors Input — Year 2023

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.005573	0.003332	0.013936	0.278522301	0.006284	0	0	0.088007	0
A	CH4_RUNEX	0.002042	0.00542	0.002328	0.002759	0.006439	0.00595	0.011071	0.273724732	0.005918	0.163653424	0.151085	0.082802	0.011046
A	CH4_STREX	0.066893	0.099431	0.074804	0.086436	0.022278	0.01295	0.011534	6.66723E-07	0.010995	0.007456787	0.181429	0.00802	0.026761
A	CO_IDLEX	0	0	0	0	0.204255	0.149372	0.675976	4.66197648	0.480919	0	0	2.136755	0
A	CO_RUNEX	0.612878	1.211761	0.682082	0.726552	0.79348	0.510335	0.470888	1.681435155	0.258207	2.088615529	11.57445	1.602782	1.111365
A	CO_STREX	3.117514	5.071041	3.428206	3.625871	2.429878	1.411136	1.402911	0.03440512	1.147404	0.819611326	7.838613	1.186878	2.558707
A	CO2_NBIO_IDLEX	0	0	0	0	8.540421	13.25203	152.1411	795.3133847	89.98895	0	0	202.0247	0
A	CO2_NBIO_RUNEX	251.959	322.9121	330.7017	396.8676	783.5071	825.4073	1279.466	1818.951405	1332.429	1394.900942	187.6396	988.5214	1672.208
A	CO2_NBIO_STREX	65.55071	85.12154	84.35854	100.6336	19.75562	10.94484	10.90044	0.308859713	10.03959	5.740883342	47.90752	5.567058	22.39856
A	NOX_IDLEX	0	0	0	0	0.039224	0.077423	0.893587	4.116333656	0.394425	0	0	1.481261	0
A	NOX_RUNEX	0.038446	0.115966	0.053182	0.06703	0.470521	0.618225	1.221181	2.793411545	0.750902	2.44476338	0.537143	3.00661	1.286254
A	NOX_STREX	0.239433	0.363029	0.292661	0.351791	0.437807	0.258766	1.311224	2.656554716	1.125315	0.080496456	0.136291	0.44215	0.284353
A	PM10_IDLEX	0	0	0	0	0.000599	0.001278	0.002649	0.003512441	0.000242	0	0	0.001665	0
A	PM10_PMBW	0.006448	0.008061	0.007697	0.007737	0.078	0.091	0.04553	0.094820144	0.048816	0.108488777	0.012	0.044916	0.044943
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009256	0.010564	0.012	0.034495892	0.012	0.029352334	0.004	0.010145	0.013276
A	PM10_RUNEX	0.00122	0.001819	0.00131	0.001352	0.01002	0.0164	0.01575	0.024465121	0.008459	0.006843821	0.002012	0.013568	0.019766
A	PM10_STREX	0.002059	0.002817	0.002095	0.002192	0.000201	0.000105	0.000139	5.13937E-06	0.000103	1.92834E-05	0.003894	7E-05	0.000333
A	PM25_IDLEX	0	0	0	0	0.000573	0.001223	0.002534	0.003355378	0.000231	0	0	0.001592	0
A	PM25_PMBW	0.002257	0.002821	0.002694	0.002708	0.0273	0.03185	0.015936	0.03318705	0.017086	0.037971072	0.0042	0.01572	0.01573
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002314	0.002641	0.003	0.008623973	0.003	0.007338083	0.001	0.002536	0.003319
A	PM25_RUNEX	0.001123	0.001674	0.001206	0.001245	0.009547	0.01567	0.015057	0.023400252	0.008086	0.006542835	0.001883	0.012956	0.018863
A	PM25_STREX	0.001893	0.00259	0.001927	0.002016	0.000185	9.67E-05	0.000127	4.72546E-06	9.51E-05	1.77304E-05	0.003663	6.44E-05	0.000306
A	ROG_DIURN	0.258413	0.501477	0.206644	0.241613	0.099015	0.059843	0.030519	0.000832758	0.031527	0.024141068	3.435381	0.046787	27.39923
A	ROG_HTSK	0.07997	0.144923	0.062676	0.07021	0.02704	0.01657	0.007887	0.00023717	0.008781	0.009826807	3.555217	0.01243	7.805064
A	ROG_IDLEX	0	0	0	0	0.02212	0.016322	0.029384	0.291216194	0.032868	0	0	0.24798	0
A	ROG_RESTL	0	0	0	0	0	0	0	0	0	0	0	0	0
A	ROG_RUNEX	0.008034	0.024199	0.008991	0.011364	0.066481	0.093639	0.049825	0.034918023	0.024556	0.135489385	0.98245	0.086256	0.071866
A	ROG_RUNLS	0.202722	0.414467	0.158051	0.188398	0.145674	0.08743	0.064534	0.001901993	0.037586	0.015947294	3.717102	0.036353	0.183955
A	ROG_STREX	0.31454	0.51176	0.343059	0.42459	0.108664	0.063655	0.063571	3.61673E-06	0.05434	0.028716626	1.347169	0.046563	0.11408
A	SO2_IDLEX	0	0	0	0	8.33E-05	0.000127	0.001414	0.006697195	0.00085	0	0	0.001853	0
A	SO2_RUNEX	0.002491	0.003192	0.003269	0.003921	0.007664	0.007963	0.012189	0.016055594	0.012694	0.012816928	0.001855	0.009266	0.016389
A	SO2_STREX	0.000648	0.000842	0.000834	0.000995	0.000195	0.000108	0.000108	3.05339E-06	9.93E-05	5.67545E-05	0.000474	5.5E-05	0.000221
A	TOG_DIURN	0.258413	0.501477	0.206644	0.241613	0.099015	0.059843	0.030519	0.000832758	0.031527	0.024141068	0.077945	0.046787	27.39923
A	TOG_HTSK	0.07997	0.144923	0.062676	0.07021	0.02704	0.01657	0.007887	0.00023717	0.008781	0.009826807	3.555217	0.01243	7.805064
A	TOG_IDLEX	0	0	0	0	0.031528	0.022215	0.047368	0.597867815	0.043319	0	0	0.391227	0
A	TOG_RESTL	0	0	0	0	0	0	0	0	0	0	0	0	0
A	TOG_RUNEX	0.011703	0.03529	0.013103	0.016526	0.082486	0.109639	0.068101	0.313769797	0.033939	0.312407908	1.181139	0.18539	0.095222
A	TOG_RUNLS	0.202722	0.414467	0.158051	0.188398	0.145674	0.08743	0.064534	0.001901993	0.037586	0.015947294	3.717102	0.036353	0.183955
A	TOG_STREX	0.344381	0.560312	0.375607	0.464871	0.118973	0.069694	0.069602	3.95986E-06	0.059496	0.031441091	1.464498	0.050981	0.124904
A	N2O_IDLEX	0	0	0	0	0.00058	0.001551	0.02322	0.129380016	0.013324	0	0	0.025169	0
A	N2O_RUNEX	0.004141	0.008462	0.00505	0.006384	0.036104	0.078616	0.149681	0.291377186	0.166931	0.202740826	0.037735	0.118062	0.070738
A	N2O_STREX	0.029868	0.036875	0.034247	0.036267	0.036624	0.020758	0.008091	7.62714E-07	0.010576	0.010724673	0.008068	0.005055	0.029867

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	40	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	432	0	0
Grading	15	0	675	0	5,625	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	7290	0	112500
Trenching	5	0	600	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	6480	0	0
Building Construction	73	30	9928	4080	1300	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	107222.4	29784	26000
Architectural Coating	15	0	1995	0	0	10.8	7.3	7.3	LD_Mix	HDT_Mix	HHDT	21546	0	0
Paving	25	0	1100	0	696	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	11880	0	13920

Number of Days Per Year					
2023	2/7/23	12/31/23	328	235	
2024	1/1/24	8/22/24	235	168	
			563	**403**	***Total Workdays***

Phase	Start Date	End Date	Days/Week	Workdays
Demolition	2/7/2023	2/13/2023	5	5
Grading	2/14/2023	4/17/2023	5	45
Trenching	4/18/2023	10/2/2023	5	120
Building Construction	12/12/2023	6/18/2024	5	136
Architectural Coating	2/20/2024	8/22/2024	5	133
Paving	4/18/2024	6/18/2024	5	44

Summary of Construction Traffic Emissions (EMFAC2021)

CATEGORY	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2	CH4	N2O	CO2e
						Grams								
Hauling	7564.24	477387.97	292075.47	2498.26	45573.58	23466.13	69039.71	6857.38	9965.11	16822.49	283308010.35	43843.75	45397.72	297932625.05
Vendor	2261.78	78099.81	45873.94	437.39	8905.42	3394.26	12299.68	1339.98	1489.62	2829.61	48097299.89	4861.32	6896.05	50273855.34
Worker	16439.68	13591.63	173582.76	453.62	46300.27	2596.03	48896.30	6966.72	926.14	7892.86	45888502.73	1562.16	1312.73	46318750.35
Total (g)	26265.69	569079.42	511532.17	3389.26	100779.27	29456.42	130235.69	15164.08	12380.87	27544.95	377293812.96	50267.23	53606.50	394525230.74
Total (lbs)	57.91	1254.61	1127.74	7.47	222.18	64.94	287.12	33.43	27.30	60.73	831790.48	110.82	118.18	869779.25
Total (tons)	0.03	0.63	0.56	0.00	0.11	0.03	0.14	0.02	0.01	0.03	415.90	0.06	0.06	434.89
Total (MT)											377.29	0.05	0.05	394.53

YEAR														
							Tons							
2023	0.0169	0.3655	0.3285	0.0022	0.0647	0.0189	0.0836	0.0097	0.0080	0.0177	219.8088	0.0293	0.0312	229.8477
2024	0.0121	0.2618	0.2354	0.0016	0.0464	0.0136	0.0599	0.0070	0.0057	0.0127	157.4850	0.0210	0.0224	164.6775

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	40	0	0	0.5	0.5	0.5	LD_Mix	HDT_Mix	HHDT	20	0	0
Grading	15	0	675	0	5,625	0.5	0.5	0.5	LD_Mix	HDT_Mix	HHDT	337.5	0	2812.5
Trenching	5	0	600	0	0	0.5	0.5	0.5	LD_Mix	HDT_Mix	HHDT	300	0	0
Building Construction	73	30	9928	4080	1300	0.5	0.5	0.5	LD_Mix	HDT_Mix	HHDT	4964	2040	650
Architectural Coating	15	0	1995	0	0	0.5	0.5	0.5	LD_Mix	HDT_Mix	HHDT	997.5	0	0
Paving	25	0	1100	0	696	0.5	0.5	0.5	LD_Mix	HDT_Mix	HHDT	550	0	348

Number of Days Per Year					
2023	2/7/23	12/31/23	328	235	
2024	1/1/24	8/22/24	235	168	
			563	**403**	***Total Workdays***

Phase	Start Date	End Date	Days/Week	Workdays
Demolition	2/7/2023	2/13/2023	5	5
Grading	2/14/2023	4/17/2023	5	45
Trenching	4/18/2023	10/2/2023	5	120
Building Construction	12/12/2023	6/18/2024	5	136
Architectural Coating	2/20/2024	8/22/2024	5	133
Paving	4/18/2024	6/18/2024	5	44

Summary of Construction Traffic Emissions (EMFAC2021)

CATEGORY	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2	CH4	N2O	CO2e
						Grams								
Hauling	2375.09	62260.48	42198.23	112.24	1139.34	612.79	1752.13	171.43	274.09	445.53	12994551.46	3165.65	2096.30	13698391.24
Vendor	1086.22	22409.39	16016.92	45.58	609.96	244.46	854.42	91.78	113.47	205.25	5116059.38	910.64	777.69	5370577.15
Worker	14621.09	4507.78	58406.11	31.16	2143.53	151.05	2294.59	322.53	71.26	393.79	3152020.89	1125.31	508.12	3331572.16
Total (g)	18082.40	89177.65	116621.26	188.98	3892.83	1008.31	4901.14	585.75	458.82	1044.57	21262631.72	5201.59	3382.11	22400540.55
Total (lbs)	39.86	196.60	257.11	0.42	8.58	2.22	10.81	1.29	1.01	2.30	46876.08	11.47	7.46	49384.74
Total (tons)	0.02	0.10	0.13	0.00	0.00	0.00	0.01	0.00	0.00	0.00	23.44	0.01	0.00	24.69
Total (MT)											21.26	0.01	0.00	22.40

YEAR														
							Tons							
2023	0.0116	0.0573	0.0749	0.0001	0.0025	0.0006	0.0031	0.0004	0.0003	0.0007	12.3875	0.0030	0.0020	13.0504
2024	0.0083	0.0410	0.0537	0.0001	0.0018	0.0005	0.0023	0.0003	0.0002	0.0005	8.8752	0.0022	0.0014	9.3501

CalEEMod EMFAC2021 Emission Factors Input — Year 2025

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.00509	0.002914	0.014756	0.267799843	0.006567	0	0	0.096127	0
A	CH4_RUNEX	0.00162	0.0041	0.00193	0.002132	0.005098	0.004948	0.010272	0.250520376	0.007197	0.54719132	0.140818	0.080164	0.008107
A	CH4_STREX	0.058192	0.083348	0.065143	0.071971	0.019431	0.010676	0.010733	5.34126E-07	0.010159	0.006413618	0.16646	0.008569	0.024689
A	CO_IDLEX	0	0	0	0	0.200102	0.144548	0.670548	4.674714728	0.489029	0	0	2.380991	0
A	CO_RUNEX	0.533299	0.987129	0.603	0.617376	0.682501	0.428407	0.331755	1.646685682	0.217767	6.298686532	10.66577	1.391898	0.700626
A	CO_STREX	2.734945	4.216581	3.011981	3.098359	2.39397	1.326451	1.259096	0.027273177	1.051096	0.865678808	7.691483	1.225133	2.269732
A	CO2_NBIO_IDLEX	0	0	0	0	8.287123	13.09091	147.6661	768.7716723	90.15686	0	0	204.3512	0
A	CO2_NBIO_RUNEX	236.2782	307.946	312.3714	373.602	745.6768	785.9693	1250.179	1745.927029	1296.627	1061.974886	186.4281	958.4095	1667.344
A	CO2_NBIO_STREX	61.7935	80.32228	79.36152	94.35023	18.86084	10.01943	10.5582	0.281822196	9.34435	5.584749803	44.64197	6.002043	21.41888
A	NOX_IDLEX	0	0	0	0	0.035258	0.07008	0.802778	3.869175744	0.388856	0	0	1.364096	0
A	NOX_RUNEX	0.030637	0.087761	0.04216	0.048989	0.348047	0.468946	0.987366	2.50375798	0.721054	0.248884	0.505421	2.52561	1.150681
A	NOX_STREX	0.213914	0.311737	0.253723	0.289292	0.389155	0.21833	1.307286	2.741148405	1.129496	0.068508137	0.117673	0.473007	0.273789
A	PM10_IDLEX	0	0	0	0	0.000619	0.001336	0.001805	0.003026664	0.000233	0	0	0.001378	0
A	PM10_PMBW	0.006399	0.008017	0.007697	0.007724	0.077443	0.09028	0.045292	0.094175481	0.048836	0.142306362	0.012	0.044686	0.044942
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009303	0.010607	0.012	0.034505767	0.012	0.050724608	0.004	0.010056	0.013297
A	PM10_RUNEX	0.001114	0.001565	0.001198	0.001203	0.008592	0.014571	0.011587	0.023321334	0.008293	0.004687081	0.002031	0.011362	0.016327
A	PM10_STREX	0.001913	0.002474	0.001951	0.001965	0.000165	8.04E-05	0.000131	4.07065E-06	9.88E-05	2.28997E-05	0.003719	7.9E-05	0.000296
A	PM25_IDLEX	0	0	0	0	0.000592	0.001278	0.001726	0.002890137	0.000223	0	0	0.001317	0
A	PM25_PMBW	0.00224	0.002806	0.002694	0.002704	0.027105	0.031598	0.015852	0.032961418	0.017092	0.049807227	0.0042	0.01564	0.01573
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002326	0.002652	0.003	0.008626442	0.003	0.012681152	0.001	0.002514	0.003324
A	PM25_RUNEX	0.001025	0.00144	0.001102	0.001108	0.008184	0.013924	0.011074	0.022306121	0.007928	0.004478818	0.001897	0.010846	0.015578
A	PM25_STREX	0.001759	0.002275	0.001794	0.001807	0.000151	7.39E-05	0.00012	3.74281E-06	9.08E-05	2.10555E-05	0.003489	7.27E-05	0.000272
A	ROG_DIURN	0.23992	0.422505	0.185919	0.210348	0.082973	0.04954	0.024982	0.000585202	0.03104	0.021522802	3.154868	0.047869	21.0255
A	ROG_HTSK	0.073069	0.122434	0.05545	0.060196	0.022362	0.013133	0.006367	0.000175225	0.008125	0.008036694	3.548067	0.012307	5.778413
A	ROG_IDLEX	0	0	0	0	0.020304	0.014898	0.027305	0.286668504	0.032871	0	0	0.277158	0
A	ROG_RESTL	0	0	0	0	0	0	0	0	0	0	0	0	0
A	ROG_RUNEX	0.006173	0.01796	0.007248	0.008416	0.055709	0.083251	0.035544	0.031143571	0.022157	0.051233319	0.891986	0.073977	0.05614
A	ROG_RUNLS	0.186625	0.340705	0.141591	0.162153	0.122003	0.0712	0.052008	0.001304636	0.036576	0.016691129	3.701315	0.036417	0.137796
A	ROG_STREX	0.269607	0.418278	0.293472	0.342868	0.093842	0.051791	0.057459	2.89774E-06	0.050342	0.024086249	1.219242	0.049676	0.100971
A	SO2_IDLEX	0	0	0	0	8.08E-05	0.000126	0.001368	0.006392287	0.00085	0	0	0.001872	0
A	SO2_RUNEX	0.002336	0.003044	0.003088	0.003691	0.007289	0.007574	0.011902	0.015292952	0.012326	0.008522909	0.001843	0.008982	0.016339
A	SO2_STREX	0.000611	0.000794	0.000785	0.000933	0.000186	9.91E-05	0.000104	2.7861E-06	9.24E-05	5.52109E-05	0.000441	5.93E-05	0.000212
A	TOG_DIURN	0.23992	0.422505	0.185919	0.210348	0.082973	0.04954	0.024982	0.000585202	0.03104	0.021522802	0.07414	0.047869	21.0255
A	TOG_HTSK	0.073069	0.122434	0.05545	0.060196	0.022362	0.013133	0.006367	0.000175225	0.008125	0.008036694	3.548067	0.012307	5.778413
A	TOG_IDLEX	0	0	0	0	0.028846	0.02006	0.045892	0.58212113	0.043566	0	0	0.435346	0
A	TOG_RESTL	0	0	0	0	0	0	0	0	0	0	0	0	0
A	TOG_RUNEX	0.008994	0.026198	0.010562	0.012246	0.068434	0.096765	0.050769	0.286222734	0.032263	0.60586165	1.084139	0.168065	0.072727
A	TOG_RUNLS	0.186625	0.340705	0.141591	0.162153	0.122003	0.0712	0.052008	0.001304636	0.036576	0.016691129	3.701315	0.036417	0.137796
A	TOG_STREX	0.295186	0.457962	0.321315	0.375397	0.102745	0.056705	0.06291	3.17266E-06	0.055119	0.026371411	1.325883	0.054389	0.110551
A	N2O_IDLEX	0	0	0	0	0.000573	0.001568	0.022543	0.125460338	0.013415	0	0	0.024817	0
A	N2O_RUNEX	0.003577	0.006848	0.004412	0.005319	0.035453	0.077321	0.144932	0.280344669	0.165841	0.156430799	0.036419	0.110563	0.068442
A	N2O_STREX	0.0275	0.033715	0.031397	0.032482	0.033192	0.017887	0.008071	5.62128E-07	0.009875	0.009551223	0.007111	0.005665	0.030005

CalEEMod EMFAC2021 Fleet Mix Input — Year 2025

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.448243	0.043109	0.27536	0.157817	0.028829	0.00633	0.008743	0.002558	0.00231	0.000743	0.0235	0.000418	0.00204
Parking Lot	0.448243	0.043109	0.27536	0.157817	0.028829	0.00633	0.008743	0.002558	0.00231	0.000743	0.0235	0.000418	0.00204
Regional Shopping Center	0.448243	0.043109	0.27536	0.157817	0.028829	0.00633	0.008743	0.002558	0.00231	0.000743	0.0235	0.000418	0.00204

Attachment 4: Project Construction Health Risk Calculations

Hyundai Delership, San Bruno, CA

DPM Emissions and Modeling Emission Rates - No Controls

Construction Year	Activity	Area Source	DPM Emissions (ton/year)	(lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2023	Construction	DPM_CONST	0.0200	40.1	0.01706	2.150E-03	7018.4	3.06E-07
2024	Construction	DPM_CONST	0.0089	17.8	0.0106	0.0013371	7018.4	1.905E-07

Construction Hours

Weekday hr/day =	10	(7am - 5pm)
days/yr =	Varies	
hours/year =	Varies	

DPM Emissions and Modeling Emission Rates - With AQ-1 & AQ-2

Construction Year	Activity	Area Source	DPM Emissions (ton/year)	(lb/yr)	(lb/hr)	(g/s)	Modeled Area (m2)	DPM Emission Rate ($g/s/m^2$)
2023	Construction	DPM_CONST	0.0023	4.7	0.00188	2.37E-04	7018.4	3.38E-08
2024	Construction	DPM_CONST	0.0093	18.6	0.0111	0.001393	7018.4	1.984E-07

Construction Hours

hr/day =	10	(7am - 5pm)
days/yr =	Varies	
hours/year =	Varies	

Hyundai Delership, San Bruno, CA

PM2.5 Fugitive Dust Emissions for Modeling - No Controls

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	(lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2023	Construction	PM25_CONST	0.0020	4.1	0.00174	2.194E-04	7018.4	3.13E-08
2024	Construction	PM25_CONST	0.0003	0.5	0.0003	0.0000404	7018.4	5.76E-09

Construction Hours

Weekday hr/day =	10	(7am - 5pm)
days/yr =	Varies	
hours/year =	Varies	

PM2.5 Fugitive Dust Emissions for Modeling - With AQ-1 & AQ-2

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	(lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2023	Construction	PM25_CONST	0.0011	2.3	0.00091	1.15E-04	7018.4	1.64E-08
2024	Construction	PM25_CONST	0.0003	0.5	0.0003	0.000040	7018.4	5.76E-09

Construction Hours

hr/day =	10	(7am - 5pm)
days/yr =	Varies	
hours/year =	Varies	

Hyundai Delership, San Bruno, CA - Construction Impacts
Maximum DPM Cancer Risk and PM2.5 Calculations
Impacts at Off-Site Residential Receptors - 1.5 meter receptor height

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

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

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

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

Values

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

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

		Exposure Information				Infant/Child	Adult			Adult			
			DPM Conc (ug/m3)		Age	Cancer	Modeled DPM Conc (ug/m3)		Age	Cancer		Maximum	
Exposure Year	Exposure Duration (years)	Age	Year	Annual	Sensitivity Factor	Risk (per million)	Year	Annual	Sensitivity Factor	Risk (per million)	HI	Fugitive PM2.5	Total PM2.5
0	0.25	-0.25 - 0*	2023	0.0302	10	0.41							
1	1	0 - 1	2023	0.0302	10	4.97	2023	0.0302	1	0.09	0.006	0.0047	0.035
2	1	1 - 2	2024	0.0188	10	3.09	2024	0.0188	1	0.05	0.004	0.0009	0.020
3	1	2 - 3	2025	0.0000	3	0.00	2025	0.0000	1	0.00			
4	1	3 - 4	2026	0.0000	3	0.00	2026	0.0000	1	0.00			
5	1	4 - 5	2027	0.0000	3	0.00	2027	0.0000	1	0.00			
6	1	5 - 6	2028	0.0000	3	0.00	2028	0.0000	1	0.00			
7	1	6 - 7	2029	0.0000	3	0.00	2029	0.0000	1	0.00			
8	1	7 - 8	2030	0.0000	3	0.00	2030	0.0000	1	0.00			
9	1	8 - 9	2031	0.0000	3	0.00	2031	0.0000	1	0.00			
10	1	9 - 10	2032	0.0000	3	0.00	2032	0.0000	1	0.00			
11	1	10 - 11	2033	0.0000	3	0.00	2033	0.0000	1	0.00			
12	1	11 - 12	2034	0.0000	3	0.00	2034	0.0000	1	0.00			
13	1	12 - 13	2035	0.0000	3	0.00	2035	0.0000	1	0.00			
14	1	13 - 14	2036	0.0000	3	0.00	2036	0.0000	1	0.00			
15	1	14 - 15	2037	0.0000	3	0.00	2037	0.0000	1	0.00			
16	1	15 - 16	2038	0.0000	3	0.00	2038	0.0000	1	0.00			
17	1	16-17	2039	0.0000	1	0.00	2039	0.0000	1	0.00			
18	1	17-18	2040	0.0000	1	0.00	2040	0.0000	1	0.00			
19	1	18-19	2041	0.0000	1	0.00	2041	0.0000	1	0.00			
20	1	19-20	2042	0.0000	1	0.00	2042	0.0000	1	0.00			
21	1	20-21	2043	0.0000	1	0.00	2043	0.0000	1	0.00			
22	1	21-22	2044	0.0000	1	0.00	2044	0.0000	1	0.00			
23	1	22-23	2045	0.0000	1	0.00	2045	0.0000	1	0.00			
24	1	23-24	2046	0.0000	1	0.00	2046	0.0000	1	0.00			
25	1	24-25	2047	0.0000	1	0.00	2047	0.0000	1	0.00			
26	1	25-26	2048	0.0000	1	0.00	2048	0.0000	1	0.00			
27	1	26-27	2049	0.0000	1	0.00	2049	0.0000	1	0.00			
28	1	27-28	2050	0.0000	1	0.00	2050	0.0000	1	0.00			
29	1	28-29	2051	0.0000	1	0.00	2051	0.0000	1	0.00			
30	1	29-30	2052	0.0000	1	0.00	2052	0.0000	1	0.00			
Total Increased Cancer Risk						**8.46**				**0.14**			

* Third trimester of pregnancy

Hyundai Delership, San Bruno - Construction Impacts w/ AQ-2
Maximum DPM Cancer Risk and PM2.5 Calculations
Impacts at Off-Site Residential Receptors - 4.6 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

		Exposure Information				Infant/Child	Adult			Adult			
	Exposure		DPM Conc (ug/m3)		Age	Cancer	Modeled DPM Conc (ug/m3)		Age	Cancer		Maximum	
Exposure	Duration				Sensitivity	Risk			Sensitivity	Risk			
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	HI	Fugitive PM2.5	Total PM2.5
0	0.25	-0.25 - 0*	2023	0.0298	10	0.40							
1	1	0 - 1	2023	0.0298	10	4.89	2023	0.0298	1	0.09	0.006	0.0114	0.041
2	1	1 - 2	2024	0.0185	10	3.04	2024	0.0185	1	0.05	0.004	0.0021	0.021
3	1	2 - 3	2025	0.0000	3	0.00	2025	0.0000	1	0.00			
4	1	3 - 4	2026	0.0000	3	0.00	2026	0.0000	1	0.00			
5	1	4 - 5	2027	0.0000	3	0.00	2027	0.0000	1	0.00			
6	1	5 - 6	2028	0.0000	3	0.00	2028	0.0000	1	0.00			
7	1	6 - 7	2029	0.0000	3	0.00	2029	0.0000	1	0.00			
8	1	7 - 8	2030	0.0000	3	0.00	2030	0.0000	1	0.00			
9	1	8 - 9	2031	0.0000	3	0.00	2031	0.0000	1	0.00			
10	1	9 - 10	2032	0.0000	3	0.00	2032	0.0000	1	0.00			
11	1	10 - 11	2033	0.0000	3	0.00	2033	0.0000	1	0.00			
12	1	11 - 12	2034	0.0000	3	0.00	2034	0.0000	1	0.00			
13	1	12 - 13	2035	0.0000	3	0.00	2035	0.0000	1	0.00			
14	1	13 - 14	2036	0.0000	3	0.00	2036	0.0000	1	0.00			
15	1	14 - 15	2037	0.0000	3	0.00	2037	0.0000	1	0.00			
16	1	15 - 16	2038	0.0000	3	0.00	2038	0.0000	1	0.00			
17	1	16-17	2039	0.0000	1	0.00	2039	0.0000	1	0.00			
18	1	17-18	2040	0.0000	1	0.00	2040	0.0000	1	0.00			
19	1	18-19	2041	0.0000	1	0.00	2041	0.0000	1	0.00			
20	1	19-20	2042	0.0000	1	0.00	2042	0.0000	1	0.00			
21	1	20-21	2043	0.0000	1	0.00	2043	0.0000	1	0.00			
22	1	21-22	2044	0.0000	1	0.00	2044	0.0000	1	0.00			
23	1	22-23	2045	0.0000	1	0.00	2045	0.0000	1	0.00			
24	1	23-24	2046	0.0000	1	0.00	2046	0.0000	1	0.00			
25	1	24-25	2047	0.0000	1	0.00	2047	0.0000	1	0.00			
26	1	25-26	2048	0.0000	1	0.00	2048	0.0000	1	0.00			
27	1	26-27	2049	0.0000	1	0.00	2049	0.0000	1	0.00			
28	1	27-28	2050	0.0000	1	0.00	2050	0.0000	1	0.00			
29	1	28-29	2051	0.0000	1	0.00	2051	0.0000	1	0.00			
30	1	29-30	2052	0.0000	1	0.00	2052	0.0000	1	0.00			
Total Increased Cancer Risk						**8.33**				**0.14**			

* Third trimester of pregnancy

Hyundai Delership, San Bruno - Construction Impacts
Maximum DPM Cancer Risk and PM2.5 Calculations
Impacts at Off-Site Residential Receptors - 7.7 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

		Exposure Information				Infant/Child	Adult					
							Modeled					
Exposure	Exposure Duration		DPM Conc (ug/m3)		Age Sensitivity	Cancer Risk	DPM Conc (ug/m3)		Age Sensitivity	Adult Cancer Risk		Maximum
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	HI	Fugitive PM2.5	Total PM2.5
0	0.25	-0.25 - 0*	2023	0.0966	10	1.31							
1	1	0 - 1	2023	0.0966	10	15.87	2023	0.0966	1	0.28	0.019	0.0053	0.102
2	1	1 - 2	2024	0.0601	10	9.87	2024	0.0601	1	0.17	0.012	0.0010	0.061
3	1	2 - 3	2025	0.0000	3	0.00	2025	0.0000	1	0.00			
4	1	3 - 4	2026	0.0000	3	0.00	2026	0.0000	1	0.00			
5	1	4 - 5	2027	0.0000	3	0.00	2027	0.0000	1	0.00			
6	1	5 - 6	2028	0.0000	3	0.00	2028	0.0000	1	0.00			
7	1	6 - 7	2029	0.0000	3	0.00	2029	0.0000	1	0.00			
8	1	7 - 8	2030	0.0000	3	0.00	2030	0.0000	1	0.00			
9	1	8 - 9	2031	0.0000	3	0.00	2031	0.0000	1	0.00			
10	1	9 - 10	2032	0.0000	3	0.00	2032	0.0000	1	0.00			
11	1	10 - 11	2033	0.0000	3	0.00	2033	0.0000	1	0.00			
12	1	11 - 12	2034	0.0000	3	0.00	2034	0.0000	1	0.00			
13	1	12 - 13	2035	0.0000	3	0.00	2035	0.0000	1	0.00			
14	1	13 - 14	2036	0.0000	3	0.00	2036	0.0000	1	0.00			
15	1	14 - 15	2037	0.0000	3	0.00	2037	0.0000	1	0.00			
16	1	15 - 16	2038	0.0000	3	0.00	2038	0.0000	1	0.00			
17	1	16-17	2039	0.0000	1	0.00	2039	0.0000	1	0.00			
18	1	17-18	2040	0.0000	1	0.00	2040	0.0000	1	0.00			
19	1	18-19	2041	0.0000	1	0.00	2041	0.0000	1	0.00			
20	1	19-20	2042	0.0000	1	0.00	2042	0.0000	1	0.00			
21	1	20-21	2043	0.0000	1	0.00	2043	0.0000	1	0.00			
22	1	21-22	2044	0.0000	1	0.00	2044	0.0000	1	0.00			
23	1	22-23	2045	0.0000	1	0.00	2045	0.0000	1	0.00			
24	1	23-24	2046	0.0000	1	0.00	2046	0.0000	1	0.00			
25	1	24-25	2047	0.0000	1	0.00	2047	0.0000	1	0.00			
26	1	25-26	2048	0.0000	1	0.00	2048	0.0000	1	0.00			
27	1	26-27	2049	0.0000	1	0.00	2049	0.0000	1	0.00			
28	1	27-28	2050	0.0000	1	0.00	2050	0.0000	1	0.00			
29	1	28-29	2051	0.0000	1	0.00	2051	0.0000	1	0.00			
30	1	29-30	2052	0.0000	1	0.00	2052	0.0000	1	0.00			
Total Increased Cancer Risk						**27.06**				**0.45**			

* Third trimester of pregnancy

Hyundai Delership, San Bruno - Construction Impacts w/ T4i
Maximum DPM Cancer Risk and PM2.5 Calculations
Impacts at Off-Site Residential Receptors - 4.6 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

		Exposure Information				Infant/Child	Adult			Adult			
	Exposure		DPM Conc (ug/m3)		Age	Cancer	Modeled DPM Conc (ug/m3)		Age	Cancer		Maximum	
Exposure	Duration				Sensitivity	Risk			Sensitivity	Risk		Fugitive	Total
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	HI	PM2.5	PM2.5
0	0.25	-0.25 - 0*	2023	0.0131	10	0.18							
1	1	0 - 1	2023	0.0131	10	2.15	2023	0.0131	1	0.04	0.003	0.0060	0.019
2	1	1 - 2	2024	0.0771	10	12.67	2024	0.0771	1	0.22	0.015	0.0021	0.0792
3	1	2 - 3	2025	0.0000	3	0.00	2025	0.0000	1	0.00			
4	1	3 - 4	2026	0.0000	3	0.00	2026	0.0000	1	0.00			
5	1	4 - 5	2027	0.0000	3	0.00	2027	0.0000	1	0.00			
6	1	5 - 6	2028	0.0000	3	0.00	2028	0.0000	1	0.00			
7	1	6 - 7	2029	0.0000	3	0.00	2029	0.0000	1	0.00			
8	1	7 - 8	2030	0.0000	3	0.00	2030	0.0000	1	0.00			
9	1	8 - 9	2031	0.0000	3	0.00	2031	0.0000	1	0.00			
10	1	9 - 10	2032	0.0000	3	0.00	2032	0.0000	1	0.00			
11	1	10 - 11	2033	0.0000	3	0.00	2033	0.0000	1	0.00			
12	1	11 - 12	2034	0.0000	3	0.00	2034	0.0000	1	0.00			
13	1	12 - 13	2035	0.0000	3	0.00	2035	0.0000	1	0.00			
14	1	13 - 14	2036	0.0000	3	0.00	2036	0.0000	1	0.00			
15	1	14 - 15	2037	0.0000	3	0.00	2037	0.0000	1	0.00			
16	1	15 - 16	2038	0.0000	3	0.00	2038	0.0000	1	0.00			
17	1	16-17	2039	0.0000	1	0.00	2039	0.0000	1	0.00			
18	1	17-18	2040	0.0000	1	0.00	2040	0.0000	1	0.00			
19	1	18-19	2041	0.0000	1	0.00	2041	0.0000	1	0.00			
20	1	19-20	2042	0.0000	1	0.00	2042	0.0000	1	0.00			
21	1	20-21	2043	0.0000	1	0.00	2043	0.0000	1	0.00			
22	1	21-22	2044	0.0000	1	0.00	2044	0.0000	1	0.00			
23	1	22-23	2045	0.0000	1	0.00	2045	0.0000	1	0.00			
24	1	23-24	2046	0.0000	1	0.00	2046	0.0000	1	0.00			
25	1	24-25	2047	0.0000	1	0.00	2047	0.0000	1	0.00			
26	1	25-26	2048	0.0000	1	0.00	2048	0.0000	1	0.00			
27	1	26-27	2049	0.0000	1	0.00	2049	0.0000	1	0.00			
28	1	27-28	2050	0.0000	1	0.00	2050	0.0000	1	0.00			
29	1	28-29	2051	0.0000	1	0.00	2051	0.0000	1	0.00			
30	1	29-30	2052	0.0000	1	0.00	2052	0.0000	1	0.00			
Total Increased Cancer Risk						**15.00**				**0.26**			

* Third trimester of pregnancy

Hyundai Delership, San Bruno - Construction Impacts w/ AQ-2
Maximum DPM Cancer Risk and PM2.5 Calculations
Impacts at Off-Site Residential Receptors - 4.6 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

		Exposure Information				Infant/Child	Adult			Adult			
	Exposure		DPM Conc (ug/m3)		Age	Cancer	Modeled DPM Conc (ug/m3)		Age	Cancer		Maximum	
Exposure	Duration				Sensitivity	Risk			Sensitivity	Risk			
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	HI	Fugitive PM2.5	Total PM2.5
0	0.25	-0.25 - 0*	2023	0.0298	10	0.40							
1	1	0 - 1	2023	0.0298	10	4.89	2023	0.0298	1	0.09	0.006	0.0114	0.041
2	1	1 - 2	2024	0.0185	10	3.04	2024	0.0185	1	0.05	0.004	0.0021	0.021
3	1	2 - 3	2025	0.0000	3	0.00	2025	0.0000	1	0.00			
4	1	3 - 4	2026	0.0000	3	0.00	2026	0.0000	1	0.00			
5	1	4 - 5	2027	0.0000	3	0.00	2027	0.0000	1	0.00			
6	1	5 - 6	2028	0.0000	3	0.00	2028	0.0000	1	0.00			
7	1	6 - 7	2029	0.0000	3	0.00	2029	0.0000	1	0.00			
8	1	7 - 8	2030	0.0000	3	0.00	2030	0.0000	1	0.00			
9	1	8 - 9	2031	0.0000	3	0.00	2031	0.0000	1	0.00			
10	1	9 - 10	2032	0.0000	3	0.00	2032	0.0000	1	0.00			
11	1	10 - 11	2033	0.0000	3	0.00	2033	0.0000	1	0.00			
12	1	11 - 12	2034	0.0000	3	0.00	2034	0.0000	1	0.00			
13	1	12 - 13	2035	0.0000	3	0.00	2035	0.0000	1	0.00			
14	1	13 - 14	2036	0.0000	3	0.00	2036	0.0000	1	0.00			
15	1	14 - 15	2037	0.0000	3	0.00	2037	0.0000	1	0.00			
16	1	15 - 16	2038	0.0000	3	0.00	2038	0.0000	1	0.00			
17	1	16-17	2039	0.0000	1	0.00	2039	0.0000	1	0.00			
18	1	17-18	2040	0.0000	1	0.00	2040	0.0000	1	0.00			
19	1	18-19	2041	0.0000	1	0.00	2041	0.0000	1	0.00			
20	1	19-20	2042	0.0000	1	0.00	2042	0.0000	1	0.00			
21	1	20-21	2043	0.0000	1	0.00	2043	0.0000	1	0.00			
22	1	21-22	2044	0.0000	1	0.00	2044	0.0000	1	0.00			
23	1	22-23	2045	0.0000	1	0.00	2045	0.0000	1	0.00			
24	1	23-24	2046	0.0000	1	0.00	2046	0.0000	1	0.00			
25	1	24-25	2047	0.0000	1	0.00	2047	0.0000	1	0.00			
26	1	25-26	2048	0.0000	1	0.00	2048	0.0000	1	0.00			
27	1	26-27	2049	0.0000	1	0.00	2049	0.0000	1	0.00			
28	1	27-28	2050	0.0000	1	0.00	2050	0.0000	1	0.00			
29	1	28-29	2051	0.0000	1	0.00	2051	0.0000	1	0.00			
30	1	29-30	2052	0.0000	1	0.00	2052	0.0000	1	0.00			
Total Increased Cancer Risk						**8.33**				**0.14**			

* Third trimester of pregnancy

Attachment 5: Cumulative Risk Information and Calculations

Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category	Gas VMT Fraction Within Category
Truck 1	0.013	0.482	0.518
Truck 2	0.011	0.87	0.113
Non-Truck	0.976	0.017	0.96

	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph
PM2_5 Ex															
Dsl															
NonTruck	0.000406789	0.000329361	0.000244361	0.000186226	0.00015515	0.00013738	0.000127942	0.000126	0.00013	0.000141	0.000159	0.000181	0.000207	0.000213	0
Truck1	0.028428967	0.023185451	0.019082894	0.015786155	0.01310628	0.01093415	0.009205843	0.007884	0.006948	0.006389	0.006207	0.006411	0.007023	0.007873	0
Truck2	0.04699206	0.038554917	0.025447896	0.016711985	0.01312187	0.01130764	0.01035265	0.010258	0.011026	0.012666	0.015187	0.017927	0.02053	0.02053	0
Gas															
NonTruck	0.008498728	0.005360669	0.003566757	0.002503073	0.00185257	0.00144589	0.001189945	0.001033	0.000945	0.000912	0.000927	0.000995	0.001125	0.001221	0
Truck1	0.001706591	0.001261953	0.000971246	0.000772203	0.00063237	0.00053426	0.000468184	0.000429	0.000413	0.000419	0.000447	0.000496	0.000569	0.000654	0
Truck2	0.000800533	0.000504783	0.000335796	0.000235655	0.00017446	0.00013624	0.000112228	9.75E-05	8.94E-05	8.64E-05	8.81E-05	9.47E-05	0.000107	0.000117	0
PM2.5 Running Exh	**0.009609266**	**0.006300942**	**0.004263975**	**0.003026438**	**0.00228439**	**0.00182024**	**0.001527134**	**0.001353**	**0.001267**	**0.001256**	**0.001314**	**0.001435**	**0.001626**	**0.001738**	**0**
DPM Running Exha	**0.00062121**	**0.000522603**	**0.000409509**	**0.000326229**	**0.00027904**	**0.0002529**	**0.000241243**	**0.000243**	**0.000255**	**0.000281**	**0.000317**	**0.000363**	**0.000413**	**0.000413**	**0**
TOG Ex															
Dsl															
NonTruck	0.005603038	0.004178568	0.002469579	0.001485574	0.00107491	0.00082886	0.0006521	0.000525	0.000437	0.000378	0.000343	0.00034	0.000356	0.000363	0
Truck1	0.162207823	0.134728085	0.113371141	0.096117314	0.0818279	0.06984532	0.059784313	0.05142	0.044628	0.039354	0.035598	0.033419	0.032944	0.033151	0
Truck2	0.277522048	0.19613643	0.102242705	0.052126127	0.03718177	0.02943529	0.023625839	0.019682	0.017541	0.017146	0.018439	0.020356	0.021914	0.021938	0
Gas															
NonTruck	0.131601175	0.084013631	0.056555954	0.040129604	0.03000096	0.02362298	0.01958575	0.017095	0.015705	0.015188	0.01546	0.016568	0.018696	0.020251	0
Truck1	0.067982292	0.046087044	0.032645849	0.024052551	0.01838303	0.01457774	0.012038992	0.010426	0.009551	0.009322	0.009719	0.010792	0.012667	0.014306	0
Truck2	0.06808207	0.043167777	0.028876247	0.02037624	0.01516538	0.01190338	0.009851915	0.008597	0.007909	0.007669	0.007838	0.008443	0.009584	0.010414	0
TOG Running Exha	**0.140705429**	**0.09105853**	**0.060949449**	**0.042976148**	**0.03220861**	**0.02541723**	**0.021054099**	**0.018312**	**0.016739**	**0.016097**	**0.016302**	**0.017393**	**0.019535**	**0.021092**	**0**
DEOG Running Exh	**0.006144567**	**0.004509685**	**0.002389985**	**0.001181347**	**0.00080173**	**0.00061868**	**0.000494992**	**0.00041**	**0.000353**	**0.000319**	**0.000303**	**0.000306**	**0.00032**	**0.000332**	**0**
PM2_5 BW															
Dsl															
NonTruck	0.000301328	0.000305794	0.000309726	0.000311322	0.0002878	0.00027478	0.000262376	0.000254	0.000243	0.000232	0.000227	0.000225	0.000223	0.000223	0
Truck1	0.013821243	0.013821243	0.013821243	0.013821243	0.01382124	0.01382124	0.013821243	0.013821	0.013821	0.013821	0.013821	0.013821	0.013821	0.013821	0
Truck2	0.028334347	0.028334347	0.028131654	0.027648336	0.0253665	0.02418635	0.021494809	0.019913	0.018331	0.017192	0.017192	0.017192	0.017192	0.017192	0
Gas															
NonTruck	0.002385294	0.002945831	0.003506735	0.004066798	0.00438507	0.00447089	0.004556825	0.004094	0.003082	0.002068	0.001406	0.001095	0.000783	0.000783	0
Truck1	0.014376775	0.014376775	0.014376775	0.014376775	0.01437677	0.01437677	0.014376775	0.014377	0.014377	0.014377	0.014377	0.014377	0.014377	0.014377	0
Truck2	0.002471104	0.002471104	0.002470176	0.002434877	0.00201086	0.00179867	0.001678819	0.001672	0.001664	0.001659	0.001659	0.001659	0.001659	0.001659	0
PM2.5 BW (grams/	**0.003327576**	**0.00387902**	**0.00442806**	**0.004970535**	**0.00522844**	**0.00528418**	**0.005325025**	**0.004848**	**0.003831**	**0.002819**	**0.002168**	**0.001862**	**0.001556**	**0.001556**	**0**

TOG Running Loss Emissions Factor (grams/veh-hour)	
Gas	
NonTruck	0.949030827
Truck1	0.023990382
Truck2	0.026591481
TOG Running Loss	**0.999612691**
HFC Running Loss	**0.014988317**
CH4 Running Loss	**0.151334927**

ROG Running Loss Emissions Factor (grams/veh-hour)	
Gas	
NonTruck	0
Truck1	0
Truck2	0
ROG Running L	**0**

PM2_5 TW	
Dsl	
NonTruck	5.71742E-05
Truck1	0.001446
Truck2	0.004595872
Gas	
NonTruck	0.001916943
Truck1	0.001036
Truck2	0.000341878
PM2_5 TW	**0.00201332**

PM10 TW	
Dsl	
NonTruck	0
Truck1	0
Truck2	0
Gas	
NonTruck	0
Truck1	0
Truck2	0
PM10 TW	**0**

File Name: San Mateo (SF) - 2023 - Annual.EF
CT-EMFAC2017 Version: 1.0.2.27401
Run Date: 11/30/2022 12:22
Area: San Mateo (SF)
Analysis Year: 2023
Season: Annual

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Vehicle Category	VMT Fraction Across Category	Diesel VMT Within Cat	Gas VMT Fraction Within Category
Truck 1	0.013	0.482	0.518
Truck 2	0.011	0.87	0.113
Non-Truck	0.976	0.017	0.96

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Road Type:		Freeway	Major/Collector
Silt Loading Factor:	CARB	0.015 g/m2	0.032 g/m2
Precipitation Correction:	CARB	N = 365 da	P = 60 days

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Fleet Average Running Exhaust Emission Factors (grams/veh-mile)

Pollutant Name	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph
PM2.5	0.00891	0.005727	0.003863	0.002746	0.002063	0.001641	0.00138	0.001227	0.001153	0.001142	0.001189	0.001297	0.001476	0.001577	0.001577
PM10	0.009665	0.006209	0.004186	0.002973	0.002233	0.001775	0.001491	0.001325	0.001244	0.001232	0.001281	0.001397	0.001589	0.001699	0.001699
NOx	0.213142	0.174581	0.138863	0.118356	0.103264	0.091022	0.081718	0.075127	0.071113	0.0696	0.070567	0.074067	0.080145	0.081771	0.081771
CO	1.571418	1.34979	1.171719	1.037508	0.93622	0.85459	0.787374	0.732098	0.687385	0.652761	0.628675	0.6169	0.620887	0.630667	0.630956
HC	0.210212	0.136893	0.092653	0.066036	0.049936	0.0398	0.03335	0.029367	0.027169	0.026409	0.026976	0.028983	0.032747	0.035462	0.035486
TOG	0.2289	0.149197	0.100682	0.071521	0.054034	0.043055	0.036069	0.031756	0.029376	0.028553	0.029168	0.031342	0.035419	0.038363	0.038397
ROG	0.171559	0.111534	0.074992	0.053057	0.039997	0.031836	0.026667	0.023501	0.021784	0.02124	0.021781	0.023498	0.026661	0.028947	0.028977
1,3-Butadiene	0.001277	0.000828	0.000561	0.000401	0.000304	0.000242	0.000203	0.000179	0.000166	0.000162	0.000166	0.000179	0.000203	0.000203	0.000204
Acetaldehyde	0.001788	0.001226	0.000756	0.00048	0.000354	0.00028	0.000233	0.000203	0.000186	0.000179	0.000181	0.000193	0.000216	0.000218	0.00022
Acrolein	0.000287	0.000186	0.000126	0.000091	0.000069	0.000055	0.000046	0.000041	0.000038	0.000037	0.000038	0.000041	0.000046	0.000046	0.000046
Benzene	0.005633	0.003661	0.002469	0.001755	0.001327	0.001054	0.000884	0.00078	0.000723	0.000704	0.000722	0.000779	0.000882	0.000883	0.000883
Diesel PM	0.000576	0.000475	0.000371	0.000296	0.000252	0.000228	0.000218	0.00022	0.000232	0.000255	0.000287	0.000328	0.000375	0.000375	0.000375
Ethylbenzene	0.002418	0.001566	0.001062	0.00076	0.000576	0.000458	0.000384	0.000339	0.000315	0.000307	0.000315	0.00034	0.000385	0.000385	0.000385
Formaldehyde	0.005559	0.003733	0.002382	0.001584	0.00118	0.000935	0.000781	0.000684	0.00063	0.000609	0.00062	0.000664	0.000747	0.000751	0.000755
Naphthalene	0.000163	0.000107	0.000072	0.000051	0.000039	0.000031	0.000026	0.000023	0.000021	0.000021	0.000021	0.000023	0.000026	0.000025	0.000025
POM	0.000195	0.000127	0.000084	0.000059	0.000044	0.000035	0.000029	0.000026	0.000024	0.000023	0.000024	0.000025	0.000029	0.000029	0.000029
DEOG	0.009996	0.007389	0.003948	0.001966	0.001345	0.001048	0.000848	0.000711	0.00062	0.000566	0.000542	0.000552	0.000581	0.000604	0.000633
CO2	691.905087	563.1617	458.9924	382.2136	327.2887	290.4103	268.9427	259.5849	259.5613	266.5247	277.1862	288.6071	298.371	301.1535	301.1535
N2O	0.016645	0.014265	0.01186	0.010435	0.009404	0.008547	0.007996	0.007602	0.007368	0.007288	0.007404	0.007661	0.008068	0.008068	0.008068
CH4	0.030911	0.02163	0.015555	0.011712	0.009243	0.007606	0.006512	0.005798	0.005369	0.005171	0.005185	0.00543	0.00594	0.006298	0.006299
BC	0.002223	0.001426	0.000962	0.000684	0.000513	0.000407	0.000341	0.000301	0.00028	0.000275	0.000284	0.000307	0.000346	0.000346	0.000346

Fleet Average Fuel Consumption (gallons/veh-mile)

Fuel Type	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph
Gasoline	0.075576	0.061332	0.050222	0.041759	0.035678	0.031678	0.029356	0.028397	0.028482	0.029299	0.030499	0.031746	0.032683	0.032683	0.032683
Diesel	0.005074	0.004259	0.003326	0.002842	0.002485	0.002203	0.002016	0.001878	0.001794	0.001784	0.001832	0.001924	0.002074	0.002074	0.002074

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Fleet Average Running Loss Emission Factors (grams/veh-hour)

Pollutant Name	Emission Factor
HC	1.11031
TOG	1.187065
ROG	1.187065
1,3-Butadiene	0
Benzene	0.011871
Ethylbenzene	0.019468
Naphthalene	0.001662
CH4	0.179714
HFC	0.017799

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Fleet Average Tire Wear Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.00202
PM10	0.008081

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Fleet Average Brake Wear Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.016634
PM10	0.038812

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Fleet Average Road Dust Factors (grams/veh-mile)

Pollutant Name	Freeway Emission Factor	Major/Collector Emission Factor
PM2.5	0.007309	0.014564
PM10	0.048726	0.097096

==========END==========

File Name: San Mateo (SF) - 2023 - Annual.EF
EMFAC2021/CT-EMFAC2017:
Run Date: 11/30/2022 12:22
Area: San Mateo (SF)
Analysis Year: 2023
Season: Annual

==========

Vehicle Category	VMT Fraction Across Category	Diesel VMT Within Cat	Gas VMT Fraction Within Category
Truck 1	0.013	0.482	0.518
Truck 2	0.011	0.87	0.113
Non-Truck	0.976	0.017	0.96

==========

Road Type:		Freeway	Major/Collector
Silt Loading Factor:	CARB	0.015 g/m2	0.032 g/m2
Precipitation Correction:	CARB	P = 60 days	N = 365 days

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Fleet Average Running Exhaust Emission Factors (grams/veh-mile)

Pollutant Name	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph
PM2.5	0.009609266	0.006301	0.004264	0.003026	0.002284	0.00182	0.001527	0.001353	0.001267	0.001256	0.001314	0.001435	0.001626	0.001738	0
PM10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NOx	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CO															
HC															
TOG	0.140705429	0.091059	0.060949	0.042976	0.032209	0.025417	0.021054	0.018312	0.016739	0.016097	0.016302	0.017393	0.019535	0.021092	0
ROG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1,3-Butadiene															
Acetaldehyde															
Acrolein															
Benzene															
Diesel PM	0.000621205	0.000523	0.00041	0.000326	0.000279	0.000253	0.000241	0.000243	0.000255	0.000281	0.000317	0.000363	0.000413	0.000413	0
Ethylbenzene															
Formaldehyde															
Naphthalene															
POM															
DEOG	0.006144567	0.00451	0.00239	0.001181	0.000802	0.000619	0.000495	0.00041	0.000353	0.000319	0.000303	0.000306	0.00032	0.000332	0
CO2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N2O	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
CH4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BC															

Fleet Average Fuel Consumption (gallons/veh-mile)

Fuel Type	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph
Gasoline	0.075576	0.061332	0.050222	0.041759	0.035678	0.031678	0.029356	0.028397	0.028482	0.029299	0.030499	0.031746	0.032683	0.032683	0.032683
Diesel	0.005074	0.004259	0.003326	0.002842	0.002485	0.002203	0.002016	0.001878	0.001794	0.001784	0.001832	0.001924	0.002074	0.002074	0.002074

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Fleet Average Running Loss Emission Factors (grams/veh-hour)

Pollutant Name	Emission Factor
HC	
TOG	0.999612691
ROG	0
1,3-Butadiene	
Benzene	
Ethylbenzene	
Naphthalene	
CH4	0.151334927
HFC	0.014988317

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Fleet Average Tire Wear Factors (grams/veh-mile)

Pollutant Name	
PM2.5	0.00201332
PM10	0

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Fleet Average Brake Wear Factors (grams/veh-mile)

Pollutant Name	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50 mph	55 mph	60 mph	65 mph	70 mph	75 mph
PM2.5	0.003327576	0.003879	0.004428	0.004971	0.005228	0.005284	0.005325	0.004848	0.003831	0.002819	0.002168	0.001862	0.001556	0.001556	0
PM10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Fleet Average Road Dust Factors (grams/veh-mile)

	Freeway	Major/Collector
Pollutant Name	Emission Factor	Emission Factor
PM2.5	0.007309	0.014564
PM10	0.048726	0.097096

==========END==========

Road Link	Description	Direction	No. Lanes	Link Length (miles)	Link Width (ft)	Link Width (m)	Release Height (ft)	Release Height (m)	Initial Vertical Dimention (m)	Initial Vertical Dispersion (m)	Average Speed (mph)	Average Vehicles per Day
W_WB380_DPM	Westbound I-380 DPM West of E	W	4	0.26	44	13.41	11.15	3.4	6.8	3.16	65mph off peak, 60mph peak	69,500
W_EB380_DPM	Eastbound I-380 DPM West of EC	E	3	0.25	33	10.06	11.15	3.4	6.8	3.16	65mph off peak, 60mph peak	69,500
W_WB380_XXX	Westbound I-380 XXX West of EC	W	4	0.26	44	13.41	4.27	1.3	2.70	1.26	65mph off peak, 60mph peak	69,500
W_EB380_XXX	Eastbound I-380 XXX West of ECR	E	3	0.25	33	10.06	4.27	1.3	2.70	1.26	65mph off peak, 60mph peak	69,500
E_WB380_DPM	Westbound I-380 DPM East of EC	W	4	0.17	48	14.63	11.15	3.4	6.8	3.16	65mph off peak, 60mph peak	81,500
E_EB380_DPM	Eastbound I-380 DPM East of ECR	E	4	0.17	48	14.63	11.15	3.4	6.8	3.16	65mph off peak, 60mph peak	81,500
E_WB380_XXX	Westbound I-380 XXX East of ECR	W	4	0.17	48	14.63	4.27	1.3	2.70	1.26	65mph off peak, 60mph peak	81,500
E_EB380_XXX	Eastbound I-380 XXX East of ECR	E	4	0.17	48	14.63	4.27	1.3	2.70	1.26	65mph off peak, 60mph peak	81,500
ECR_DPM	El Camino Real DPM	N/S	7	0.43	90	27.43	11.15	3.4	6.8	3.16	35 mph Off Peak, 30 mph Peak	48,000
ECR_XXX	El Camino Real XXX	N/S	7	0.43	90	27.43	4.27	1.3	2.70	1.26	35 mph Off Peak, 30 mph Peak	48,000
WB_On_DPM	WB I380 On Ramp DPM	WB on	1	0.23	11	3.35	11.15	3.4	6.8	3.16	45mph	3,500
EB_Loop_DPM	EB I380 Loop Ramp DPM	EB on	1	0.19	11	3.35	11.15	3.4	6.8	3.16	25mph	4,400
WB_Off_DPM	WB I380 Off Ramp DPM	WB off	3	0.18	33	10.06	11.15	3.4	6.8	3.16	35mph	17,700
WB_On_XXX	WB I380 On Ramp XXX	WB on	1	0.23	11	3.35	4.27	1.3	2.70	1.26	45mph	3,500
EB_Loop_XXX	EB I380 Loop Ramp XXX	EB on	1	0.19	11	3.35	4.27	1.3	2.70	1.26	25mph	4,400
WB_Off_XXX	WB I380 Off Ramp XXX	WB off	3	0.18	33	10.06	4.27	1.3	2.70	1.26	35mph	17,700
EB_On_DPM	EB I380 On Ramp DPM	EB on	1	0.17	11	3.35	11.15	3.4	6.8	3.16	45mph	7,600
WB_Loop_DPM	WB I380 Loop Ramp DPM	WB on	1	0.19	11	3.35	11.15	3.4	6.8	3.16	25mph	9,900
EB_Off_DPM	EB I380 Off Ramp DPM	EB Off	1	0.26	11	3.35	11.15	3.4	6.8	3.16	35mph	6,000
EB_On_XXX	EB I380 On Ramp XXX	EB on	1	0.17	11	3.35	4.27	1.3	2.70	1.26	45mph	7,600
WB_Loop_XXX	WB I380 Loop Ramp XXX	WB on	1	0.19	11	3.35	4.27	1.3	2.70	1.26	25mph	9,900
EB_Off_XXX	EB I380 Off Ramp XXX	EB Off	1	0.26	11	3.35	4.27	1.3	2.70	1.26	35mph	6,000

2023 Emission Factors

	Speed Category	1	2	3	4	5	6
	Travel Speed (mph)	25	30	35	45	60	65
Emisions per vehicle (g/VMT)	DPM	0.00028	0.00025	0.00024	0.000255	0.000363	0.000413
	PM2.5	0.00228	0.00182	0.00153	0.0012673	0.001435	0.001626
	TOG Exhaust	0.03141	0.02480	0.02056	0.0163856	0.017087	0.019214
	TOG Evap	0.03998	0.03332	0.02856	0.0222136	0.01666	0.015379
	Fugitive PM2.5 - Freeway	0.01455	0.014606	0.01465	0.0131536	0.011184	0.010878
	Fugitive PM2.5 - Major	0.01979	0.019889	0.01989	0.0183952		

		WB I380 West		EB I380 West	WB I380 East	EB I380 East	ECR	WB On Ramp	WB Loop Ramp	WB Off Ramp	EB On Ramp	EB Loop Ramp	EB Off Ramp		
Vehicle Type	Truck 1 (MDT)		904	904	1,060	1,060	624	46	57	230	99	129	78		
	Truck 2 (HDT)		765	765	897	897	528	39	48	195	84	109	66		
	Non-Truck		67,832	67,832	79,544	79,544	46,848	3416	4294	17275	7418	9662	5856		
Total	Existing plus project Volumes			139,000		163,000	48,000	3,500	4,400	17,700	7,600	9,900		6,000	
	Directional Volume (50/50 split)		**69,500**	**69,500**	**81,500**	**81,500**									
	Average Veh/Hour/Dir		2,896	2,896	3396	3396									

DPM

2023 Hourly Traffic Volumes and DPM Emisssions - Westbound I-380 DPM West of ECR

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	782	0.000023	8	0.066922	4651	0.000122044	16	0.06807622	4731	0.000124149
1	0.00759841	528	1.5773E-05	9	0.0591911	4114	0.000107945	17	0.07061351	4908	0.000128776
2	0.00671475	467	1.3938E-05	10	0.0534263	3713	9.74322E-05	18	0.05995703	4167	0.000109342
3	0.00824539	573	1.7116E-05	11	0.0521748	3626	0.000108304	19	0.04542109	3157	9.42849E-05
4	0.01401431	974	2.9091E-05	12	0.0522864	3634	0.000108536	20	0.0376108	2614	7.80723E-05
5	0.0272029	1891	5.6468E-05	13	0.0532437	3700	0.000110523	21	0.03324071	2310	6.90009E-05
6	0.04392394	3053	9.1177E-05	14	0.0587186	4081	0.000121888	22	0.02604906	1810	5.40725E-05
7	0.06251556	4345	0.00011401	15	0.0641923	4461	0.00013325	23	0.01741314	1210	3.61461E-05
									TOTAL	69,500	

2023 Hourly Traffic Volumes and DPM Emisssions - Eastbound I-380 DPM West of ECR

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	782	2.2819E-05	8	0.066922	4651	0.000119275	16	0.06807622	4731	0.000121333
1	0.00759841	528	1.5415E-05	9	0.0591911	4114	0.000105497	17	0.07061351	4908	0.000125855
2	0.00671475	467	1.3622E-05	10	0.0534263	3713	9.5222E-05	18	0.05995703	4167	0.000106862
3	0.00824539	573	1.6728E-05	11	0.0521748	3626	0.000105847	19	0.04542109	3157	9.21462E-05
4	0.01401431	974	2.8431E-05	12	0.0522864	3634	0.000106074	20	0.0376108	2614	7.63014E-05
5	0.0272029	1891	5.5187E-05	13	0.0532437	3700	0.000108016	21	0.03324071	2310	6.74357E-05
6	0.04392394	3053	8.9109E-05	14	0.0587186	4081	0.000119123	22	0.02604906	1810	5.2846E-05
7	0.06251556	4345	0.00011142	15	0.0641923	4461	0.000130228	23	0.01741314	1210	3.53262E-05
									TOTAL	69,500	

2023 Hourly Traffic Volumes and DPM Emisssions - Westbound I-380 DPM East of ECR

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	917	0.0000179	8	0.066922	5454	9.35648E-05	16	0.06807622	5548	9.51785E-05
1	0.00759841	619	1.2092E-05	9	0.0591911	4824	8.27561E-05	17	0.07061351	5755	9.8726E-05
2	0.00671475	547	1.0686E-05	10	0.0534263	4354	7.46962E-05	18	0.05995703	4886	8.3827E-05
3	0.00824539	672	1.3122E-05	11	0.0521748	4252	8.30312E-05	19	0.04542109	3702	7.22834E-05
4	0.01401431	1142	2.2302E-05	12	0.0522864	4261	8.32089E-05	20	0.0376108	3065	5.9854E-05
5	0.0272029	2217	4.3291E-05	13	0.0532437	4339	8.47324E-05	21	0.03324071	2709	5.28995E-05
6	0.04392394	3580	6.9901E-05	14	0.0587186	4786	9.34452E-05	22	0.02604906	2123	4.14546E-05
7	0.06251556	5095	8.7404E-05	15	0.0641923	5232	0.000102156	23	0.01741314	1419	2.77114E-05
									TOTAL	81,500	

2023 Hourly Traffic Volumes and DPM Emisssions - Eastbound I-380 DPM East of ECR

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	917	1.739E-05	8	0.066922	5454	9.08975E-05	16	0.06807622	5548	9.24652E-05
1	0.00759841	619	1.1747E-05	9	0.0591911	4824	8.03969E-05	17	0.07061351	5755	9.59115E-05
2	0.00671475	547	1.0381E-05	10	0.0534263	4354	7.25668E-05	18	0.05995703	4886	8.14373E-05
3	0.00824539	672	1.2748E-05	11	0.0521748	4252	8.06642E-05	19	0.04542109	3702	7.02228E-05
4	0.01401431	1142	2.1667E-05	12	0.0522864	4261	8.08368E-05	20	0.0376108	3065	5.81478E-05
5	0.0272029	2217	4.2057E-05	13	0.0532437	4339	8.23168E-05	21	0.03324071	2709	5.13914E-05
6	0.04392394	3580	6.7908E-05	14	0.0587186	4786	9.07813E-05	22	0.02604906	2123	4.02728E-05
7	0.06251556	5095	8.4912E-05	15	0.0641923	5232	9.92438E-05	23	0.01741314	1419	2.69214E-05
									TOTAL	81,500	

2023 Hourly Traffic Volumes and DPM Emisssions - El Camino Real DPM

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	540	0.000016	8	0.066922	3212	9.67104E-05	16	0.06807622	3268	9.83784E-05
1	0.00759841	365	1.0474E-05	9	0.0591911	2841	8.15945E-05	17	0.07061351	3389	0.000102045
2	0.00671475	322	9.2562E-06	10	0.0534263	2564	7.36478E-05	18	0.05995703	2878	8.26503E-05
3	0.00824539	396	1.1366E-05	11	0.0521748	2504	7.19226E-05	19	0.04542109	2180	6.26127E-05
4	0.01401431	673	1.9319E-05	12	0.0522864	2510	7.20765E-05	20	0.0376108	1805	5.18462E-05
5	0.0272029	1306	3.7499E-05	13	0.0532437	2556	7.33961E-05	21	0.03324071	1596	4.58221E-05
6	0.04392394	2108	6.0549E-05	14	0.0587186	2818	8.09432E-05	22	0.02604906	1250	3.59084E-05
7	0.06251556	3001	9.0343E-05	15	0.0641923	3081	8.84887E-05	23	0.01741314	836	2.40039E-05
									TOTAL	48,000	

2023 Hourly Traffic Volumes and DPM Emisssions - WB I380 On Ramp DPM

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	39	0.000001	8	0.066922	234	3.7645E-06	16	0.06807622	238	3.82943E-06
1	0.00759841	27	4.2743E-07	9	0.0591911	207	3.32962E-06	17	0.07061351	247	3.97215E-06
2	0.00671475	24	3.7772E-07	10	0.0534263	187	3.00534E-06	18	0.05995703	210	3.3727E-06
3	0.00824539	29	4.6382E-07	11	0.0521748	183	2.93494E-06	19	0.04542109	159	2.55503E-06
4	0.01401431	49	7.8833E-07	12	0.0522864	183	2.94122E-06	20	0.0376108	132	2.11568E-06
5	0.0272029	95	1.5302E-06	13	0.0532437	186	2.99507E-06	21	0.03324071	116	1.86986E-06
6	0.04392394	154	2.4708E-06	14	0.0587186	206	3.30304E-06	22	0.02604906	91	1.46531E-06
7	0.06251556	219	3.5166E-06	15	0.0641923	225	3.61095E-06	23	0.01741314	61	9.79525E-07
									TOTAL	3,500	

2023 Hourly Traffic Volumes and DPM Emisssions - EB I380 Loop Ramp DPM

Hour	Fraction Per Hour	VPH	g/s DPM
0	0.01124794	49	7.2463E-07
1	0.00759841	33	4.8952E-07
2	0.00671475	30	4.3259E-07
3	0.00824539	36	5.312E-07
4	0.01401431	62	9.0285E-07
5	0.0272029	120	1.7525E-06
6	0.04392394	193	2.8297E-06
7	0.06251556	275	4.0275E-06
8	0.066922	294	4.31136E-06
9	0.0591911	260	3.8133E-06
10	0.0534263	235	3.44191E-06
11	0.0521748	230	3.36129E-06
12	0.0522864	230	3.36848E-06
13	0.0532437	234	3.43015E-06
14	0.0587186	258	3.78287E-06
15	0.0641923	282	4.1355E-06
16	0.06807622	300	4.38572E-06
17	0.07061351	311	4.54918E-06
18	0.05995703	264	3.86265E-06
19	0.04542109	200	2.92619E-06
20	0.0376108	165	2.42302E-06
21	0.03324071	146	2.14149E-06
22	0.02604906	115	1.67817E-06
23	0.01741314	77	1.12182E-06
		TOTAL	4,400

2023 Hourly Traffic Volumes and DPM Emisssions - WB I380 Off Ramp DPM

Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	199	2.3999E-06
1	0.00759841	134	1.6212E-06
2	0.00671475	119	1.4327E-06
3	0.00824539	146	1.7593E-06
4	0.01401431	248	2.9902E-06
5	0.0272029	481	5.8042E-06
6	0.04392394	777	9.3719E-06
7	0.06251556	1107	1.3339E-05
8	0.066922	1185	1.42789E-05
9	0.0591911	1048	1.26294E-05
10	0.0534263	946	1.13993E-05
11	0.0521748	923	1.11323E-05
12	0.0522864	925	1.11561E-05
13	0.0532437	942	1.13604E-05
14	0.0587186	1039	1.25286E-05
15	0.0641923	1136	1.36964E-05
16	0.06807622	1205	1.45251E-05
17	0.07061351	311	3.74535E-06
18	0.05995703	264	3.18013E-06
19	0.04542109	200	2.40914E-06
20	0.0376108	165	1.99488E-06
21	0.03324071	146	1.76309E-06
22	0.02604906	115	1.38164E-06
23	0.01741314	77	9.23595E-07
		TOTAL	17,700

2023 Hourly Traffic Volumes and DPM Emisssions - EB I380 On Ramp DPM

Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	39	0.0000005
1	0.00759841	27	3.1873E-07
2	0.00671475	24	2.8166E-07
3	0.00824539	29	3.4587E-07
4	0.01401431	49	5.8786E-07
5	0.0272029	95	1.1411E-06
6	0.04392394	154	1.8425E-06
7	0.06251556	219	2.6223E-06
8	0.066922	234	2.80719E-06
9	0.0591911	207	2.4829E-06
10	0.0534263	187	2.24108E-06
11	0.0521748	183	2.18858E-06
12	0.0522864	183	2.19327E-06
13	0.0532437	186	2.23342E-06
14	0.0587186	206	2.46308E-06
15	0.0641923	225	2.69268E-06
16	0.06807622	238	2.8556E-06
17	0.07061351	247	2.96203E-06
18	0.05995703	210	2.51503E-06
19	0.04542109	159	1.90528E-06
20	0.0376108	132	1.57767E-06
21	0.03324071	116	1.39435E-06
22	0.02604906	91	1.09268E-06
23	0.01741314	61	7.30432E-07
		TOTAL	7,600

2023 Hourly Traffic Volumes and DPM Emisssions - WB I380 Loop Ramp DPM DPM

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	49	7.3631E-07	8	0.066922	294	4.38083E-06	16	0.06807622	300	4.45639E-06
1	0.00759841	33	4.9741E-07	9	0.0591911	260	3.87475E-06	17	0.07061351	311	4.62249E-06
2	0.00671475	30	4.3956E-07	10	0.0534263	235	3.49738E-06	18	0.05995703	264	3.92489E-06
3	0.00824539	36	5.3976E-07	11	0.0521748	230	3.41545E-06	19	0.04542109	200	2.97334E-06
4	0.01401431	62	9.174E-07	12	0.0522864	230	3.42276E-06	20	0.0376108	165	2.46207E-06
5	0.0272029	120	1.7808E-06	13	0.0532437	234	3.48543E-06	21	0.03324071	146	2.176E-06
6	0.04392394	193	2.8753E-06	14	0.0587186	258	3.84383E-06	22	0.02604906	115	1.70522E-06
7	0.06251556	275	4.0924E-06	15	0.0641923	282	4.20214E-06	23	0.01741314	77	1.1399E-06
									TOTAL	9,900	

2023 Hourly Traffic Volumes and DPM Emisssions - EB I380 Off Ramp DPM

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	199	3.4047E-06	8	0.066922	1185	2.02567E-05	16	0.06807622	1205	2.06061E-05
1	0.00759841	134	2.3E-06	9	0.0591911	1048	1.79167E-05	17	0.07061351	311	5.31335E-06
2	0.00671475	119	2.0325E-06	10	0.0534263	946	1.61717E-05	18	0.05995703	264	4.51149E-06
3	0.00824539	146	2.4958E-06	11	0.0521748	923	1.57929E-05	19	0.04542109	200	3.41773E-06
4	0.01401431	248	4.242E-06	12	0.0522864	925	1.58267E-05	20	0.0376108	165	2.83004E-06
5	0.0272029	481	8.2341E-06	13	0.0532437	942	1.61164E-05	21	0.03324071	146	2.50121E-06
6	0.04392394	777	1.3295E-05	14	0.0587186	1039	1.77737E-05	22	0.02604906	115	1.96007E-06
7	0.06251556	1107	1.8923E-05	15	0.0641923	1136	1.94305E-05	23	0.01741314	77	1.31026E-06
									TOTAL	6,000	

2023 Hourly Traffic Volumes and PM2.5 Emisssions - Westbound I-380 XXX West of ECR

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	782	0.000092	8	0.066922	4651	0.000482594	16	0.06807622	4731	0.000490918
1	0.00759841	528	6.2082E-05	9	0.0591911	4114	0.000426845	17	0.07061351	4908	0.000509215
2	0.00671475	467	5.4862E-05	10	0.0534263	3713	0.000385273	18	0.05995703	4167	0.000432368
3	0.00824539	573	6.7368E-05	11	0.0521748	3626	0.000426285	19	0.04542109	3157	0.000371105
4	0.01401431	974	0.0001145	12	0.0522864	3634	0.000427197	20	0.0376108	2614	0.000307293
5	0.0272029	1891	0.00022226	13	0.0532437	3700	0.000435019	21	0.03324071	2310	0.000271588
6	0.04392394	3053	0.00035887	14	0.0587186	4081	0.000479751	22	0.02604906	1810	0.000212829
7	0.06251556	4345	0.00045082	15	0.0641923	4461	0.000524472	23	0.01741314	1210	0.000142271
									TOTAL	69,500	

2023 Hourly Traffic Volumes and PM2.5 Emisssions - Eastbound I-380 XXX West of ECR

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	782	8.9815E-05	8	0.066922	4651	0.000471647	16	0.06807622	4731	0.000479782
1	0.00759841	528	6.0673E-05	9	0.0591911	4114	0.000417162	17	0.07061351	4908	0.000497664
2	0.00671475	467	5.3617E-05	10	0.0534263	3713	0.000376533	18	0.05995703	4167	0.00042256
3	0.00824539	573	6.5839E-05	11	0.0521748	3626	0.000416615	19	0.04542109	3157	0.000362687
4	0.01401431	974	0.0001119	12	0.0522864	3634	0.000417507	20	0.0376108	2614	0.000300322
5	0.0272029	1891	0.00021722	13	0.0532437	3700	0.000425151	21	0.03324071	2310	0.000265427
6	0.04392394	3053	0.00035073	14	0.0587186	4081	0.000468868	22	0.02604906	1810	0.000208002
7	0.06251556	4345	0.00044059	15	0.0641923	4461	0.000512575	23	0.01741314	1210	0.000139044
									TOTAL	69,500	

2023 Hourly Traffic Volumes and PM2.5 Emisssions - Westbound I-380 XXX East of ECR

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	917	0.0000705	8	0.066922	5454	0.00036998	16	0.06807622	5548	0.000376361
1	0.00759841	619	4.7595E-05	9	0.0591911	4824	0.00032724	17	0.07061351	5755	0.000390389
2	0.00671475	547	4.206E-05	10	0.0534263	4354	0.000295369	18	0.05995703	4886	0.000331474
3	0.00824539	672	5.1647E-05	11	0.0521748	4252	0.000326811	19	0.04542109	3702	0.000284507
4	0.01401431	1142	8.7782E-05	12	0.0522864	4261	0.00032751	20	0.0376108	3065	0.000235586
5	0.0272029	2217	0.00017039	13	0.0532437	4339	0.000333507	21	0.03324071	2709	0.000208212
6	0.04392394	3580	0.00027513	14	0.0587186	4786	0.0003678	22	0.02604906	2123	0.000163165
7	0.06251556	5095	0.00034562	15	0.0641923	5232	0.000402086	23	0.01741314	1419	0.000109072
									TOTAL	81,500	

2023 Hourly Traffic Volumes and PM2.5 Emisssions - Eastbound I-380 XXX East of ECR

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	917	6.8446E-05	8	0.066922	5454	0.000359433	16	0.06807622	5548	0.000365632
1	0.00759841	619	4.6238E-05	9	0.0591911	4824	0.000317911	17	0.07061351	5755	0.00037926
2	0.00671475	547	4.0861E-05	10	0.0534263	4354	0.000286949	18	0.05995703	4886	0.000322025
3	0.00824539	672	5.0175E-05	11	0.0521748	4252	0.000317494	19	0.04542109	3702	0.000276397
4	0.01401431	1142	8.528E-05	12	0.0522864	4261	0.000318174	20	0.0376108	3065	0.00022887
5	0.0272029	2217	0.00016554	13	0.0532437	4339	0.000323999	21	0.03324071	2709	0.000202277
6	0.04392394	3580	0.00026729	14	0.0587186	4786	0.000357315	22	0.02604906	2123	0.000158514
7	0.06251556	5095	0.00033577	15	0.0641923	5232	0.000390624	23	0.01741314	1419	0.000105963
								TOTAL		81,500	

2023 Hourly Traffic Volumes and PM2.5 Emisssions - El Camino Real XXX

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	540	0.000098	8	0.066922	3212	0.00069606	16	0.06807622	3268	0.000708066
1	0.00759841	365	6.6306E-05	9	0.0591911	2841	0.000516516	17	0.07061351	3389	0.000734456
2	0.00671475	322	5.8594E-05	10	0.0534263	2564	0.000466211	18	0.05995703	2878	0.000523199
3	0.00824539	396	7.1951E-05	11	0.0521748	2504	0.00045529	19	0.04542109	2180	0.000396355
4	0.01401431	673	0.00012229	12	0.0522864	2510	0.000456264	20	0.0376108	1805	0.000328201
5	0.0272029	1306	0.00023738	13	0.0532437	2556	0.000464617	21	0.03324071	1596	0.000290066
6	0.04392394	2108	0.00038329	14	0.0587186	2818	0.000512393	22	0.02604906	1250	0.00022731
7	0.06251556	3001	0.00065023	15	0.0641923	3081	0.000560158	23	0.01741314	836	0.000151951
								TOTAL		48,000	

2023 Hourly Traffic Volumes and PM2.5 Emisssions - WB I380 On Ramp XXX

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	39	0.000003	8	0.066922	234	1.87089E-05	16	0.06807622	238	1.90316E-05
1	0.00759841	27	2.1242E-06	9	0.0591911	207	1.65476E-05	17	0.07061351	247	1.97409E-05
2	0.00671475	24	1.8772E-06	10	0.0534263	187	1.4936E-05	18	0.05995703	210	1.67618E-05
3	0.00824539	29	2.3051E-06	11	0.0521748	183	1.45861E-05	19	0.04542109	159	1.2698E-05
4	0.01401431	49	3.9179E-06	12	0.0522864	183	1.46173E-05	20	0.0376108	132	1.05146E-05
5	0.0272029	95	7.6049E-06	13	0.0532437	186	1.4885E-05	21	0.03324071	116	9.29287E-06
6	0.04392394	154	1.228E-05	14	0.0587186	206	1.64155E-05	22	0.02604906	91	7.28235E-06
7	0.06251556	219	1.7477E-05	15	0.0641923	225	1.79458E-05	23	0.01741314	61	4.86807E-06
								TOTAL		3,500	

PM2.5

2023 Hourly Traffic Volumes and PM2.5 Emisssions - EB I380 Loop Ramp XXX

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	49	5.9322E-06	8	0.066922	294	3.52949E-05	16	0.06807622	300	3.59037E-05
1	0.00759841	33	4.0074E-06	9	0.0591911	260	3.12176E-05	17	0.07061351	311	3.72419E-05
2	0.00671475	30	3.5414E-06	10	0.0534263	235	2.81773E-05	18	0.05995703	264	3.16216E-05
3	0.00824539	36	4.3487E-06	11	0.0521748	230	2.75172E-05	19	0.04542109	200	2.39553E-05
4	0.01401431	62	7.3912E-06	12	0.0522864	230	2.75761E-05	20	0.0376108	165	1.98361E-05
5	0.0272029	120	1.4347E-05	13	0.0532437	234	2.8081E-05	21	0.03324071	146	1.75313E-05
6	0.04392394	193	2.3166E-05	14	0.0587186	258	3.09685E-05	22	0.02604906	115	1.37384E-05
7	0.06251556	275	3.2971E-05	15	0.0641923	282	3.38553E-05	23	0.01741314	77	9.18377E-06
									TOTAL	4,400	

2023 Hourly Traffic Volumes and PM2.5 Emisssions - WB I380 Off Ramp XXX

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	199	1.5192E-05	8	0.066922	1185	9.03892E-05	16	0.06807622	1205	9.19482E-05
1	0.00759841	134	1.0263E-05	9	0.0591911	1048	7.99473E-05	17	0.07061351	311	2.37091E-05
2	0.00671475	119	9.0694E-06	10	0.0534263	946	7.2161E-05	18	0.05995703	264	2.01311E-05
3	0.00824539	146	1.1137E-05	11	0.0521748	923	7.04706E-05	19	0.04542109	200	1.52505E-05
4	0.01401431	248	1.8929E-05	12	0.0522864	925	7.06214E-05	20	0.0376108	165	1.26281E-05
5	0.0272029	481	3.6742E-05	13	0.0532437	942	7.19144E-05	21	0.03324071	146	1.11609E-05
6	0.04392394	777	5.9327E-05	14	0.0587186	1039	7.93092E-05	22	0.02604906	115	8.74619E-06
7	0.06251556	1107	8.4438E-05	15	0.0641923	1136	8.67023E-05	23	0.01741314	77	5.84661E-06
									TOTAL	17,700	

2023 Hourly Traffic Volumes and PM2.5 Emisssions - EB I380 On Ramp XXX

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	39	0.000002	8	0.066922	234	1.39512E-05	16	0.06807622	238	1.41919E-05
1	0.00759841	27	1.584E-06	9	0.0591911	207	1.23396E-05	17	0.07061351	247	1.47208E-05
2	0.00671475	24	1.3998E-06	10	0.0534263	187	1.11378E-05	18	0.05995703	210	1.24992E-05
3	0.00824539	29	1.7189E-06	11	0.0521748	183	1.08769E-05	19	0.04542109	159	9.46894E-06
4	0.01401431	49	2.9216E-06	12	0.0522864	183	1.09002E-05	20	0.0376108	132	7.84073E-06
5	0.0272029	95	5.671E-06	13	0.0532437	186	1.10997E-05	21	0.03324071	116	6.92969E-06
6	0.04392394	154	9.1568E-06	14	0.0587186	206	1.22411E-05	22	0.02604906	91	5.43045E-06
7	0.06251556	219	1.3033E-05	15	0.0641923	225	1.33822E-05	23	0.01741314	61	3.63012E-06
									TOTAL	7,600	

2023 Hourly Traffic Volumes and PM2.5 Emisssions - WB I380 Loop Ramp XXX PM2.5

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	49	6.0278E-06	8	0.066922	294	3.58637E-05	16	0.06807622	300	3.64823E-05
1	0.00759841	33	4.072E-06	9	0.0591911	260	3.17207E-05	17	0.07061351	311	3.7842E-05
2	0.00671475	30	3.5985E-06	10	0.0534263	235	2.86313E-05	18	0.05995703	264	3.21312E-05
3	0.00824539	36	4.4187E-06	11	0.0521748	230	2.79606E-05	19	0.04542109	200	2.43413E-05
4	0.01401431	62	7.5103E-06	12	0.0522864	230	2.80205E-05	20	0.0376108	165	2.01558E-05
5	0.0272029	120	1.4578E-05	13	0.0532437	234	2.85335E-05	21	0.03324071	146	1.78138E-05
6	0.04392394	193	2.3539E-05	14	0.0587186	258	3.14675E-05	22	0.02604906	115	1.39598E-05
7	0.06251556	275	3.3502E-05	15	0.0641923	282	3.44009E-05	23	0.01741314	77	9.33176E-06
									TOTAL	9,900	

2023 Hourly Traffic Volumes and PM2.5 Emisssions - EB I380 Off Ramp XXX

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	199	2.1552E-05	8	0.066922	1185	0.000128231	16	0.06807622	1205	0.000130442
1	0.00759841	134	1.4559E-05	9	0.0591911	1048	0.000113417	17	0.07061351	311	3.36349E-05
2	0.00671475	119	1.2866E-05	10	0.0534263	946	0.000102371	18	0.05995703	264	2.8559E-05
3	0.00824539	146	1.5799E-05	11	0.0521748	923	9.99733E-05	19	0.04542109	200	2.16352E-05
4	0.01401431	248	2.6853E-05	12	0.0522864	925	0.000100187	20	0.0376108	165	1.79149E-05
5	0.0272029	481	5.2124E-05	13	0.0532437	942	0.000102022	21	0.03324071	146	1.58334E-05
6	0.04392394	777	8.4164E-05	14	0.0587186	1039	0.000112512	22	0.02604906	115	1.24078E-05
7	0.06251556	1107	0.00011979	15	0.0641923	1136	0.000123	23	0.01741314	77	8.29431E-06
									TOTAL	6,000	

2023 Hourly Traffic Volumes and TOGX Emisssions - Westbound I-380 XXX West of ECR

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	782	0.001086	8	0.066922	4651	0.005744762	16	0.06807622	4731	0.005843844
1	0.00759841	528	0.00073348	9	0.0591911	4114	0.005081121	17	0.07061351	4908	0.006061652
2	0.00671475	467	0.00064818	10	0.0534263	3713	0.004586256	18	0.05995703	4167	0.005146871
3	0.00824539	573	0.00079593	11	0.0521748	3626	0.005036475	19	0.04542109	3157	0.004384536
4	0.01401431	974	0.00135281	12	0.0522864	3634	0.005047252	20	0.0376108	2614	0.003630603
5	0.0272029	1891	0.00262592	13	0.0532437	3700	0.005139662	21	0.03324071	2310	0.003208754
6	0.04392394	3053	0.00424002	14	0.0587186	4081	0.00566816	22	0.02604906	1810	0.002514538
7	0.06251556	4345	0.0053665	15	0.0641923	4461	0.006196539	23	0.01741314	1210	0.001680906
									TOTAL	69,500	

2023 Hourly Traffic Volumes and TOGX Emisssions - Eastbound I-380 XXX West of ECR

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	782	0.00106114	8	0.066922	4651	0.005614449	16	0.06807622	4731	0.005711284
1	0.00759841	528	0.00071684	9	0.0591911	4114	0.004965862	17	0.07061351	4908	0.005924151
2	0.00671475	467	0.00063348	10	0.0534263	3713	0.004482222	18	0.05995703	4167	0.005030121
3	0.00824539	573	0.00077788	11	0.0521748	3626	0.004922229	19	0.04542109	3157	0.004285079
4	0.01401431	974	0.00132213	12	0.0522864	3634	0.004932761	20	0.0376108	2614	0.003548247
5	0.0272029	1891	0.00256635	13	0.0532437	3700	0.005023075	21	0.03324071	2310	0.003135968
6	0.04392394	3053	0.00414384	14	0.0587186	4081	0.005539585	22	0.02604906	1810	0.002457499
7	0.06251556	4345	0.00524477	15	0.0641923	4461	0.006055978	23	0.01741314	1210	0.001642776
									TOTAL	69,500	

2023 Hourly Traffic Volumes and TOGX Emisssions - Westbound I-380 XXX East of ECR

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	917	0.0008324	8	0.066922	5454	0.004404214	16	0.06807622	5548	0.004480175
1	0.00759841	619	0.00056232	9	0.0591911	4824	0.003895434	17	0.07061351	5755	0.004647157
2	0.00671475	547	0.00049693	10	0.0534263	4354	0.003516046	18	0.05995703	4886	0.003945842
3	0.00824539	672	0.0006102	11	0.0521748	4252	0.003861207	19	0.04542109	3702	0.003361399
4	0.01401431	1142	0.00103713	12	0.0522864	4261	0.003869469	20	0.0376108	3065	0.002783397
5	0.0272029	2217	0.00201316	13	0.0532437	4339	0.003940315	21	0.03324071	2709	0.002459987
6	0.04392394	3580	0.0032506	14	0.0587186	4786	0.004345487	22	0.02604906	2123	0.001927767
7	0.06251556	5095	0.00411422	15	0.0641923	5232	0.004750568	23	0.01741314	1419	0.001288664
									TOTAL	81,500	

2023 Hourly Traffic Volumes and TOGX Emisssions - Eastbound I-380 XXX East of ECR

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	917	0.00080868	8	0.066922	5454	0.00427866	16	0.06807622	5548	0.004352456
1	0.00759841	619	0.00054629	9	0.0591911	4824	0.003784385	17	0.07061351	5755	0.004514678
2	0.00671475	547	0.00048276	10	0.0534263	4354	0.003415812	18	0.05995703	4886	0.003833355
3	0.00824539	672	0.00059281	11	0.0521748	4252	0.003751133	19	0.04542109	3702	0.003265573
4	0.01401431	1142	0.00100757	12	0.0522864	4261	0.003759159	20	0.0376108	3065	0.002704049
5	0.0272029	2217	0.00195577	13	0.0532437	4339	0.003827986	21	0.03324071	2709	0.002389859
6	0.04392394	3580	0.00315793	14	0.0587186	4786	0.004221608	22	0.02604906	2123	0.001872811
7	0.06251556	5095	0.00399693	15	0.0641923	5232	0.004615141	23	0.01741314	1419	0.001251927
									TOTAL	81,500	

2023 Hourly Traffic Volumes and TOGX Emisssions - El Camino Real XXX

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	540	0.001321	8	0.066922	3212	0.009482987	16	0.06807622	3268	0.009646544
1	0.00759841	365	0.00089264	9	0.0591911	2841	0.006953615	17	0.07061351	3389	0.010006083
2	0.00671475	322	0.00078883	10	0.0534263	2564	0.006276382	18	0.05995703	2878	0.007043596
3	0.00824539	396	0.00096865	11	0.0521748	2504	0.006129356	19	0.04542109	2180	0.005335951
4	0.01401431	673	0.00164636	12	0.0522864	2510	0.006142472	20	0.0376108	1805	0.004418419
5	0.0272029	1306	0.00319573	13	0.0532437	2556	0.006254934	21	0.03324071	1596	0.003905032
6	0.04392394	2108	0.00516007	14	0.0587186	2818	0.006898113	22	0.02604906	1250	0.003060176
7	0.06251556	3001	0.00885859	15	0.0641923	3081	0.007541146	23	0.01741314	836	0.002045651
									TOTAL	48,000	

2023 Hourly Traffic Volumes and TOGX Emisssions - WB I380 On Ramp XXX

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	39	0.000041	8	0.066922	234	0.000241897	16	0.06807622	238	0.00024607
1	0.00759841	27	2.7465E-05	9	0.0591911	207	0.000213953	17	0.07061351	247	0.000255241
2	0.00671475	24	2.4271E-05	10	0.0534263	187	0.000193116	18	0.05995703	210	0.000216722
3	0.00824539	29	2.9804E-05	11	0.0521748	183	0.000188592	19	0.04542109	159	0.00016418
4	0.01401431	49	5.0656E-05	12	0.0522864	183	0.000188995	20	0.0376108	132	0.000135949
5	0.0272029	95	9.8328E-05	13	0.0532437	186	0.000192456	21	0.03324071	116	0.000120152
6	0.04392394	154	0.00015877	14	0.0587186	206	0.000212245	22	0.02604906	91	9.41574E-05
7	0.06251556	219	0.00022597	15	0.0641923	225	0.000232031	23	0.01741314	61	6.29419E-05
									TOTAL	3,500	

2023 Hourly Traffic Volumes and TOGX Emisssions - EB I380 Loop Ramp XXX

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	49	8.1559E-05	8	0.066922	294	0.000485251	16	0.06807622	300	0.000493621
1	0.00759841	33	5.5096E-05	9	0.0591911	260	0.000429194	17	0.07061351	311	0.000512018
2	0.00671475	30	4.8689E-05	10	0.0534263	235	0.000387394	18	0.05995703	264	0.000434748
3	0.00824539	36	5.9787E-05	11	0.0521748	230	0.000378319	19	0.04542109	200	0.000329348
4	0.01401431	62	0.00010162	12	0.0522864	230	0.000379129	20	0.0376108	165	0.000272716
5	0.0272029	120	0.00019725	13	0.0532437	234	0.00038607	21	0.03324071	146	0.000241028
6	0.04392394	193	0.00031849	14	0.0587186	258	0.000425769	22	0.02604906	115	0.000188882
7	0.06251556	275	0.0004533	15	0.0641923	282	0.000465458	23	0.01741314	77	0.000126263
									TOTAL	4,400	

2023 Hourly Traffic Volumes and TOGX Emisssions - WB I380 Off Ramp XXX

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	199	0.00020453	8	0.066922	1185	0.001216868	16	0.06807622	1205	0.001237856
1	0.00759841	134	0.00013816	9	0.0591911	1048	0.001076294	17	0.07061351	311	0.000319185
2	0.00671475	119	0.0001221	10	0.0534263	946	0.000971471	18	0.05995703	264	0.000271016
3	0.00824539	146	0.00014993	11	0.0521748	923	0.000948714	19	0.04542109	200	0.000205311
4	0.01401431	248	0.00025483	12	0.0522864	925	0.000950744	20	0.0376108	165	0.000170007
5	0.0272029	481	0.00049464	13	0.0532437	942	0.000968151	21	0.03324071	146	0.000150253
6	0.04392394	777	0.00079869	14	0.0587186	1039	0.001067703	22	0.02604906	115	0.000117746
7	0.06251556	1107	0.00113674	15	0.0641923	1136	0.001167233	23	0.01741314	77	7.87103E-05
									TOTAL	17,700	

2023 Hourly Traffic Volumes and TOGX Emisssions - EB I380 On Ramp XXX

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	39	0.000030	8	0.066922	234	0.000180383	16	0.06807622	238	0.000183494
1	0.00759841	27	2.0481E-05	9	0.0591911	207	0.000159545	17	0.07061351	247	0.000190333
2	0.00671475	24	1.8099E-05	10	0.0534263	187	0.000144006	18	0.05995703	210	0.000161609
3	0.00824539	29	2.2225E-05	11	0.0521748	183	0.000140633	19	0.04542109	159	0.000122429
4	0.01401431	49	3.7774E-05	12	0.0522864	183	0.000140934	20	0.0376108	132	0.000101377
5	0.0272029	95	7.3323E-05	13	0.0532437	186	0.000143514	21	0.03324071	116	8.95977E-05
6	0.04392394	154	0.00011839	14	0.0587186	206	0.000158271	22	0.02604906	91	7.02132E-05
7	0.06251556	219	0.00016851	15	0.0641923	225	0.000173025	23	0.01741314	61	4.69358E-05
									TOTAL	7,600	

2023 Hourly Traffic Volumes and TOGX Emisssions - WB I380 Loop Ramp XXX

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	49	8.2873E-05	8	0.066922	294	0.000493071	16	0.06807622	300	0.000501575
1	0.00759841	33	5.5984E-05	9	0.0591911	260	0.000436111	17	0.07061351	311	0.000520269
2	0.00671475	30	4.9473E-05	10	0.0534263	235	0.000393637	18	0.05995703	264	0.000441754
3	0.00824539	36	6.0751E-05	11	0.0521748	230	0.000384416	19	0.04542109	200	0.000334656
4	0.01401431	62	0.00010326	12	0.0522864	230	0.000385238	20	0.0376108	165	0.000277111
5	0.0272029	120	0.00020043	13	0.0532437	234	0.000392291	21	0.03324071	146	0.000244912
6	0.04392394	193	0.00032362	14	0.0587186	258	0.00043263	22	0.02604906	115	0.000191925
7	0.06251556	275	0.0004606	15	0.0641923	282	0.000472959	23	0.01741314	77	0.000128297
									TOTAL	9,900	

2023 Hourly Traffic Volumes and TOGX Emisssions - EB I380 Off Ramp XXX

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	199	0.00029015	8	0.066922	1185	0.001726313	16	0.06807622	1205	0.001756087
1	0.00759841	134	0.00019601	9	0.0591911	1048	0.001526887	17	0.07061351	311	0.000452812
2	0.00671475	119	0.00017321	10	0.0534263	946	0.001378179	18	0.05995703	264	0.000384477
3	0.00824539	146	0.0002127	11	0.0521748	923	0.001345895	19	0.04542109	200	0.000291264
4	0.01401431	248	0.00036151	12	0.0522864	925	0.001348775	20	0.0376108	165	0.000241181
5	0.0272029	481	0.00070172	13	0.0532437	942	0.001373469	21	0.03324071	146	0.000213157
6	0.04392394	777	0.00113306	14	0.0587186	1039	0.0015147	22	0.02604906	115	0.000167041
7	0.06251556	1107	0.00161264	15	0.0641923	1136	0.001655898	23	0.01741314	77	0.000111662
									TOTAL	6,000	

2023 Hourly Traffic Volumes and TOGV Emisssions - Westbound I-380 XXX West of ECR

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	782	0.000869	8	0.066922	4651	0.005601303	16	0.06807622	4731	0.005697911
1	0.00759841	528	0.00058706	9	0.0591911	4114	0.004954234	17	0.07061351	4908	0.005910279
2	0.00671475	467	0.00051879	10	0.0534263	3713	0.004471726	18	0.05995703	4167	0.005018343
3	0.00824539	573	0.00063704	11	0.0521748	3626	0.004031054	19	0.04542109	3157	0.00350926
4	0.01401431	974	0.00108275	12	0.0522864	3634	0.00403968	20	0.0376108	2614	0.002905833
5	0.0272029	1891	0.00210171	13	0.0532437	3700	0.004113642	21	0.03324071	2310	0.002568197
6	0.04392394	3053	0.00339359	14	0.0587186	4081	0.004536637	22	0.02604906	1810	0.002012566
7	0.06251556	4345	0.00523249	15	0.0641923	4461	0.004959537	23	0.01741314	1210	0.00134535
								TOTAL		69,500	

2023 Hourly Traffic Volumes and TOGV Emisssions - Eastbound I-380 XXX West of ECR

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	782	0.00084931	8	0.066922	4651	0.005474244	16	0.06807622	4731	0.00556866
1	0.00759841	528	0.00057374	9	0.0591911	4114	0.004841853	17	0.07061351	4908	0.005776211
2	0.00671475	467	0.00050702	10	0.0534263	3713	0.004370291	18	0.05995703	4167	0.004904508
3	0.00824539	573	0.00062259	11	0.0521748	3626	0.003939615	19	0.04542109	3157	0.003429657
4	0.01401431	974	0.00105819	12	0.0522864	3634	0.003948044	20	0.0376108	2614	0.002839918
5	0.0272029	1891	0.00205404	13	0.0532437	3700	0.004020329	21	0.03324071	2310	0.002509941
6	0.04392394	3053	0.00331661	14	0.0587186	4081	0.004433729	22	0.02604906	1810	0.001966913
7	0.06251556	4345	0.0051138	15	0.0641923	4461	0.004847036	23	0.01741314	1210	0.001314832
								TOTAL		69,500	

2023 Hourly Traffic Volumes and TOGV Emisssions - Westbound I-380 XXX East of ECR

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	917	0.0006662	8	0.066922	5454	0.004294231	16	0.06807622	5548	0.004368295
1	0.00759841	619	0.00045007	9	0.0591911	4824	0.003798157	17	0.07061351	5755	0.004531107
2	0.00671475	547	0.00039773	10	0.0534263	4354	0.003428243	18	0.05995703	4886	0.003847305
3	0.00824539	672	0.00048839	11	0.0521748	4252	0.003090402	19	0.04542109	3702	0.00269037
4	0.01401431	1142	0.00083009	12	0.0522864	4261	0.003097015	20	0.0376108	3065	0.002227753
5	0.0272029	2217	0.00161128	13	0.0532437	4339	0.003153718	21	0.03324071	2709	0.001968905
6	0.04392394	3580	0.00260169	14	0.0587186	4786	0.003478006	22	0.02604906	2123	0.001542931
7	0.06251556	5095	0.00401148	15	0.0641923	5232	0.003802222	23	0.01741314	1419	0.001031411
								TOTAL		81,500	

2023 Hourly Traffic Volumes and TOGV Emisssions - Eastbound I-380 XXX East of ECR

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	917	0.00064724	8	0.066922	5454	0.004171812	16	0.06807622	5548	0.004243765
1	0.00759841	619	0.00043724	9	0.0591911	4824	0.00368988	17	0.07061351	5755	0.004401936
2	0.00671475	547	0.00038639	10	0.0534263	4354	0.003330512	18	0.05995703	4886	0.003737628
3	0.00824539	672	0.00047447	11	0.0521748	4252	0.003002302	19	0.04542109	3702	0.002613674
4	0.01401431	1142	0.00080643	12	0.0522864	4261	0.003008726	20	0.0376108	3065	0.002164245
5	0.0272029	2217	0.00156534	13	0.0532437	4339	0.003063813	21	0.03324071	2709	0.001912776
6	0.04392394	3580	0.00252752	14	0.0587186	4786	0.003378857	22	0.02604906	2123	0.001498946
7	0.06251556	5095	0.00389712	15	0.0641923	5232	0.00369383	23	0.01741314	1419	0.001002008
									TOTAL	81,500	

2023 Hourly Traffic Volumes and TOGV Emisssions - El Camino Real XXX

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	540	0.001836	8	0.066922	3212	0.01274176	16	0.06807622	3268	0.012961523
1	0.00759841	365	0.00124004	9	0.0591911	2841	0.009659845	17	0.07061351	3389	0.013444615
2	0.00671475	322	0.00109583	10	0.0534263	2564	0.008719043	18	0.05995703	2878	0.009784844
3	0.00824539	396	0.00134563	11	0.0521748	2504	0.008514798	19	0.04542109	2180	0.007412613
4	0.01401431	673	0.0022871	12	0.0522864	2510	0.008533017	20	0.0376108	1805	0.006137993
5	0.0272029	1306	0.00443945	13	0.0532437	2556	0.008689248	21	0.03324071	1596	0.005424805
6	0.04392394	2108	0.00716828	14	0.0587186	2818	0.009582741	22	0.02604906	1250	0.004251144
7	0.06251556	3001	0.01190279	15	0.0641923	3081	0.010476032	23	0.01741314	836	0.002841783
									TOTAL	48,000	

2023 Hourly Traffic Volumes and TOGV Emisssions - WB I380 On Ramp XXX

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	39	0.000055	8	0.066922	234	0.000327935	16	0.06807622	238	0.000333591
1	0.00759841	27	3.7234E-05	9	0.0591911	207	0.000290052	17	0.07061351	247	0.000346025
2	0.00671475	24	3.2904E-05	10	0.0534263	187	0.000261803	18	0.05995703	210	0.000293805
3	0.00824539	29	4.0405E-05	11	0.0521748	183	0.00025567	19	0.04542109	159	0.000222575
4	0.01401431	49	6.8674E-05	12	0.0522864	183	0.000256217	20	0.0376108	132	0.000184303
5	0.0272029	95	0.0001333	13	0.0532437	186	0.000260908	21	0.03324071	116	0.000162888
6	0.04392394	154	0.00021524	14	0.0587186	206	0.000287737	22	0.02604906	91	0.000127647
7	0.06251556	219	0.00030634	15	0.0641923	225	0.000314559	23	0.01741314	61	8.5329E-05
									TOTAL	3,500	

2023 Hourly Traffic Volumes and TOGV Emisssions - EB I380 Loop Ramp XXX

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	49	0.00010383	8	0.066922	294	0.00061778	16	0.06807622	300	0.000628435
1	0.00759841	33	7.0143E-05	9	0.0591911	260	0.000546413	17	0.07061351	311	0.000651857
2	0.00671475	30	6.1986E-05	10	0.0534263	235	0.000493196	18	0.05995703	264	0.000553484
3	0.00824539	36	7.6116E-05	11	0.0521748	230	0.000481643	19	0.04542109	200	0.000419297
4	0.01401431	62	0.00012937	12	0.0522864	230	0.000482674	20	0.0376108	165	0.000347198
5	0.0272029	120	0.00025112	13	0.0532437	234	0.000491511	21	0.03324071	146	0.000306856
6	0.04392394	193	0.00040548	14	0.0587186	258	0.000542052	22	0.02604906	115	0.000240468
7	0.06251556	275	0.0005771	15	0.0641923	282	0.000592581	23	0.01741314	77	0.000160747
									TOTAL	4,400	

2023 Hourly Traffic Volumes and TOGV Emisssions - WB I380 Off Ramp XXX

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	199	0.00028412	8	0.066922	1185	0.001690453	16	0.06807622	1205	0.001719609
1	0.00759841	134	0.00019194	9	0.0591911	1048	0.00149517	17	0.07061351	311	0.000443406
2	0.00671475	119	0.00016961	10	0.0534263	946	0.001349551	18	0.05995703	264	0.00037649
3	0.00824539	146	0.00020828	11	0.0521748	923	0.001317937	19	0.04542109	200	0.000285214
4	0.01401431	248	0.000354	12	0.0522864	925	0.001320757	20	0.0376108	165	0.000236171
5	0.0272029	481	0.00068715	13	0.0532437	942	0.001344939	21	0.03324071	146	0.00020873
6	0.04392394	777	0.00110952	14	0.0587186	1039	0.001483236	22	0.02604906	115	0.000163571
7	0.06251556	1107	0.00157915	15	0.0641923	1136	0.001621501	23	0.01741314	77	0.000109343
									TOTAL	17,700	

2023 Hourly Traffic Volumes and TOGV Emisssions - EB I380 On Ramp XXX

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	39	0.000041	8	0.066922	234	0.000244541	16	0.06807622	238	0.000248759
1	0.00759841	27	2.7766E-05	9	0.0591911	207	0.000216292	17	0.07061351	247	0.000258031
2	0.00671475	24	2.4537E-05	10	0.0534263	187	0.000195226	18	0.05995703	210	0.000219091
3	0.00824539	29	3.013E-05	11	0.0521748	183	0.000190653	19	0.04542109	159	0.000165974
4	0.01401431	49	5.121E-05	12	0.0522864	183	0.000191061	20	0.0376108	132	0.000137435
5	0.0272029	95	9.9403E-05	13	0.0532437	186	0.000194559	21	0.03324071	116	0.000121466
6	0.04392394	154	0.0001605	14	0.0587186	206	0.000214565	22	0.02604906	91	9.51865E-05
7	0.06251556	219	0.00022844	15	0.0641923	225	0.000234567	23	0.01741314	61	6.36298E-05
									TOTAL	7,600	

2023 Hourly Traffic Volumes and TOGV Emisssions - WB I380 Loop Ramp XXX

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	49	0.00010551	8	0.066922	294	0.000627735	16	0.06807622	300	0.000638562
1	0.00759841	33	7.1274E-05	9	0.0591911	260	0.000555218	17	0.07061351	311	0.000662362
2	0.00671475	30	6.2985E-05	10	0.0534263	235	0.000501144	18	0.05995703	264	0.000562403
3	0.00824539	36	7.7343E-05	11	0.0521748	230	0.000489405	19	0.04542109	200	0.000426054
4	0.01401431	62	0.00013146	12	0.0522864	230	0.000490452	20	0.0376108	165	0.000352793
5	0.0272029	120	0.00025517	13	0.0532437	234	0.000499431	21	0.03324071	146	0.000311801
6	0.04392394	193	0.00041201	14	0.0587186	258	0.000550787	22	0.02604906	115	0.000244343
7	0.06251556	275	0.0005864	15	0.0641923	282	0.00060213	23	0.01741314	77	0.000163337
									TOTAL	9,900	

2023 Hourly Traffic Volumes and TOGV Emisssions - EB I380 Off Ramp XXX

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	199	0.00040307	8	0.066922	1185	0.002398164	16	0.06807622	1205	0.002439526
1	0.00759841	134	0.00027229	9	0.0591911	1048	0.002121126	17	0.07061351	311	0.000629039
2	0.00671475	119	0.00024062	10	0.0534263	946	0.001914543	18	0.05995703	264	0.000534109
3	0.00824539	146	0.00029548	11	0.0521748	923	0.001869694	19	0.04542109	200	0.00040462
4	0.01401431	248	0.00050221	12	0.0522864	925	0.001873695	20	0.0376108	165	0.000335044
5	0.0272029	481	0.00097482	13	0.0532437	942	0.001908	21	0.03324071	146	0.000296115
6	0.04392394	777	0.00157402	14	0.0587186	1039	0.002104195	22	0.02604906	115	0.00023205
7	0.06251556	1107	0.00224026	15	0.0641923	1136	0.002300346	23	0.01741314	77	0.00015512
									TOTAL	6,000	

2023 Hourly Traffic Volumes and Fugitive PM2.5 Emisss Westbound I-380 XXX West of ECR

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	782	0.000615	8	0.066922	4651	0.003760226	16	0.06807622	4731	0.00382508
1	0.00759841	528	0.00041525	9	0.0591911	4114	0.003325841	17	0.07061351	4908	0.003967646
2	0.00671475	467	0.00036696	10	0.0534263	3713	0.003001927	18	0.05995703	4167	0.003368878
3	0.00824539	573	0.00045061	11	0.0521748	3626	0.002851343	19	0.04542109	3157	0.002482255
4	0.01401431	974	0.00076588	12	0.0522864	3634	0.002857444	20	0.0376108	2614	0.002055424
5	0.0272029	1891	0.00148663	13	0.0532437	3700	0.00290976	21	0.03324071	2310	0.001816599
6	0.04392394	3053	0.00240044	14	0.0587186	4081	0.003208964	22	0.02604906	1810	0.001423577
7	0.06251556	4345	0.00351264	15	0.0641923	4461	0.003508099	23	0.01741314	1210	0.000951625
									TOTAL	69,500	

2023 Hourly Traffic Volumes and Fugitive PM2.5 Emisss Eastbound I-380 XXX West of ECR

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	782	0.00060075	8	0.066922	4651	0.00367493	16	0.06807622	4731	0.003738313
1	0.00759841	528	0.00040583	9	0.0591911	4114	0.003250398	17	0.07061351	4908	0.003877645
2	0.00671475	467	0.00035864	10	0.0534263	3713	0.002933832	18	0.05995703	4167	0.003292459
3	0.00824539	573	0.00044039	11	0.0521748	3626	0.002786663	19	0.04542109	3157	0.002425948
4	0.01401431	974	0.00074851	12	0.0522864	3634	0.002792626	20	0.0376108	2614	0.002008799
5	0.0272029	1891	0.00145291	13	0.0532437	3700	0.002843756	21	0.03324071	2310	0.001775392
6	0.04392394	3053	0.00234598	14	0.0587186	4081	0.003136172	22	0.02604906	1810	0.001391285
7	0.06251556	4345	0.00343296	15	0.0641923	4461	0.003428522	23	0.01741314	1210	0.000930039
									TOTAL	69,500	

2023 Hourly Traffic Volumes and Fugitive PM2.5 Emisss Westbound I-380 XXX East of ECR

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	917	0.0004713	8	0.066922	5454	0.002882772	16	0.06807622	5548	0.002932492
1	0.00759841	619	0.00031835	9	0.0591911	4824	0.002549751	17	0.07061351	5755	0.00304179
2	0.00671475	547	0.00028133	10	0.0534263	4354	0.002301423	18	0.05995703	4886	0.002582745
3	0.00824539	672	0.00034546	11	0.0521748	4252	0.002185978	19	0.04542109	3702	0.001903017
4	0.01401431	1142	0.00058716	12	0.0522864	4261	0.002190655	20	0.0376108	3065	0.001575788
5	0.0272029	2217	0.00113973	13	0.0532437	4339	0.002230764	21	0.03324071	2709	0.001392693
6	0.04392394	3580	0.00184029	14	0.0587186	4786	0.002460148	22	0.02604906	2123	0.001091383
7	0.06251556	5095	0.00269296	15	0.0641923	5232	0.002689479	23	0.01741314	1419	0.000729562
									TOTAL	81,500	

2023 Hourly Traffic Volumes and Fugitive PM2.5 Emisss Eastbound I-380 XXX East of ECR

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	917	0.00045782	8	0.066922	5454	0.002800591	16	0.06807622	5548	0.002848894
1	0.00759841	619	0.00030928	9	0.0591911	4824	0.002477064	17	0.07061351	5755	0.002955076
2	0.00671475	547	0.00027331	10	0.0534263	4354	0.002235815	18	0.05995703	4886	0.002509117
3	0.00824539	672	0.00033561	11	0.0521748	4252	0.002123661	19	0.04542109	3702	0.001848767
4	0.01401431	1142	0.00057042	12	0.0522864	4261	0.002128205	20	0.0376108	3065	0.001530866
5	0.0272029	2217	0.00110724	13	0.0532437	4339	0.00216717	21	0.03324071	2709	0.001352991
6	0.04392394	3580	0.00178783	14	0.0587186	4786	0.002390015	22	0.02604906	2123	0.00106027
7	0.06251556	5095	0.00261619	15	0.0641923	5232	0.002612809	23	0.01741314	1419	0.000708764
									TOTAL	81,500	

2023 Hourly Traffic Volumes and Fugitive PM2.5 Emisss El Camino Real XXX

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	540	0.001278	8	0.066922	3212	0.007605581	16	0.06807622	3268	0.007736758
1	0.00759841	365	0.00086355	9	0.0591911	2841	0.006726976	17	0.07061351	3389	0.008025117
2	0.00671475	322	0.00076312	10	0.0534263	2564	0.006071816	18	0.05995703	2878	0.006814024
3	0.00824539	396	0.00093708	11	0.0521748	2504	0.005929582	19	0.04542109	2180	0.005162037
4	0.01401431	673	0.00159271	12	0.0522864	2510	0.00594227	20	0.0376108	1805	0.00427441
5	0.0272029	1306	0.00309157	13	0.0532437	2556	0.006051067	21	0.03324071	1596	0.003777756
6	0.04392394	2108	0.00499189	14	0.0587186	2818	0.006673283	22	0.02604906	1250	0.002960435
7	0.06251556	3001	0.0071048	15	0.0641923	3081	0.007295358	23	0.01741314	836	0.001978977
									TOTAL	48,000	

2023 Hourly Traffic Volumes and Fugitive PM2.5 Emisss WB I380 On Ramp XXX

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	39	0.000046	8	0.066922	234	0.000271565	16	0.06807622	238	0.000276249
1	0.00759841	27	3.0834E-05	9	0.0591911	207	0.000240194	17	0.07061351	247	0.000286545
2	0.00671475	24	2.7248E-05	10	0.0534263	187	0.000216801	18	0.05995703	210	0.000243302
3	0.00824539	29	3.3459E-05	11	0.0521748	183	0.000211722	19	0.04542109	159	0.000184316
4	0.01401431	49	5.6869E-05	12	0.0522864	183	0.000212175	20	0.0376108	132	0.000152622
5	0.0272029	95	0.00011039	13	0.0532437	186	0.00021606	21	0.03324071	116	0.000134889
6	0.04392394	154	0.00017824	14	0.0587186	206	0.000238277	22	0.02604906	91	0.000105705
7	0.06251556	219	0.00025368	15	0.0641923	225	0.000260488	23	0.01741314	61	7.06615E-05
									TOTAL	3,500	

2023 Hourly Traffic Volumes and Fugitive PM2.5 Emisss EB I380 Loop Ramp XXX

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	49	5.1398E-05	8	0.066922	294	0.000305803	16	0.06807622	300	0.000311077
1	0.00759841	33	3.4721E-05	9	0.0591911	260	0.000270476	17	0.07061351	311	0.000322671
2	0.00671475	30	3.0683E-05	10	0.0534263	235	0.000244133	18	0.05995703	264	0.000273976
3	0.00824539	36	3.7678E-05	11	0.0521748	230	0.000238415	19	0.04542109	200	0.000207553
4	0.01401431	62	6.4039E-05	12	0.0522864	230	0.000238925	20	0.0376108	165	0.000171864
5	0.0272029	120	0.0001243	13	0.0532437	234	0.000243299	21	0.03324071	146	0.000151895
6	0.04392394	193	0.00020071	14	0.0587186	258	0.000268317	22	0.02604906	115	0.000119032
7	0.06251556	275	0.00028567	15	0.0641923	282	0.000293329	23	0.01741314	77	7.957E-05
									TOTAL	4,400	

2023 Hourly Traffic Volumes and Fugitive PM2.5 Emisss WB I380 Off Ramp XXX

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	199	0.00019786	8	0.066922	1185	0.001177207	16	0.06807622	1205	0.001197511
1	0.00759841	134	0.00013366	9	0.0591911	1048	0.001041215	17	0.07061351	311	0.000308781
2	0.00671475	119	0.00011812	10	0.0534263	946	0.000939808	18	0.05995703	264	0.000262182
3	0.00824539	146	0.00014504	11	0.0521748	923	0.000917792	19	0.04542109	200	0.000198619
4	0.01401431	248	0.00024652	12	0.0522864	925	0.000919756	20	0.0376108	165	0.000164466
5	0.0272029	481	0.00047852	13	0.0532437	942	0.000936596	21	0.03324071	146	0.000145356
6	0.04392394	777	0.00077265	14	0.0587186	1039	0.001032904	22	0.02604906	115	0.000113908
7	0.06251556	1107	0.00109969	15	0.0641923	1136	0.00112919	23	0.01741314	77	7.61448E-05
									TOTAL	17,700	

2023 Hourly Traffic Volumes and Fugitive PM2.5 Emisss EB I380 On Ramp XXX

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	39	0.000034	8	0.066922	234	0.000202506	16	0.06807622	238	0.000205999
1	0.00759841	27	2.2993E-05	9	0.0591911	207	0.000179113	17	0.07061351	247	0.000213677
2	0.00671475	24	2.0319E-05	10	0.0534263	187	0.000161668	18	0.05995703	210	0.00018143
3	0.00824539	29	2.4951E-05	11	0.0521748	183	0.000157881	19	0.04542109	159	0.000137444
4	0.01401431	49	4.2407E-05	12	0.0522864	183	0.000158219	20	0.0376108	132	0.00011381
5	0.0272029	95	8.2316E-05	13	0.0532437	186	0.000161116	21	0.03324071	116	0.000100587
6	0.04392394	154	0.00013291	14	0.0587186	206	0.000177683	22	0.02604906	91	7.88246E-05
7	0.06251556	219	0.00018917	15	0.0641923	225	0.000194246	23	0.01741314	61	5.26923E-05
									TOTAL	7,600	

2023 Hourly Traffic Volumes and Fugitive PM2.5 Emisss WB I380 Loop Ramp XXX

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	49	5.2226E-05	8	0.066922	294	0.000310731	16	0.06807622	300	0.00031609
1	0.00759841	33	3.5281E-05	9	0.0591911	260	0.000274835	17	0.07061351	311	0.000327871
2	0.00671475	30	3.1178E-05	10	0.0534263	235	0.000248068	18	0.05995703	264	0.000278391
3	0.00824539	36	3.8285E-05	11	0.0521748	230	0.000242257	19	0.04542109	200	0.000210898
4	0.01401431	62	6.5071E-05	12	0.0522864	230	0.000242775	20	0.0376108	165	0.000174634
5	0.0272029	120	0.00012631	13	0.0532437	234	0.00024722	21	0.03324071	146	0.000154342
6	0.04392394	193	0.00020395	14	0.0587186	258	0.000272641	22	0.02604906	115	0.00012095
7	0.06251556	275	0.00029027	15	0.0641923	282	0.000298056	23	0.01741314	77	8.08523E-05
									TOTAL	9,900	

2023 Hourly Traffic Volumes and Fugitive PM2.5 Emisss EB I380 Off Ramp XXX

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01124794	199	0.00028069	8	0.066922	1185	0.001670047	16	0.06807622	1205	0.001698851
1	0.00759841	134	0.00018962	9	0.0591911	1048	0.001477121	17	0.07061351	311	0.000438053
2	0.00671475	119	0.00016757	10	0.0534263	946	0.00133326	18	0.05995703	264	0.000371946
3	0.00824539	146	0.00020576	11	0.0521748	923	0.001302028	19	0.04542109	200	0.000281771
4	0.01401431	248	0.00034973	12	0.0522864	925	0.001304814	20	0.0376108	165	0.00023332
5	0.0272029	481	0.00067885	13	0.0532437	942	0.001328704	21	0.03324071	146	0.00020621
6	0.04392394	777	0.00109613	14	0.0587186	1039	0.001465331	22	0.02604906	115	0.000161596
7	0.06251556	1107	0.00156008	15	0.0641923	1136	0.001601927	23	0.01741314	77	0.000108023
									TOTAL	6,000	

Hyundai Delership, San Bruno, CA - Roadway Impacts on Construction MEI
AERMOD Risk Modeling Parameters and Maximum Concentrations
2nd Floor MEI Receptors

Emissions Years	2023
Receptor Information	
Number of Receptors	
Receptor Height (in m) =	4.6
Receptor Distances =	Construction MEI Location
Meteorological Conditions	
BAAQMD SFO Met Data	2013 - 2017
Land Use Classification	urban
Wind Speed =	variable
Wind Direction =	variable

El Camino Real - Construction MEI Maximum Concentrations - Floor 2

Meteorological Data Years	TAC Concentrations (µg/m^3)		
	DPM	Exhaust TOG	Evaporative TOG
2013 - 2017	0.00052	0.05102	0.07007

Meteorological Data Years	PM2.5 Concentrations (µg/m^3)		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013 - 2017	0.0502	0.04643	0.00377

I-380 - Construction MEI Maximum Concentrations - Floor 2

Meteorological Data Years	TAC Concentrations (µg/m^3)		
	DPM	Exhaust TOG	Evaporative TOG
2013 - 2017	0.00451	0.23255	0.21506

Meteorological Data Years	PM2.5 Concentrations (µg/m^3)		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013 - 2017	0.16758	0.14822	0.01936

Hyundai Delership, San Bruno, CA - Roadway Impacts on Construction MEI
Maximum DPM Cancer Risk and PM2.5 Calculations
Second Floor receptor height (4.6m)

Cancer Risk Calculation Method

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

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age --> / Parameter	3rd Trimester	0 - 2	2 - 16	16 - 30
ASF =	10	10	3	1
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

Roadway Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			TOTAL
Exposure Year	Exposure Duration (years)	Age	Year	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	
0	0.25	-0.25 - 0*	2023	10	0.0005	0.0510	0.0701	0.007	0.004	0.0003	0.011
1	1	0 - 1	2023	10	0.0005	0.0510	0.0701	0.085	0.048	0.0039	0.137
2	1	1 - 2	2024	10	0.0005	0.0510	0.0701	0.085	0.048	0.0039	0.137
3	1	2 - 3	2025	3	0.0005	0.0510	0.0701	0.013	0.008	0.0006	0.022
4	1	3 - 4	2026	3	0.0005	0.0510	0.0701	0.013	0.008	0.0006	0.022
5	1	4 - 5	2027	3	0.0005	0.0510	0.0701	0.013	0.008	0.0006	0.022
6	1	5 - 6	2028	3	0.0005	0.0510	0.0701	0.013	0.008	0.0006	0.022
7	1	6 - 7	2029	3	0.0005	0.0510	0.0701	0.013	0.008	0.0006	0.022
8	1	7 - 8	2030	3	0.0005	0.0510	0.0701	0.013	0.008	0.0006	0.022
9	1	8 - 9	2031	3	0.0005	0.0510	0.0701	0.013	0.008	0.0006	0.022
10	1	9 - 10	2032	3	0.0005	0.0510	0.0701	0.013	0.008	0.0006	0.022
11	1	10 - 11	2033	3	0.0005	0.0510	0.0701	0.013	0.008	0.0006	0.022
12	1	11 - 12	2034	3	0.0005	0.0510	0.0701	0.013	0.008	0.0006	0.022
13	1	12 - 13	2035	3	0.0005	0.0510	0.0701	0.013	0.008	0.0006	0.022
14	1	13 - 14	2036	3	0.0005	0.0510	0.0701	0.013	0.008	0.0006	0.022
15	1	14 - 15	2037	3	0.0005	0.0510	0.0701	0.013	0.008	0.0006	0.022
16	1	15 - 16	2038	3	0.0005	0.0510	0.0701	0.013	0.008	0.0006	0.022
17	1	16-17	2039	1	0.0005	0.0510	0.0701	0.001	0.001	0.0001	0.002
18	1	17-18	2040	1	0.0005	0.0510	0.0701	0.001	0.001	0.0001	0.002
19	1	18-19	2041	1	0.0005	0.0510	0.0701	0.001	0.001	0.0001	0.002
20	1	19-20	2042	1	0.0005	0.0510	0.0701	0.001	0.001	0.0001	0.002
21	1	20-21	2043	1	0.0005	0.0510	0.0701	0.001	0.001	0.0001	0.002
22	1	21-22	2044	1	0.0005	0.0510	0.0701	0.001	0.001	0.0001	0.002
23	1	22-23	2045	1	0.0005	0.0510	0.0701	0.001	0.001	0.0001	0.002
24	1	23-24	2046	1	0.0005	0.0510	0.0701	0.001	0.001	0.0001	0.002
25	1	24-25	2047	1	0.0005	0.0510	0.0701	0.001	0.001	0.0001	0.002
26	1	25-26	2048	1	0.0005	0.0510	0.0701	0.001	0.001	0.0001	0.002
27	1	26-27	2049	1	0.0005	0.0510	0.0701	0.001	0.001	0.0001	0.002
28	1	27-28	2050	1	0.0005	0.0510	0.0701	0.001	0.001	0.0001	0.002
29	1	28-29	2051	1	0.0005	0.0510	0.0701	0.001	0.001	0.0001	0.002
30	1	29-30	2052	1	0.0005	0.0510	0.0701	0.001	0.001	0.0001	0.002
Total Increased Cancer Risk								0.39	0.217	0.018	**0.62**

* Third trimester of pregnancy

Maximum	
Hazard Index	**Total PM2.5 (µg/m3)**
0.00010	0.050

Hyundai Delership, San Bruno, CA - Roadway Impacts on Construction MEI
Maximum DPM Cancer Risk and PM2.5 Calculations
Second Floor receptor height (4.6m)

Cancer Risk Calculation Method

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

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
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

Roadway Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			TOTAL
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Age Sensitivity Factor**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	
0	0.25	-0.25 - 0*	2023	10	0.0045	0.2326	0.2151	0.061	0.018	0.0010	0.08
1	1	0 - 1	2023	10	0.0045	0.2326	0.2151	0.741	0.218	0.0119	0.97
2	1	1 - 2	2024	10	0.0045	0.2326	0.2151	0.741	0.218	0.0119	0.97
3	1	2 - 3	2025	3	0.0045	0.2326	0.2151	0.117	0.034	0.0019	0.15
4	1	3 - 4	2026	3	0.0045	0.2326	0.2151	0.117	0.034	0.0019	0.15
5	1	4 - 5	2027	3	0.0045	0.2326	0.2151	0.117	0.034	0.0019	0.15
6	1	5 - 6	2028	3	0.0045	0.2326	0.2151	0.117	0.034	0.0019	0.15
7	1	6 - 7	2029	3	0.0045	0.2326	0.2151	0.117	0.034	0.0019	0.15
8	1	7 - 8	2030	3	0.0045	0.2326	0.2151	0.117	0.034	0.0019	0.15
9	1	8 - 9	2031	3	0.0045	0.2326	0.2151	0.117	0.034	0.0019	0.15
10	1	9 - 10	2032	3	0.0045	0.2326	0.2151	0.117	0.034	0.0019	0.15
11	1	10 - 11	2033	3	0.0045	0.2326	0.2151	0.117	0.034	0.0019	0.15
12	1	11 - 12	2034	3	0.0045	0.2326	0.2151	0.117	0.034	0.0019	0.15
13	1	12 - 13	2035	3	0.0045	0.2326	0.2151	0.117	0.034	0.0019	0.15
14	1	13 - 14	2036	3	0.0045	0.2326	0.2151	0.117	0.034	0.0019	0.15
15	1	14 - 15	2037	3	0.0045	0.2326	0.2151	0.117	0.034	0.0019	0.15
16	1	15 - 16	2038	3	0.0045	0.2326	0.2151	0.117	0.034	0.0019	0.15
17	1	16-17	2039	1	0.0045	0.2326	0.2151	0.013	0.004	0.0002	0.017
18	1	17-18	2040	1	0.0045	0.2326	0.2151	0.013	0.004	0.0002	0.017
19	1	18-19	2041	1	0.0045	0.2326	0.2151	0.013	0.004	0.0002	0.017
20	1	19-20	2042	1	0.0045	0.2326	0.2151	0.013	0.004	0.0002	0.017
21	1	20-21	2043	1	0.0045	0.2326	0.2151	0.013	0.004	0.0002	0.017
22	1	21-22	2044	1	0.0045	0.2326	0.2151	0.013	0.004	0.0002	0.017
23	1	22-23	2045	1	0.0045	0.2326	0.2151	0.013	0.004	0.0002	0.017
24	1	23-24	2046	1	0.0045	0.2326	0.2151	0.013	0.004	0.0002	0.017
25	1	24-25	2047	1	0.0045	0.2326	0.2151	0.013	0.004	0.0002	0.017
26	1	25-26	2048	1	0.0045	0.2326	0.2151	0.013	0.004	0.0002	0.017
27	1	26-27	2049	1	0.0045	0.2326	0.2151	0.013	0.004	0.0002	0.017
28	1	27-28	2050	1	0.0045	0.2326	0.2151	0.013	0.004	0.0002	0.017
29	1	28-29	2051	1	0.0045	0.2326	0.2151	0.013	0.004	0.0002	0.017
30	1	29-30	2052	1	0.0045	0.2326	0.2151	0.013	0.004	0.0002	0.017
Total Increased Cancer Risk								3.36	0.988	0.054	**4.40**

Maximum	
Hazard Index	**Total PM2.5 (µg/m3)**
0.0009	0.168

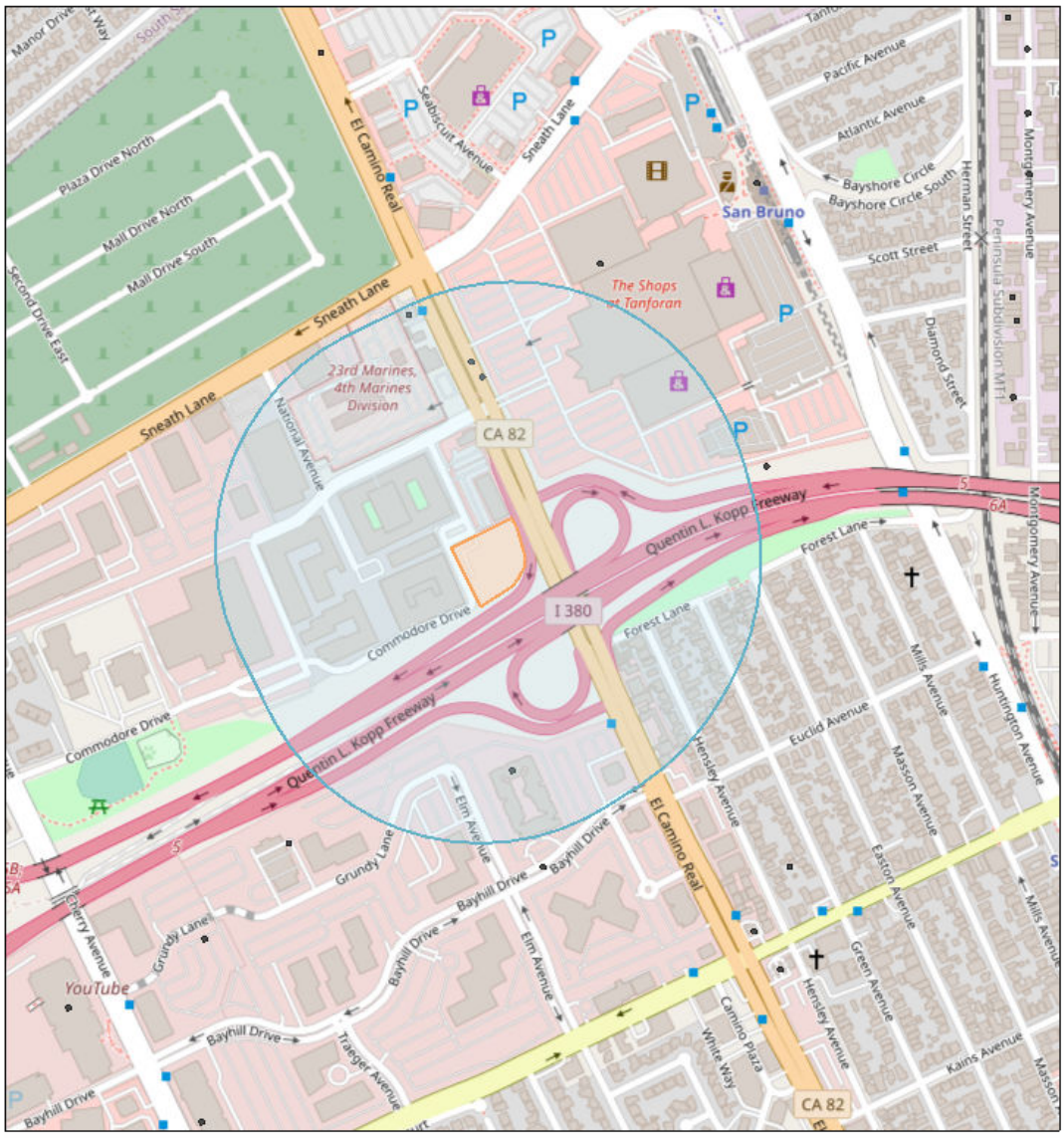
* Third trimester of pregnancy

Screening Report

Area of Interest (AOI) Information

Area : 4,241,629.78 ft²

Nov 8 2022 10:07:48 Pacific Standard Time



• Permitted Stationary Sources

Summary

Name	Count	Area(ft²)	Length(ft)
Permitted Stationary Sources	4	N/A	N/A

Permitted Stationary Sources

#	FacID	FacName	Address	City	Street
1	16395	JC Penny Company Store #J1959-6	1122 El Camino Real	San Bruno	CA
2	18040	The Shops at Tanforan	1188 El Camino Real	San Bruno	CA
3	18234	Avalon San Bruno	1000 National Avenue	San Bruno	CA
4	109025_1	Tanforan Shell	1199 El Camino Real	San Bruno	CA

#	Zip	County	Latitude	Longitude	Details
1	94,066.00	San Mateo	37.64	-122.42	Generator
2	94,066.00	San Mateo	37.64	-122.42	Generator
3	94,066.00	San Mateo	37.63	-122.42	Generator
4	94,066.00	San Mateo	37.64	-122.42	Gas Dispensing Facility

#	NAICS	Sector	Sub_Sector	Industry	ChronicHI
1	221,112.00	Utilities	Utilities	Fossil Fuel Electric Power Generation	0.0000304
2	531,120.00	Real Estate and Rental and Leasing	Real Estate	Lessors of Nonresidential Buildings (except Miniwarehouses)	0.0292729
3	236,115.00	Construction	Construction of Buildings	New Single-Family Housing Construction (except Operative Builders)	0.0000054
4	447,110.00	Retail Trade	Gasoline Stations	Gasoline Stations with Convenience Stores	0.1317512

#	PM2_5	Cancer Risk {expression/expr0}	Chronic Hazard Index {expression/expr1}	PM2.5 {expression/expr2}	Count
1	0.0001426	0.113	0	0	1
2	0.0157313	12.554	0.029	0.016	1
3	0.0000253	0.02	0	0	1
4	0.0000000	27.51	0.132	*No Data*	1

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

Stationary Source Data Request Form

Background

Please provide all information below and submit this form with a printout of the Stationary Source Screening Report (instructions below) available via the Stationary Source Screening Map to Public Records Request. Facility level emissions are publicly available on the Air Resources Board California Emissions Inventory Development and Reporting System website. All other CEQA related questions can be emailed to CEQA@baaqmd.gov.

Requester Information

Public Records Request #	2022-11-0078	Project Name	Crossing Site Genesis Hyundai Dealership
Contact Name	Jordyn Bauer	Project Location: (City, County)	1064-1098 Admiral Court, San Bruno, San Mateo County
Contact Phone	707-794-0400 x106	Contact Email	jbauer@illingworthrodkin.com

Instructions

1. Create a Public Records Request to get a request #.
2. Go to the Stationary Sources Screening Map on the CEQA Resources page.
3. Select "Draw" or "Coordinate" (top left).
4. Draw project parcel or place marker.
5. Indicate the desired buffer distance.
6. Click "Report".
7. Download .CSV and print boundary pdf.
8. Complete this form with any additional data requests.
9. Email this form and supporting files to Public Records Request email. In the **email subject line** include your Public Records Number.

Additional Data Request

Hello, I have a stationary source request where source #109025_1 is a gas station. In order to use the CARB gas station screening tool we need to know the gas station's annual throughput (gallons/year). Can you please provide source #109025_1 annual gas throughput emissions? Thank you!

Jay Witt

From: BAAQMD CEQA <ceqa@baaqmd.gov>
Sent: Wednesday, November 30, 2022 2:37 PM
To: Jordyn Bauer
Cc: Public Records; Alison Kirk
Subject: FW: Public Records Number 2022-11-0078, Stationary Source Request for 21-060 Crossing Site Genesis Hyundai Dealership, San Bruno SSIF

Hi Jordon,

For #109025, throughput of all grades of gasoline shall not exceed 9.2 million gallons in any consecutive 12 month period. We recommend that you use this information with the California Air Resource Board Gas Station Risk Assessment Guidance and Tool to prepare gas station health risk assessment.

Thanks.

Alison Kirk
Teams Phone 415-894-5920

From: Public Records <PublicRecords@baaqmd.gov>
Sent: Wednesday, November 9, 2022 9:00 AM
To: BAAQMD CEQA <ceqa@baaqmd.gov>
Subject: FW: Public Records Number 2022-11-0078, Stationary Source Request for 21-060 Crossing Site Genesis Hyundai Dealership, San Bruno SSIF

Hello, I have a stationary source request where source #109025_1 is a gas station. In order to use the CARB gas station screening tool we need to know the gas station's annual throughput (gallons/year). Can you please provide source #109025_1 annual gas throughput emissions? I will follow up with an email with the GIS tool's information and request form. Thank you!

Best,
Rochele Henderson
Bay Area Air Quality Management District
Public Records Officer
415.516.1916

From: Jordyn Bauer <jbauer@illingworthrodkin.com>
Sent: Tuesday, November 8, 2022 10:29 AM
To: Public Records <PublicRecords@baaqmd.gov>
Subject: Public Records Number 2022-11-0078, Stationary Source Request for 21-060 Crossing Site Genesis Hyundai Dealership, San Bruno SSIF

Hello,

I have a stationary source data request for a car dealership project in San Bruno. I've attached the stationary source data request form and GIS tool screening reports. Source #109025_1 is a gas station and in order to use the CARB gas station screening tool we need to know the gas station's annual throughput (gallons/year). Can you please provide source #109025_1 annual gas throughput emissions? Please let me know if I can help facilitate this request by providing additional information.

Thank you,

Jordyn Bauer
Illingworth & Rodkin, Inc.
429 E. Cotati Avenue
Cotati, CA 94931

2022 CARB & CAPCOA Gasoline Service Station Industrywide Risk Assessment Look-up Tool
Version 1.0 - February 18, 2022

Required Value	User Defined Input	Instructions
Annual Throughput (gallons/year)	9200000	Enter your gas station's annual throughput in gallons of gasoline dispensed per year.
Hourly Dispensing Throughput (gallons/hour)	2000	The tool will calculate the maximum hourly vehicle fueling throughput based on annual throughput as defined by Table 10 of the 2020 Gasoline Service Station Industrywide Risk Assessment Technical Guidance Document (Technical Guidance). If a different value is desired please enter it into cell L4.
Hourly Loading Throughput (gallons/hour)	8800	The tool will calculate the maximum hourly loading throughput based on annual throughput as defined by Table 10 of the Technical Guidance. If a different value is desired please enter it into cell L5.
Meteorological Data	San Jose	Select appropriate meteorological data. Met sets provided include 2 rural (Redding and Lancaster) and 4 urban (Fresno, Ontario, San Diego, and San Jose) locations. Use whichever best correlates to your location. If you would like to use site-specific meteorological data please refer to the Variable Met Tool.
Distance to Nearest Resident (meters)	352.2	Enter the distance to the nearest residential receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance).
Distance to Nearest Business (meters)		Enter the distance to the nearest worker receptor in meters as measured from the edge of the station canopy. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance).
Distance to Acute Receptor (meters)	352.2	Enter the distance where acute impacts are expected in meters as measured from the edge of the station canopy. This can be the distance to the property boundary, nearest resident, nearest worker, or any other user defined location. Please note that the value must be between 10 and 1000 meters. The distance you input will round down to the nearest receptor distance used in the Technical Guidance (e.g., 19m will return value at 10m distance).
Control Scenario	EVR Phase I & EVR Phase II	Select the appropriate control scenario for your gas station. Please refer to technical Guidance for an explanation of the different control scenarios. Almost all gas stations in California are equipped with EVR Phase I and EVR Phase II controls.
Include Building Downwash Adjustments	no	Building downwash may over estimate risk results. High results should be investigated further through site-specific health risk assessment.
Risk Value	**Results**	
Max Residential Cancer Risk (chances/million)	0.63	
Max Worker Cancer Risk (chances/million)		12/12/2022 12:40 PM
Chronic HI	#N/A	
Acute HI	0.02	

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	11/8/2022
Contact Name	
Affiliation	Illingworth & Rodkin, Inc.
Phone	707-794-0400 x103
Email	
Project Name	Hyundai Dealership
Address	I380/El Camino Real
City	San Bruno
County	San Mateo
Type (residential, commercial, mixed use, industrial, etc.)	Comercial
Project Size (# of units or building square feet)	
Comments:	

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

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

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

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

4. Identify stationary sources within at least a 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 addr to confirm the source's address location. Please report any mapping errors to the District.

5. List the stationary source information in Table B ction only.

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

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

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

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

Table B: Google Earth data

Project MEI

Distance from Receptor (feet) or MEI[1]	Plant No.	Facility Name	Address	Cancer Risk[2]	Hazard Risk[2]	$PM_{2.5}$[2]	Source No.[3]	Type of Source[4]	Fuel Code[5]	Status/Comments	Distance Adjustment Multiplier	Adjusted Cancer Risk Estimate	Adjusted Hazard Risk	Adjusted PM2.5
1,236	16395	JC Penny Company Store #J1959	1122 El Camino Real	0.11	0.0000304	0.000143		Generator	98		0.04	0.004400	0.000001	0.000006
1,944	18040	The Shops at Tanforan	1188 El Camino Real	12.55	0.0292729	0.015731		Generator	98		0.04	0.50	0.00117	0.0006
253	18234	Avalon San Bruno	1000 National Avenue	0.02	0.0000054	2.53E-05		Generator	98		0.31	0.01	0.000002	0.000008
1,158	22875	Walmart eCommerce, Building #4	950 Elm Street	7.36	0.013	0.009		Generator	98		0.04	0.29	0.00052	0.0004

Footnotes:

1. Maximally exposed individual
2. These Cancer Risk, Hazard Index, and PM2.5 columns represent the values in the Google Earth Plant Information Table.
3. Each plant may have multiple permits and sources.
4. Permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc.
5. Fuel codes: 98 = diesel, 189 = Natural Gas.
6. If a Health Risk Screening Assessment (HRSA) was completed for the source, the application number will be listed here.
7. The date that the HRSA was completed.
8. Engineer who completed the HRSA. For District purposes only.
9. All HRSA completed before 1/5/2010 need to be multiplied by an age sensitivity factor of 1.7.
10. The HRSA "Chronic Health" number represents the Hazard Index.
11. Further information about common sources:
    a. Sources that only include diesel internal combustion engines can be adjusted using the BAAQMD's Diesel Multiplier worksheet.
    b. The risk from natural gas boilers used for space heating when <25 MM BTU/hr would have an estimated cancer risk of one in a million or less, and a chronic hazard index of 0.003 or less. To be
    c. BAAQMD Reg 11 Rule 16 required that all co-residential (sharing a wall, floor, ceiling or is in the same building as a residential unit) dry cleaners cease use of perc on July 1, 2010. Therefore, there is no cancer risk, hazard or PM2.5 concentrations from co-residential dry cleaning businesses in the BAAQMD.
    d. Non co-residential dry cleaners must phase out use of perc by Jan. 1, 2023. Therefore, the risk from these dry cleaners does not need to be factored in over a 70-year period, but instead should reflect the number of
    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