

PUBLIC MARKET PARCELS A, B, F AIR QUALITY AND GREENHOUSE GAS ASSESSMENT

Emeryville, California

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Attachment 3B

Introduction

The purpose of this report is to address air quality, community health risk, and greenhouse gas (GHG) impacts associated with the proposed redevelopment of Parcels A, B, and F of the Emeryville Public Market located in Emeryville, California. The air quality and GHG impacts from this project would be associated with demolition of the existing land uses, construction of the new buildings and infrastructure, and operation of the project. Air pollutants and GHG emissions associated with construction and operation of the project were predicted using appropriate computer models. In addition, the potential project health risk impacts (includes construction and operation) and the impact of existing toxic air contaminant (TAC) sources affecting the nearby sensitive receptors were evaluated. The analysis was conducted following guidance provided by the Bay Area Air Quality Management District (BAAQMD).¹

Project Description

Existing Market Place Redevelopment

The Marketplace Redevelopment Project was approved by the City of Emeryville in 2008. There have been changes to the land uses proposed in the Public Market Redevelopment Project over the years and appropriate environmental analysis have been conducted. The Marketplace Draft EIR analyzed the construction of five new buildings, adding up to 340 for-sale condominium units, up to 77,000 square feet (sf) of new commercial space, up to 444 new parking spaces and site improvements as the proposed project (“Draft EIR Project”). The Draft EIR also analyzed four alternatives: the No Project Alternative, the Reduced Project Alternative, the Tower Alternative and the Main Street Alternative. The Final EIR specifically addressed the Reduced Main Street Alternative that included 674 residential units, 179,875 sf of commercial space and 120,000 sf of office space (“Final EIR Project”).

Since adoption of the PUD/PDP, the Planning Commission has approved a number of Final Development Plans (“FDPs”) and a subdivision map to allow for a grocery store (Parcel C1); realignment of Shellmound Street; creation of 62nd Street, 63rd Street, and Market Drive; construction of four residential buildings (64th and Christie, Parcel A, Parcel C2, and Parcel D); a parking structure with ground floor retail (Parcel B); and the redevelopment and expansion of Christie Park (Parcel E). The last set of approvals were completed for Parcel B after the applicant proposed to replace this FDP for Parcel B with a new FDP to accommodate 150,000 sf of Research and Development (office/lab) space in addition to ground floor retail space and 565 parking spaces (FDP18-001). This was ultimately approved by the City Council in 2020.

Current Proposed Parcels A/B/F FDP

The existing project site of Parcels A and F are occupied by surface parking lots. Parcel B’s project site is currently vacant. This project proposes to demolish the existing parking lots and construct a total of 431,056 square feet (sf) of research & development (R&D)/office space on Parcel B, a 711-space parking garage on Parcel A, and 10 townhomes on Parcel F. Also included will be 3,074-sf of ground floor retail space on Parcel B. In addition, the project proposes to include one

¹ Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017.

stand-by diesel emergency generator in the parking garage and one stand-by diesel emergency generator on the north side of the R&D building. There will also be space on the roof of the R&D building for up to four natural gas fired generators. Two cooling towers are also proposed on the roof of the R&D building. Construction is proposed to begin in January 2023 and be completed by December 2023.

Market Place EIR – Air Quality Findings

The Marketplace EIR analyzed impacts to air quality in Section D of the Draft EIR and in Section 5.B.d of the Final EIR. The Draft EIR concluded that demolition and construction period activities from building the Project could generate significant dust, exhaust, and evaporative emissions, but concluded that this impact would be less-than-significant after implementation of mitigation. (Marketplace Draft EIR, pp. 210-211). The EIR concluded that the Final EIR Project would result in greater air quality impacts than the Draft EIR Project as a result of greater construction activity, but that implementation of mitigation would reduce these construction activity impacts to less-than-significant. (Marketplace Final EIR, p. 124). The Final EIR concludes that the Final EIR Project would result in operational regional emissions that would exceed the BAAQMD standards for ozone precursor emissions and PM₁₀, and that implementation of the recommended mitigation measures would reduce the impact to the greatest extent feasible, but the impact would nonetheless remain significant and unavoidable.

EIR Construction Mitigation Measures

Mitigation Measure AIR-1: Consistent with guidance from the BAAQMD, the following actions shall be required of construction contracts and specifications for the project.

Demolitions: The following controls shall be implemented during demolition:

- Water during demolition of structures and break-up of pavement to control dust generation;
- Cover all trucks hauling demolition debris from the site; and
- Use dust-proof chutes to load debris into trucks whenever feasible.

Construction: The following controls shall be implemented at all construction sites:

- Water all active construction areas at least twice daily and more often during windy periods; active areas adjacent to existing land uses shall be kept damp at all times, or shall be treated with non-toxic stabilizers to control dust;
- Cover all trucks hauling soil, sand, and other loose materials;
- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites;
- Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites; water sweepers shall vacuum up excess water to avoid runoff-related impacts to water quality;
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets;
- Apply non-toxic soil stabilizers to inactive construction areas;

- Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.);
- Limit traffic speeds on unpaved roads to 15 mph;
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways;
- Replant vegetation in disturbed areas as quickly as possible; Install baserock at entryways for all exiting trucks, and wash off the tires or tracks of all trucks and equipment in designated areas before leaving the site; and
- Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph.

Final EIR Mitigation Measure

Mitigation Measure AIR-1 (Reduced Main Street alternative): The BAAQMD CEQA Guidelines document identifies potential mitigation measures for various types of projects. The following are considered to be feasible and effective in further reducing vehicle trip generation and resulting emissions from the project. These measures shall be implemented at the project site:

- Provide transit facilities (e.g., bus bulbs/turnouts, benches, shelters).
- Provide bicycle lanes and/or paths, connected to community-wide network.
- Provide sidewalks and/or paths, connected to adjacent land uses, transit stops, and/or community-wide network.
- Provide secure and conveniently located bicycle and storage.
- Implement feasible transportation demand management (TDM) measures including a ride-matching program, coordination
- Implementation of an aggressive trip reduction program with the appropriate incentives for non-auto travel would reduce impacts of the alternative by approximately 10 to 15 percent.

Air Quality Setting

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

Air Pollutants of Concern

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

levels aggravate respiratory and cardiovascular diseases, reduced lung function, and increase coughing and chest discomfort.

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

Toxic Air Contaminants

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

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs (based on the Bay Area average). According to the California Air Resources Board (CARB), diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the State's Proposition 65 or under the Federal Hazardous Air Pollutants programs. The most recent Office of Environmental Health Hazard Assessment (OEHHA) risk assessment guidelines were published in February of 2015.² 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, elementary schools, and parks. 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 site are the residents in the multi-family housing northwest of the project site. There are additional

² OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.

sensitive receptors at farther distances to the southeast and west of the project site. The project will introduce new sensitive (i.e., residents) receptors.

Regulatory Setting

Federal Regulations

The United States Environmental Protection Agency (EPA) sets nationwide emission standards for mobile sources, which include on-road (highway) motor vehicles such trucks, buses, and automobiles, and non-road (off-road) vehicles and equipment used in construction, agricultural, industrial, and mining activities (such as bulldozers and loaders). The EPA also sets nationwide fuel standards. California also has the ability to set motor vehicle emission standards and standards for fuel used in California, as long as they are the same or more stringent than the federal standards.

In the past decade the EPA has established a number of emission standards for on- and non-road heavy-duty diesel engines used in trucks and other equipment. This was done in part because diesel engines are a significant source of NO_x and particulate matter (PM₁₀ and PM_{2.5}) and because the EPA has identified DPM as a probable carcinogen. Implementation of the heavy-duty diesel on-road vehicle standards and the non-road diesel engine standards are estimated to reduce particulate matter and NO_x emissions from diesel engines up to 95 percent in 2030 when the heavy-duty vehicle fleet is completely replaced with newer heavy-duty vehicles that comply with these emission standards.³

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

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

State Regulations

To address the issue of diesel emissions in the state, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.⁴ In addition to requiring more stringent emission standards for new on-road and off-road mobile sources and stationary diesel-fueled engines to reduce particulate matter emissions by 90 percent, a significant component of the plan involves application of emission control strategies to existing diesel

³ USEPA, 2000. *Regulatory Announcement, Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements*. EPA420-F-00-057. December.

⁴ California Air Resources Board, 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October.

vehicles and equipment. Many of the measures of the Diesel Risk Reduction Plan have been approved and adopted, including the federal on-road and non-road diesel engine emission standards for new engines, as well as adoption of regulations for low sulfur fuel in California.

CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy-duty diesel trucks that represent the bulk of DPM emissions from California highways. CARB regulations require on-road diesel trucks to be retrofitted with particulate matter controls or replaced to meet 2010 or later engine standards that have much lower DPM and PM_{2.5} emissions. This regulation will substantially reduce these emissions between 2013 and 2023. While new trucks and buses will meet strict federal standards, this measure is intended to accelerate the rate at which the fleet either turns over so there are more cleaner vehicles on the road or is retrofitted to meet similar standards. With this regulation, older, more polluting trucks would be removed from the roads sooner.

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

Bay Area Air Quality Management District (BAAQMD)

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

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

BAAQMD's Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposures to outdoor TACs in the Bay Area.⁵ The program examines TAC emissions from point sources, area sources, and on-road and off-road mobile sources with an emphasis on diesel exhaust, which is a major contributor to airborne health risk in

⁵ See BAAQMD: <https://www.baaqmd.gov/community-health/community-health-protection-program/community-air-risk-evaluation-care-program>, accessed 2/18/2021.

California. The CARE program is an on-going program that encourages community involvement and input. The technical analysis portion of the CARE program is being implemented in three phases that includes an assessment of the sources of TAC emissions, modeling and measurement programs to estimate concentrations of TAC, and an assessment of exposures and health risks. Throughout the program, information derived from the technical analyses will be used to focus emission reduction measures in areas with high TAC exposures and high density of sensitive populations. Risk reduction activities associated with the CARE program are focused on the most at-risk communities in the Bay Area. Overburdened communities are areas located (i) within a census tract identified by the California Communities Environmental Health Screening Tool (CalEnviroScreen), Version 4.0 implemented by OEHHA, as having an overall CalEnviroScreen score at or above the 70th percentile, or (ii) within 1,000 feet of any such census tract.⁶ The BAAQMD has identified six communities as impacted: Concord, Richmond/San Pablo, Western Alameda County, San José, Redwood City/East Palo Alto, and Eastern San Francisco. The project site is not within a designated CARE area and not within a BAAQMD overburdened area as identified by CalEnviroScreen 4.0 as the project site is scored at the 52nd percentile. The nearest sensitive receptors are scored at the 52nd percentile as well.

The BAAQMD *California Environmental Quality Act (CEQA) Air Quality Guidelines*⁷ were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process consistent with CEQA requirements including thresholds of significance, mitigation measures, and background air quality information. They also include assessment methodologies for TACs, odors, and greenhouse gas (GHG) emissions. In June 2010, the BAAQMD's Board of Directors adopted CEQA thresholds of significance and an update of their *CEQA Guidelines*. In May 2011, the updated BAAQMD *CEQA Air Quality Guidelines* were amended to include a risk and hazards threshold for new receptors and modify procedures for assessing impacts related to risk and hazard impacts.

BAAQMD Rules and Regulations

Combustion equipment associated with the proposed project that includes new diesel engines to power generators and a cooling tower that would establish new sources of particulate matter and gaseous emissions. Emissions would primarily result from the testing of the emergency backup generators. Certain emission sources would be subject to BAAQMD Regulations and Rules. The District's rules and regulations that may apply to the project include:

- Regulation 1 – General Provisions
Rule 1-30: Public Nuisance
- Regulation 2 – Permits
Rule 2-1: General Requirements
Rule 2-2: New Source Review
Rule 2-5: New Source Review of Toxic Air Contaminants
- Regulation 6 – Particulate Matter and Visible Emissions

⁶ See BAAQMD: https://www.baaqmd.gov/~media/dotgov/files/rules/reg-2-permits/2021-amendments/documents/20210722_01_appendixd_mapsofverburdenedcommunities-pdf.pdf?la=en, accessed 11/23/2021.

⁷ Bay Area Air Quality Management District, 2011. *CEQA Air Quality Guidelines*. May. (Updated May 2017)

- Rule 6-2: Commercial Cooking Equipment
- Rule 6-3: Wood-Burning Devices
- Rule 6-7: Odorous Substances
- Regulation 9 – Inorganic Gaseous Pollutants
 - Rule 9-1: Sulfur Dioxide
 - Rule 9-7: Nitrogen Oxides and Carbon Monoxide from Industrial, Institutional, and Commercial Boilers, Steam Generators, And Process Heaters
 - Rule 9-8: Nitrogen Oxides and Carbon Monoxide from Stationary Internal Combustion Engines

Permits

Rule 2-1-301 requires that any person installing, modifying, or replacing any equipment, the use of which may reduce or control the emission of air contaminants, shall first obtain an Authority to Construct (ATC).

Rule 2-1-302 requires that written authorization from the BAAQMD in the form of a Permit to Operate (PTO) be secured before any such equipment is used or operated.

Rule 2-1 lists sources that are exempt from permitting.

New Source Review

Rule 2-2, New Source Review (NSR), applies to all new and modified sources or facilities that are subject to the requirements of Rule 2-1-301. The purpose of the rule is to provide for review of such sources and to provide mechanisms by which no net increase in emissions will result.

Rule 2-2-301 requires that an applicant for an ATC or PTO apply Best Available Control Technology (BACT) to any new or modified source that results in an increase in emissions and has emissions of precursor organic compounds, non-precursor organic compounds, NO_x, SO₂, PM₁₀, or CO of 10.0 pounds or more per highest day. Based on the estimated emissions from the proposed project, BACT will be required for NO_x emissions from the diesel-fueled generator engines.

Rule 2-5 applies to new and modified sources of TAC emissions. BAAQMD evaluates the TAC emissions in order to evaluate potential public exposure and health risk, to mitigate potentially significant health risks resulting from these exposures, and to provide net health risk benefits by improving the level of control when existing sources are modified or replaced. Toxics BACT (or TBACT) is applied to any new or modified source of TACs where the source risk is a cancer risk greater than 1.0 in one million and/or a chronic hazard index greater than 0.20. Permits are not issued for any new or modified source that has risks or net project risks that exceed a cancer risk of 10.0 in one million or a chronic or acute hazard index of 1.0.

Stationary Diesel Airborne Toxic Control Measure

The BAAQMD administers the CARB's Airborne Toxic Control Measure (ACTM) for Stationary Diesel engines (section 93115, title 17 CA Code of Regulations). The project's stationary sources will be new stationary emergency standby diesel engines larger than 50 hp. These limits vary based on maximum engine power. All engines are limited to PM emission rates of 0.15 g/hp-hour, regardless of size. This ACTM limits engine operation 50 hours per year for routine testing and maintenance.

Offsets

Rule 2-2-302 require that offsets be provided for a new or modified source that emits more than 10 tons per year of NO_x or precursor organic compounds. It is not expected that emissions of any pollutant will exceed the offset thresholds.

Prohibitory Rules

Regulation 6 pertains to particulate matter and visible emissions. Although the engines will be fueled with diesel, they will be modern, low emission engines. Thus, the engines are expected to comply with Regulation 6.

Rule 6-3 applies to emissions from wood-burning devices. Effective November 1, 2016, no person or builder shall install a wood-burning device in a new building construction.

Rule 9-1 applies to sulfur dioxide. The engines will use ultra-low sulfur diesel fuel (less than 15 ppm sulfur) and will not be a significant source of sulfur dioxide emissions and are expected to comply with the requirements of Rule 9-1.

Rule 9-7 limits the emissions of NO_x CO from industrial, institutional and commercial boilers, steam generators and process heaters. This regulation typically applies to boilers with a heat rating of 2 million British Thermal Units (BTU) per hour

Rule 9-8 prescribes NO_x and CO emission limits for stationary internal combustion engines. Since the proposed engines will be used with emergency standby generators, Regulation 9-8-110 exempts the engines from the requirements of this Rule, except for the recordkeeping requirements (9-8-530) and limitations on hours of operation for reliability-related operation (maintenance and testing). The engines will not operate more than 50 hours per year, which will satisfy the requirements of 9-8-111.

BACT for Diesel Generator Engines

Since the generators will be used exclusively for emergency use during involuntary loss of power, the BACT levels listed for IC compression engines in the BAAQMD BACT Guidelines would apply. These are provided for two separate size ranges of diesel engines:

I.C. Engine – Compression Ignition >50hp and <1,000hp: BAAQMD applies BACT 2 emission limits based on the ATCM for stationary emergency standby diesel engines larger than 50 brake-horsepower (BHP). NO_x emission factor limit is subject to the CARB

ACTM that ranges from 3.0 to 3.5 grams per horsepower hour (g/hp-hr). The PM (PM10 or PM2.5) limit is 0.15 g/hp-hr per CARB's ACTM.

I.C. Engine – Compression Ignition >999hp: BAAQMD applies specific BACT emission limits for stationary emergency standby diesel engines equal or larger than 1,000 brake-horsepower (BHP). NOx emission factor limit is subject to the CARB ACTM that ranges from 0.5 g/hp-hr. The PM (PM10 or PM2.5) limit is 0.02 g/hp-hr. POC (i.e., ROG) limits are 0.14 g/hp-hr.

City of Emeryville General Plan

The Emeryville's General Plan, updated in September of 2019, includes policies and actions to reduce exposure of the City's sensitive population to exposure of air pollution, toxic air contaminants, and GHG emissions. The following policies and actions are applicable to the proposed project:

Policies

- | | |
|----------|---|
| CSN-G-2: | Local ambient air quality levels that help meet regional attainment status and contain low levels of air pollutants. |
| CSN-P-1: | Air quality will be maintained and improved by requiring project mitigation, such as Transportation Demand Management (TDM) techniques, where significant air quality impacts are identified. |
| CSN-P-4: | Dust abatement actions are required for all new construction and redevelopment projects. |
| CSN-P-5: | All large construction projects are required to reduce diesel exhaust emissions through use of alternate fuels and/or control devices. |
| CSN-P-7: | New commercial and industrial activities, as well as construction and demolition practices, shall be regulated to minimize discharge of pollutant and sediment concentrations into San Francisco Bay. |

Significance Thresholds

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

Table 1. BAAQMD CEQA Air Quality Significance Thresholds

Table 1: BAAQM CEQA Air Quality Significance Thresholds			
Criteria Air Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
ROG	54	54	10
NO _x	54	54	10
PM ₁₀	82 (Exhaust)	82	15
PM _{2.5}	54 (Exhaust)	54	10
Local CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
Health Risks and Hazards	Single Sources Within 1,000-foot Zone of Influence	Combined Sources (Cumulative from all sources within 1000-foot zone of influence)	
Excess Cancer Risk	10 per one million	100 per one million	
Hazard Index	1.0	10.0	
Incremental annual PM _{2.5}	0.3 µg/m ³	0.8 µg/m ³	
Note: ROG = reactive organic gases, NO _x = nitrogen oxides, PM ₁₀ = course particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, PM _{2.5} = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less.			

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*.⁸ The primary goals of the Clean Air Plan are to attain air quality standards, reduce population exposure and protect public health, and reduce GHG emissions and protect the climate. The BAAQMD has also developed CEQA guidelines to assist lead agencies in evaluating the significance of air quality and GHG impacts. In formulating compliance strategies, BAAQMD relies on the planned land uses identified 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. General plans must show consistency with the control measures listed within the Clean Air Plan. However,

⁸ Bay Area Air Quality Management District (BAAQMD), 2017. *Final 2017 Clean Air Plan*.

at the project-level, there are no consistency measures or thresholds. Despite this, the proposed project would not conflict with the latest Clean Air planning efforts since 1) the project would have construction and operational emissions below the BAAQMD thresholds (see Impact 2 below) and 2) the project would be considered urban infill, 3) the project would be located near employment centers, and 4) the project would be located near transit with regional connections.

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

The Bay Area is considered a non-attainment area for ground-level O₃ and PM_{2.5} under both the Federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for PM₁₀ under the California Clean Air Act, but not the federal act. The area has attained both State and Federal ambient air quality standards for carbon monoxide. As part of an effort to attain and maintain ambient air quality standards for O₃, PM_{2.5} and PM₁₀, the BAAQMD has established thresholds of significance for these air pollutants and their precursors. These thresholds are for O₃ precursor pollutants (ROG and NO_x), PM₁₀, and PM_{2.5} and apply to both construction period and operational 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, size, and anticipated construction schedule were input to CalEEMod. The CARB Emission FACtors 2021 (EMFAC2021) model was used to predict emissions from construction traffic, which includes worker travel, vendor trucks, and haul trucks.⁹ 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 Inputs

Land Uses

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

⁹ See CARB's EMFAC2021 Emissions Inventory at <https://arb.ca.gov/emfac/emissions-inventory>

Table 2. Summary of Project Land Use Inputs

Project Land Uses	Size	Units	Square Feet	Acreage
Parcel A				
Enclosed Parking with Elevator	711	Parking Space	289,600	1.82
Other Non-Asphalt Surfaces	20	1,000-sf	20,000	
Parcel B				
Research & Development	431.06	1,000-sf	431,056	1.64
Other Non-Asphalt Surfaces	15	1,000-sf	15,000	
Regional Shopping Center	3.07	1,000-sf	3,074	
Parcel F				
Apartments Mid Rise	10	Dwelling Unit	10,000	0.18

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 based on information generated using CalEEMod defaults for a project of this type and size.

The construction equipment worksheets included the schedule for each phase. Within each phase, the quantity of equipment to be used along with the average hours per day and total number of workdays were based on CalEEMod defaults. Since different equipment would have different estimates of the working days per phase, the hours per day for each phase was computed by dividing the total number of hours that the equipment would be used by the total number of days in that phase. The construction schedule assumed that the earliest possible start date for each phase would be January 2023 and would be built out over a period of approximately 12 months, or 247 construction workdays. The earliest year of full operation was assumed to be 2024.

Construction Traffic Emissions

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

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 LDT1 and LDT2). Vendor trips are comprised of delivery and large trucks (EMFAC category MHDT and HHDT) and haul trips, including cement trucks, are comprised of large trucks (EMFAC category HHDT). Travel distances are based on CalEEMod default lengths, which are 10.8 miles for worker travel, 7.3 miles for vendor trips and 20 miles for hauling. Each trip was assumed to include an idle time of 5 minutes. Emissions associated with vehicle starts were also included. On road emissions in Alameda County for the year 2023 was used in these calculations. Table 3.1 to 3.3 provides the traffic inputs that were combined with the EMFAC2021 emission database to compute vehicle emissions for Parcels A, B, and F.

Table 3.1 Construction Traffic Data Used for EMFAC2021 Model Runs – Parcel A

CalEEMod Run/Land Uses and Construction Phase	Trips by Trip Type			Notes
	Worker Trips ¹	Vendor Trips ¹	Haul Trips 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	260	-	178	Est. 80,000-sf pavement demolition. CalEEMod default worker trips.
Site Preparation	16	-	-	CalEEMod default worker trips.
Grading	40	-	190	760-cy soil export. 760-cy soil import. CalEEMod default worker trips.
Trenching	20	-	-	CalEEMod default worker trips.
Paving	130	-	-	CalEEMod default worker trips.
Building Construction	26,000	10,200	452	Est. 226 cement round trips. CalEEMod default worker and vendor trips.
Architectural Coating	260	-	-	CalEEMod default worker trips.
Notes: ¹ Based on 2023 EMFAC2021 light-duty vehicle fleet mix for Alameda County.				
² Cement trips estimated based on data provided by the applicant.				

Table 3.2 Construction Traffic Data Used for EMFAC2021 Model Runs – Parcel B

CalEEMod Run/Land Uses and Construction Phase	Trips by Trip Type			Notes
	Worker Trips ¹	Vendor Trips ¹	Haul Trips ²	
Vehicle mix ¹	50% LDA 25% LDT1 25% LDT2	50% MHDT 50% HHDT	100% HDDT	
Trip Length (miles)	10.8	7.3	20.0	CalEEMod default distance with 5-min truck idle time.
Demolition	260	-	-	CalEEMod default worker trips.
Site Preparation	16	-	-	CalEEMod default worker trips.
Grading	40	-	1,125	4,500-cy soil export. 4,500-cy soil import. CalEEMod default worker trips.
Trenching	20	-	-	CalEEMod default worker trips.
Paving	130	-	-	CalEEMod default worker trips.
Building Construction	29,000	14,800	382	Est. 191 cement round trips. CalEEMod default worker and vendor trips.
Architectural Coating	290	-	-	CalEEMod default worker trips.
Notes: ¹ Based on 2023 EMFAC2021 light-duty vehicle fleet mix for Alameda County.				
² Cement trips estimated based on data provided by the applicant.				

Table 3.3 Construction Traffic Data Used for EMFAC2021 Model Runs – Parcel F

CalEEMod Run/Land Uses and Construction Phase	Trips by Trip Type			Notes
	Worker Trips ¹	Vendor Trips ¹	Haul Trips	
Vehicle mix ¹	50% LDA 25% LDT1 25% LDT2	50% MHDT 50% HHDT	100% HDDT	
Trip Length (miles)	10.8	7.3	20.0	CalEEMod default distance with 5-min truck idle time.
Demolition	100	-	18	Est. 8,000-sf pavement demolition. CalEEMod default worker trips.
Site Preparation	5	-	-	CalEEMod default worker trips.
Grading	16	-	-	CalEEMod default worker trips.
Trenching	10	-	-	CalEEMod default worker trips.
Paving	90	-	-	CalEEMod default worker trips.
Building Construction	700	100	-	CalEEMod default worker and vendor trips.
Architectural Coating	5	-	-	CalEEMod default worker trips.
Notes: ¹ Based on 2023 EMFAC2021 light-duty vehicle fleet mix for Alameda County.				

Summary of Computed Construction Period Emissions

Average daily emissions were annualized for each year of construction by dividing the annual construction emissions and dividing those emissions by the number of active workdays during that year. Table 4 shows the annualized average daily construction emissions of ROG, NO_x, PM₁₀ exhaust, and PM_{2.5} exhaust during construction of the project. As indicated in Table 4, predicted annualized project construction emissions would not exceed the BAAQMD significance thresholds during any year of construction.

Table 4. Construction Period Emissions – All Phases

Year	ROG	NO _x	PM ₁₀ Exhaust	PM _{2.5} Exhaust
<i>Construction Emissions Per Year (Tons)</i>				
2023	2.89	3.77	0.18	0.15
<i>Average Daily Construction Emissions Per Year (pounds/day)</i>				
2023 (247 construction workdays)	23.43	30.55	1.48	1.24
<i>BAAQMD Thresholds (pounds per day)</i>	54 lbs./day	54 lbs./day	82 lbs./day	54 lbs./day
Exceed Threshold?	No	No	No	No

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

Operational Period Emissions

Operational air emissions from the project would be generated primarily from autos driven by future residents and employees, six emergency generators, and two cooling towers. Evaporative emissions from architectural coatings and maintenance products (classified as consumer products) are typical emissions from these types of uses. CalEEMod was used to estimate emissions from operation of the entire public market site.

CalEEMod Inputs

Land Uses

Land use types for the entire Public Market based on the 2008 Project Development Plan (PDP) were entered into CalEEMod. A separate CalEEMod run was created for the land use types of the entire public market with the proposed changes in this analysis. Table 5 shows the land use types included in the modeling of operational emissions. Parking garages and parking lots were omitted from operational CalEEMod since parking garages and lots generally have minimal emissions (lighting only) and do not create project trips.

Table 5. Summary of Project Land Use Inputs - Operational

Project Land Uses	Size	Units	Square Feet
Public Market with 2008 PDP Land Use Types			
General Office Building	120	1,000-sf	120,000
Apartments Mid Rise	675	Dwelling Unit	675,000
Regional Shopping Center	179.88	1,000-sf	179,875
Public Market with 2022 Proposed Land Use Changes			
Research & Development	431.06	1,000-sf	431,056
Apartments Mid Rise	489	1,000-sf	489,000
Regional Shopping Center	35	1,000-sf	35,000

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 year of operation would be 2024 if construction begins in 2023.

Traffic Information

CalEEMod allows the user to enter specific vehicle trip generation rates. The traffic consultant provided trip generation that was compared to the approved PDP in 2008.¹⁰ The study concluded that the new mix of uses and intensities would not increase the overall trip generation by the Public Market site. Therefore, trip generation was not modeled for this project since the impact from project trips would be lower than what was approved in the 2008 PDP.

EMFAC2021 Adjustment

The vehicle emission factors and fleet mix used in CalEEMod are based on EMFAC2017, which is an older CARB emission inventory for on road and off-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 default vehicle emission factors and fleet mix were updated using the emission rates and fleet mix from EMFAC2021. On road emission rates from 2024 Alameda 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.¹¹

Energy

CalEEMod defaults for energy use were used, which include the 2019 Title 24 Building Standards. GHG emissions modeling includes those indirect emissions from electricity consumption. The model has a default rate of 0 pounds of CO₂ per megawatt of electricity produced, which is based

¹⁰ Email, Ben Huie @ Kimley Horn, July 12, 2022

¹¹ See CARB 2021: <https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-modeling-tools-emfac>

on Alameda Municipal Power's (SCP) 2020 emissions rate. The City of Emeryville passed a reach code on September 13, 2021 requiring all new residential construction to be all electric.¹² This reach code applies only to Parcel F of this project since Parcel F is the only parcel with proposed residential land uses. Natural gas was included in the CalEEMod modeling for Parcels A and B.

Project Generators

The project proposes to include one 100 kilowatt (kW) stand-by emergency diesel generator located in the parking garage on Parcel A, one 3,000-kW stand-by emergency diesel generator on the northern boundary of Parcel B, and up to four stand-by natural gas fired emergency generators on the roof of the R&D building on Parcel B. The rooftop natural gas generators will not be installed during the construction of the building on Parcel B, but space will be left for the tenants of the building to install those generators. For conservatism, all four generators were assumed to be operational in this analysis. These generators are also assumed to be 500-kW each. These generators would be tested periodically and power the buildings in the event of a power failure. For modeling purposes, it was assumed that all generators would be operated primarily for testing and maintenance purposes. CARB and BAAQMD requirements limit these engine operations to 50 hours each per year of non-emergency operation. During testing periods, the engine would typically be run for less than one hour. The engine would be required to meet CARB and EPA emission standards and consume commercially available California low-sulfur diesel fuel. The generator emissions were modeled using CalEEMod.

Project Cooling Towers

The project would include two cooling towers to be located on the top of the R&D building on Parcel B. Based on information provided by the applicant, the cooling tower would have a water flow rate of 6,000 gallons per minute (GPM), using water with an average total dissolved solids (TDS) of 3,000 parts per million (ppm), and a mist eliminator efficiency of 0.004 percent. Details of the cooling tower PM emissions calculations are provided in *Attachment 4*.

Other Inputs

Default model assumptions for emissions associated with solid waste generation use were applied to the project. Water/wastewater use was changed to 100% aerobic conditions to represent wastewater treatment plant conditions since the project site would not send wastewater to septic tanks or facultative lagoons.

Approved Land Uses 2008 PDP

The three parcels of land in this analysis are part of the Marketplace Redevelopment Project that was approved by the City of Emeryville in 2008. The land uses proposed in this analysis are different from the land uses that were approved in the original 2008 Marketplace Redevelopment Project plan. The original 2008 land use types are shown in Table 5. To compare the emissions from those original land uses to the land uses proposed in this analysis, a CalEEMod run was developed for the original land uses approved in 2008.

¹² City of Emeryville: <https://www.codepublishing.com/CA/Emeryville/#!/Emeryville08/Emeryville0810.html#8-10>

Summary of Computed Operational Period Emissions

Annual emissions were predicted using CalEEMod and daily emissions were estimating assuming 365 days of operation. Table 6 shows average daily construction emissions of ROG, NO_x, total PM₁₀, and total PM_{2.5} during operation of the project. The operational period emissions are lower than the emissions that would have resulted from construction of the land use types approved in 2008.

Table 6. Operational Period Emissions

Scenario	ROG	NO _x	PM ₁₀	PM _{2.5}
2024 Annual Public Market Operational Emissions (tons/year)	10.07	6.28	7.66	2.58
2024 Approved PDP Operational Emissions (tons/year)	13.21	9.89	10.62	3.01
Net Total Operating Emissions	-3.13	-3.61	-2.96	-0.43
BAAQMD Thresholds (tons /year)	10 tons	10 tons	15 tons	10 tons
Exceed Threshold?	No	No	No	No
2024 Daily Public Market Operational Emissions (pounds/day) ¹	-17.18	-19.75	-16.23	-2.38
BAAQMD Thresholds (pounds/day)	54 lbs.	54 lbs.	82 lbs.	54 lbs.
Exceed Threshold?	No	No	No	No
Note: ¹ Assumes 365-day operation.				

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

Project impacts related to increased community risk can occur either by introducing a new source of TACs with the potential to adversely affect existing sensitive receptors in the project vicinity or by significantly exacerbating existing cumulative TAC impacts. This project would introduce new sources of TACs during construction (i.e., on-site construction and truck hauling emissions) and operation (i.e., stationary and mobile sources).

Project construction activity would generate dust and equipment exhaust that would affect nearby sensitive receptors. The project would include the installation of up to six stand-by generators powered by diesel and natural gas engines and two cooling towers, which would produce TAC and air pollutant emissions. Traffic generated by the project would consist of mostly light-duty gasoline-powered vehicles, which would produce TAC and air pollutant emissions.

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

Community Risk Methodology

Community risk impacts were addressed by predicting increased cancer risk, the increase in annual PM_{2.5} concentrations and computing the Hazard Index (HI) for non-cancer health risks. The risk

impacts from the project are the combination of risk from construction and operation sources. These sources include on-site construction activity, construction truck hauling, project generator use, and increased traffic from the project. To evaluate the increased cancer risks from the project, a 30-year exposure period was used, per BAAQMD guidance,¹³ with the sensitive receptors being exposed to both project construction and operation emissions during this timeframe.

The project increased cancer risk is computed by summing the project construction cancer risk and operation cancer risk contribution. Unlike, the increased maximum cancer risk, the annual PM_{2.5} concentration, and HI values are not additive but based on an annual maximum risk for the entirety of the project. The project maximally exposed individual (MEI) is identified as the sensitive receptor that is most impacted by the project's construction and operation.

The methodology for computing community risks impacts is contained 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

Receptors for this assessment included locations where sensitive populations would be present for extended periods of time (i.e., chronic exposures). This includes the nearby existing residences northwest, southeast, and west of the project site as shown in Figure 1. Residential receptors are assumed to include all receptor groups (i.e., third trimester, infants, children, and adults) with almost continuous exposure to project emissions.

Community Risks from Project Construction

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. These exhaust air pollutant emissions would not be considered to contribute substantially to existing or projected air quality violations. Construction exhaust emissions may still pose health risks for sensitive receptors such as surrounding residents. The primary community risk impacts associated with construction emissions are cancer risk and exposure to PM_{2.5}. Diesel exhaust (i.e., DPM) poses both a potential health and nuisance impact to nearby receptors. A health risk assessment of the project construction activities was conducted that evaluated potential health effects to nearby sensitive receptors from construction emissions of DPM and PM_{2.5}.¹⁴ This assessment included dispersion modeling to predict the offsite concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be evaluated.

Construction Emissions

The CalEEMod and EMFAC2021 models provided total annual PM₁₀ exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles, with total emissions from all construction stages of 0.15 tons (295 pounds). The on-road emissions are a result of haul truck travel during demolition and grading activities, worker travel,

¹³ BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

¹⁴ DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.

and vendor deliveries during construction. A trip length of one mile was used to represent vehicle travel while at or near the construction site. Fugitive PM_{2.5} dust emissions were calculated by CalEEMod as 0.03 tons (53 pounds) for the overall construction period.

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict concentrations of DPM and PM_{2.5} concentrations at sensitive receptors (residences) in the vicinity of the project construction area. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.¹⁵ Emission sources for the construction site were grouped into two categories: exhaust emissions of DPM and fugitive PM_{2.5} dust emissions.

Construction Sources

To represent the construction equipment exhaust emissions, an area source emission release height of 20 feet (6 meters) was used for the area sources for each parcel.¹⁶ The release height incorporates both the physical release height from the construction equipment (i.e., the height of the exhaust pipe) and plume rise after it leaves the exhaust pipe. Plume rise is due to both the high temperature of the exhaust and the high velocity of the exhaust gas. It should be noted that when modeling an area source, plume rise is not calculated by the AERMOD dispersion model as it would do for a point source (exhaust stack). Therefore, the release height from an area source used to represent emissions from sources with plume rise, such as construction equipment, should be based on the height the exhaust plume is expected to achieve, not just the height of the top of the exhaust pipe.

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

AERMOD Inputs and Meteorological Data

The modeling used a five-year meteorological data set (2011-2015) from the Oakland International Airport prepared for use with the AERMOD model by the BAAQMD. Construction emissions were modeled as occurring daily between 8:00 a.m. to 5:00 p.m., when the majority of construction activity would occur. Annual DPM and PM_{2.5} concentrations from construction activities during

¹⁵ Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0*. May.

¹⁶ California Air Resource Board, 2007. *Proposed Regulation for In-Use Off-Road Diesel Vehicles, Appendix D: Health Risk Methodology*. April. Web: <https://ww3.arb.ca.gov/regact/2007/ordiesl07/ordiesl07.htm>

the 2023 period was calculated using the model. DPM and PM_{2.5} concentrations were calculated at nearby sensitive receptor locations. Receptor heights of 5 feet (1.5 meters), 15 feet (4.5 meters), 25 feet (7.6 meters), and 35 feet (10.7 meters) were used to represent the breathing heights on the first, second, third, and fourth floors of sensitive receptors in the residences near the site.

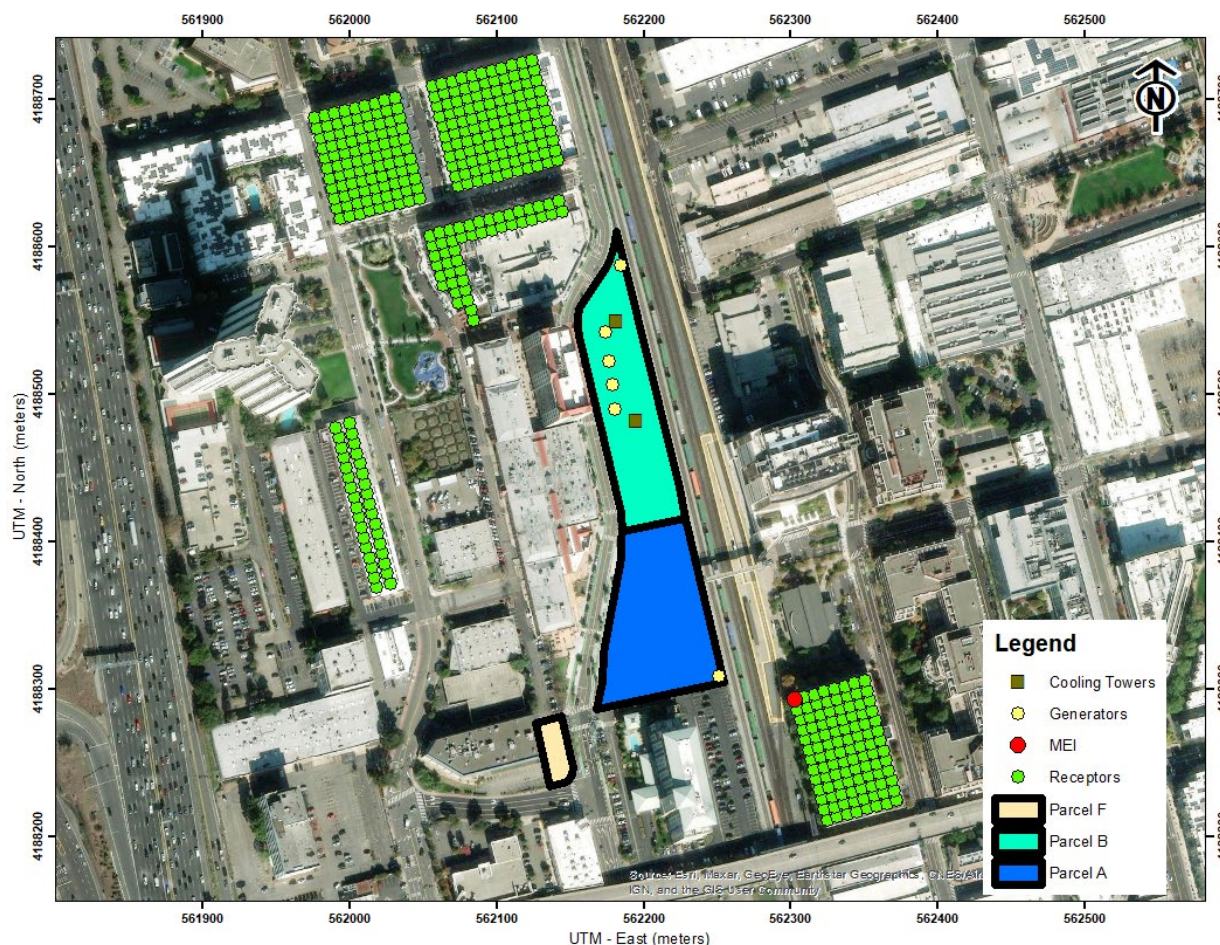
Summary of Construction Community Risk Impacts

The increased cancer risk calculations were based on applying the BAAQMD recommended age sensitivity factors to the TAC concentrations, as described in *Attachment 1*. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing TACs. Third trimester, infant, child, and adult exposures were assumed to occur at all residences during the entire construction period.

The maximum modeled annual PM_{2.5} concentration was calculated based on combined exhaust and fugitive concentrations. The maximum computed HI values was based on the ratio of the maximum DPM concentration modeled and the chronic inhalation reference exposure level of 5 µg/m³.

The maximum modeled annual DPM and PM_{2.5} concentrations, which includes both the DPM and fugitive PM_{2.5} concentrations, were identified at nearby sensitive receptors to find the MEI. Results of this assessment indicated that the MEI most affected by construction was located on the third floor (25 feet above ground) of the multi-family residence to the southeast of the project. The location of the MEI and nearby sensitive receptors are shown in Figure 1. Table 7 lists the community risks from construction at the location of the residential MEI. *Attachment 4* to this report includes the emission calculations used for the construction modeling and the cancer risk calculations.

Figure 1. Location of Project Construction Site, Project Generators, Project Cooling Towers, Off-Site Sensitive Receptors, and Maximum TAC Impact (MEI)



Community Risks from Project Operation

Operation of the project would have long-term emissions from mobile sources (i.e., traffic) and stationary sources (i.e., generators and cooling towers). While these emissions would not be as intensive at or near the site as construction activity, they would contribute to long-term effects to sensitive receptors.

Project Traffic

Diesel powered vehicles are the primary concern with local traffic-generated TAC impacts. This project would generate 57 fewer AM peak hour trips and 575 fewer PM peak hour trips when compared to the 2008 PDP.¹⁷ The project is not anticipated to generate large amounts of truck trips that would involve diesel vehicles. 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 and do not

¹⁷ Kimley Horn, 2022 Emeryville Public Market – Draft Traffic Letter, File: 2022EmeryvillePublicMarket.01.DraftTrafficAnalysisLetter-051122.pdf

need to be considered in the CEQA analysis.¹⁸ In addition, projects with the potential to cause or contribute to increased cancer risk from traffic include those that have attract high numbers of diesel-powered on road trucks or use off-road diesel equipment on site, such as a distribution center, a quarry, or a manufacturing facility, may potentially expose existing or future planned receptors to substantial cancer risk levels and/or health hazards. This is not a project of concern for non-BAAQMD permitted mobile sources. Emissions from project traffic are considered to be less than what was approved in the 2008 PDP and are not included in this analysis.

Project Stand-By Diesel Generators

The project proposes to include one 100-kW stand-by emergency diesel generator located in the parking garage on Parcel A, one 3,000-kW stand-by emergency diesel generator on the northern boundary of Parcel B, and up to four stand-by natural gas fired emergency generators on the roof of the R&D building on Parcel B. The parking garage generator will be a 100-kW generator powered by a 134-horsepower (hp) diesel-fired engine. The generator for the R&D building is expected to be a 3,000-kW generator powered by a 4,023-hp diesel-fired engine. The four tenant generators are estimated to be 500-kw generators powered by 670-hp natural gas-fired engines. These generators would be tested periodically and power the buildings in the event of a power failure. For modeling purposes, it was assumed that all generators would be operated primarily for testing and maintenance purposes. CARB and BAAQMD requirements limit these engine operations to 50 hours each per year of non-emergency operation. During testing periods, the engine would typically be run for less than one hour. The engine would be required to meet CARB and EPA emission standards and consume commercially available California low-sulfur diesel fuel. The generator emissions were modeled using CalEEMod.

These diesel engines would be subject to CARB's Stationary Diesel Airborne Toxics Control Measure (ATCM) and require permits from the BAAQMD, since they will be equipped with an engine larger than 50-HP. As part of the BAAQMD permit requirements for toxics screening analysis, the engine emissions will have to meet Best Available Control Technology for Toxics (TBACT) and pass the toxic risk screening level of less than ten in a million. The risk assessment would be prepared by BAAQMD. Depending on results, BAAQMD would set limits for DPM emissions (e.g., more restricted engine operation periods). Sources of air pollutant emissions complying with all applicable BAAQMD regulations generally will not be considered to have a significant air quality community risk impact.

To obtain an estimate of potential cancer risks and PM_{2.5} impacts from operation of the emergency generators the U.S. EPA AERMOD dispersion model was used to calculate the maximum annual DPM concentration at off-site sensitive receptor locations (nearby residences). The same receptors and breathing heights used in the construction dispersion modeling were used for the generator model. Additionally, the same BAAQMD Oakland International Airport meteorological data was used. Stack parameters (stack height, exhaust flow rate, and exhaust gas temperature) for modeling the generators was based on BAAQMD default parameters for emergency generators.¹⁹ Annual

¹⁸ 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>

¹⁹ The San Francisco Community Risk Reduction Plan: Technical Support Document, BAAQMD, San Francisco Dept. of Public Health, and San Francisco Planning Dept., December 2012

average DPM and PM_{2.5} concentrations were modeled assuming that generator operation could occur at any time of the day (24 hours per day, 365 days per year).

To calculate the increased cancer risk from the generators at the MEI, the cancer risks were also adjusted for exposure duration to account for the MEI being exposed to construction for the first one year of the 30-year period. The exposure duration was adjusted for 29 years of exposure. Table 6 lists the community risks from stand-by diesel generators at the location of residential MEI. The emissions and health risk calculations for the proposed generators are included in *Attachment 4*.

Project Cooling Towers

The project would include two cooling towers on the roof of the proposed R&D building on Parcel B. Particulate matter emissions from evaporative cooling can occur and are a result of evaporation of liquid water entrained in the discharge air stream and carried out of the tower as “drift” droplets that contain dissolved solids in the water. Drift droplets that evaporate can produce small particulate matter (i.e., PM₁₀ and PM_{2.5}) emissions. These emissions are generated when the drift droplets evaporate and leave the particulate matter formed by crystallization of dissolved solids. The cooling towers are not powered by a diesel engine, so no DPM emissions would be produced.

For the health risk assessment, the PM_{2.5} emissions from evaporative cooling were calculated based on a worst-case assumptions including use of evaporative cooling for 100 percent of the time, a water flow rate of 6,000 gallons per minute (gpm), use of 0.004 percent drift eliminators, a total dissolved solids (TDS) concentration of 3,000 parts per million (ppm) in the recirculating water.²⁰ Based on a calculated total drift rate, recirculating water TDS concentration of 3,000 ppm, and PM fractions based on SCAQMD,²¹ the PM_{2.5} emissions were calculated as 0.66 tons per year.

To obtain an estimate of potential PM_{2.5} concentrations from operation of the cooling towers, the U.S. EPA AERMOD dispersion model was used to calculate the annual PM_{2.5} concentration at off-site sensitive receptor locations (nearby childcare/school and residences). The same receptors, breathing heights, and BAAQMD Oakland International Airport meteorological data used in the construction dispersion modeling were used for the cooling tower models. Volume source parameters for modeling the cooling tower were based on project-specific cooling tower parameters (i.e., length of side, release height, emission rate (flow rate, TDS, mist eliminator efficiency)). Annual PM_{2.5} concentrations were modeled assuming that cooling tower would operate at any time of the day (24 hours per day, 365 days per year).

The annual PM_{2.5} concentration were based on an annual maximum risk. Table 6 lists the community risks from cooling towers at the location of childcare MEI and residential maximum receptor. The particulate matter emissions for the proposed cooling towers are included in *Attachment 4*.

²⁰ Recirculating water flow rate and maximum TDS concentration provided by the applicant.

²¹ South Coast AQMD, *Final-Methodology to Calculate Particulate Matter (PM) 2.5 and PM2.5 Significance Thresholds, Appendix A*. October 2006. Web: [http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/particulate-matter-\(pm\)-2.5-significance-thresholds-and-calculation-methodology/final_pm2_5methodology.pdf](http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/particulate-matter-(pm)-2.5-significance-thresholds-and-calculation-methodology/final_pm2_5methodology.pdf)

Laboratories

This type of project may include research and manufacturing type laboratories. Since a specific user or type of lab use is not known at this time, it is not possible to predict whether there would be any TAC emissions and, if so, the quantities that would be emitted. Typically, laboratory uses have fume hoods and would employ appropriate exhaust systems to control any emission of air pollutants. Emissions of air pollutants or TACs are subject to BAAQMD permitting requirements that would require the District to apply all applicable rules and regulations to limit or control these emissions. Regulation 2, Rule 1: General Requirements, and Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants would apply to any potential emissions from these sources. The District's risk policy is to not issue a permit to any source that would cause a cancer risk of greater than 10 chances per million.

Summary of Project-Related Community Risks at the Offsite Project MEI

The cumulative risk impacts from a project are the combination of construction and operation sources. These sources include on-site construction activity and the project generator and cooling tower. The project impact is computed by adding the construction cancer risk for an infant to the increased cancer risk for the project operational conditions for the roadway and generator at the MEI over a 30-year period. The project MEI is identified as the sensitive receptor that is most impacted by the project's construction and operation.

For this project, the sensitive receptor identified in Figure 1 as the construction MEI is also the project MEI. At this location, the MEI would be exposed to one year of construction cancer risks and 29 years of operational (includes stand-by generators and cooling tower) cancer risks. The cancer risks from construction and operation of the project were summed together. Unlike the increased maximum cancer risk, the annual PM_{2.5} concentration and HI risks are not additive but based on an annual maximum risk for the entirety of the project.

Project risk impacts are shown in Table 7. The unmitigated maximum cancer risks exceed the BAAQMD single-source threshold. However, with the implementation of EIR *Mitigation Measure AIR-1 and Mitigation Measure AQ-1*, (identified in this report) the mitigated maximum cancer risks would be reduced below the BAAQMD single-source threshold. The unmitigated annual PM_{2.5} concentration and Hazard Index from construction activities at the residential project MEI location would not exceed the single-source significance thresholds.

Table 7. Construction and Operation Risk Impacts at the Off-Site Project MEI

Source		Cancer Risk (per million)	Annual PM_{2.5} (µg/m³)	Hazard Index
Project Construction (Years 0 - 1)	Unmitigated	22.04 (infant)	0.15	0.03
	Mitigated	5.72 (infant)	0.04	0.01
Project Generator Operation (Years 1 - 30)		1.32	<0.01	<0.01
Project Cooling Towers (Years 1 - 30)		-	0.03	-
Total/Maximum Project Impact (Years 0 - 30)	Unmitigated	23.36 (infant)	0.15	0.03
	Mitigated	7.04 (infant)	0.04	0.01
<i>BAAQMD Single-Source Threshold</i>		<i>10</i>	<i>0.3</i>	<i>1.0</i>
<i>Exceed Threshold?</i>	Unmitigated	<i>Yes</i>	<i>No</i>	<i>No</i>
	Mitigated	<i>No</i>	<i>No</i>	<i>No</i>

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

Implement a feasible plan to reduce DPM emissions by 60 percent such that increased cancer risk from construction would be reduced below TAC significance level as follows:

1. All construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall meet U.S. EPA Tier 4 emission standards for PM (PM₁₀ and PM_{2.5}), if feasible, otherwise,
 - a. If use of Tier 4 equipment is not available, alternatively use equipment that meets U.S. EPA emission standards for Tier 3 engines and include particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices that altogether achieve a 60 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 60 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 EIR Mitigation Measure AIR-1 and Recommended Mitigation Measure AQ-1

CalEEMod was used to compute emissions associated with this mitigation measure assuming that all equipment met U.S. EPA Tier 4 Interim engines standards were used along with BAAQMD best management practices for construction were included. With these implemented, the project's construction cancer risk levels (assuming infant exposure) would be reduced by 74 percent to 5.72 chances per million and would no longer exceed the single-source threshold.

GREENHOUSE GAS EMISSIONS

GHG emissions associated with the proposed project would occur over the short-term from construction activities, consisting primarily of emissions from equipment exhaust and worker and vendor trips. There would also be long-term operational emissions associated with vehicular traffic within the project vicinity, energy and water usage, and solid waste disposal. Changes to emissions caused by the proposed project are computed below using the CalEEMod model.

CalEEMod Modeling

CalEEMod was used to predict GHG emissions from operation of the site assuming full build-out of the project. The project land use types and size and other project-specific information were input to the model, as described above within the operational period emissions. CalEEMod output is included in *Attachment 2*.

Construction Emissions

GHG emissions associated with construction were computed at 1,053 MT of CO₂e for the total construction period. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the City nor BAAQMD have an adopted threshold of significance for construction-related GHG emissions, though BAAQMD recommends quantifying emissions and disclosing that GHG emissions would occur during construction. BAAQMD also encourages the incorporation of best management practices to reduce GHG emissions during construction where feasible and applicable.

Operational GHG Emissions

The CalEEMod model, along with the project vehicle trip generation rates, was used to estimate daily emissions associated with operation of the fully-developed site under the proposed project. As shown in Table 9, net annual GHG emissions resulting from operation of the proposed project when compared to the original 2008 land use types are predicted to be -4,489 MT of CO₂e annually.

Table 9. Annual Project GHG Emissions (CO₂e) in Metric Tons - - Year 2024

Source Category	Proposed Project	2008 PDP Land Use Types
Area	38.86	53.64
Energy Consumption	798.73	473.32
Mobile	7,450.25	12,318.92
Solid Waste Generation	148.08	307.26
Water Usage	335.39	107.03
Total (MT CO ₂ e/year)	8,771.32	13,260.16
Net Total (MT CO ₂ e/year)		-4,488.85

Supporting Documentation

Attachment 1 is the methodology used to compute community 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. The operational output for existing and 2030 project uses is also included in this attachment. Also included are any modeling assumptions.

Attachment 3 includes the EMFAC2017 emissions modeling. The input files for these calculations are voluminous and are available upon request in digital format.

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

Attachment 1: Health Risk Calculation Methodology

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 2015.²² 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.²³ 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.²⁴ 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.

²² 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.

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

²⁴ BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

Additionally, CARB and the BAAQMD recommend the use of a residential exposure duration of 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:

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

Where:

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

ASF = Age sensitivity factor for specified age group

ED = Exposure duration (years)

AT = Averaging time for lifetime cancer risk (years)

FAH = Fraction of time spent at home (unitless)

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

Where:

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

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

* An 8-hour breathing rate (8HrBR) is used for worker and school child exposures.

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

Parameter	Exposure Type →	Infant		Child	Adult
	Age Range →	3 rd Trimester	0<2	2 < 16	16 - 30
DPM Cancer Potency Factor (mg/kg-day) ⁻¹		1.10E+00	1.10E+00	1.10E+00	1.10E+00
Daily Breathing Rate (L/kg-day) 80 th Percentile Rate		273	758	572	261
Daily Breathing Rate (L/kg-day) 95 th Percentile Rate		361	1,090	745	335
8-hour Breathing Rate (L/kg-8 hours) 95 th 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*

* For worker exposures (adult) the exposure duration and frequency are 25 years 250 days/year and FAH is not applicable.

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). OEHHHA 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 (µg/m³).

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 Input Assumptions and Outputs

Air Quality/Noise Construction Information Data Request

Project Name:		Emeryville Public Market, Parcel A				Complete ALL Portions in Yellow			
See Equipment Type TAB for type, horsepower and load factor									
Project Size		Dwelling Units		1.82 total project acres disturbed					
		s.f. residential		Based on plans 150,805sf					
		s.f. retail							
		s.f. office/R&D							
		s.f. other, specify:							
		289,600 s.f. parking garage		711 spaces					
		s.f. other paved areas (e.g., driveways)							
Construction Hours		am to		pm					
DO NOT MULTIPLY EQUIPMENT HOURS/DAY BY THE QUANTITY OF EQUIPMENT									
Quantity	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	HP Annual Hours	Comments	
	Demolition	Start Date:	1/1/2023	Total phase:	20			Overall Import/Export Volumes	
		End Date:	1/27/2023						
1	Concrete/Industrial Saws	81	0.73	8	20	8	9461	Demolition Volume	
3	Excavators	158	0.38	8	20	8	28819	Square footage of buildings to be demolished	
1	Rubber-Tired Dozers	247	0.4	8	20	8	15808	(or total tons to be hauled)	
	Tractors/Loaders/Backhoes	97	0.37			0	0	? square feet or	
	Other Equipment?							? Hauling volume (tons)	
								Any pavement demolished and hauled? ? tons	
	Site Preparation	Start Date:	1/28/2023	Total phase:	2				
		End Date:	2/3/2023						
1	Graders	187	0.41	8	2	8	1227		
1	Rubber Tired Dozers	247	0.4	7	2	7	1383		
1	Tractors/Loaders/Backhoes	97	0.37	8	2	8	574		
	Other Equipment?								
	Grading / Excavation	Start Date:	2/4/2023	Total phase:	4				
		End Date:	2/15/2023					Soil Hauling Volume	
	Excavators	158	0.38	8	8	16	0	Export volume = 760.7 cubic yards?	
1	Graders	187	0.41	8	8	16	4907	Import volume = 760.7 cubic yards?	
1	Rubber Tired Dozers	247	0.4	8	8	16	6323		
	Scrapers	367	0.48			0	0		
2	Tractors/Loaders/Backhoes	97	0.37	7	8	14	4020		
	Other Equipment?								
	Trenching/Foundation	Start Date:	2/4/2023	Total phase:	4				
		End Date:	2/27/2023						
1	Tractor/Loader/Backhoe	97	0.37	8	16	32	4594		
1	Excavators	158	0.38	8	16	32	7685		
	Other Equipment?								
	Building - Exterior	Start Date:	2/16/2023	Total phase:	200			Cement Trucks? <u>2</u> Total Round-Trips	
		End Date:	1/3/2024						
1	Cranes	231	0.29	6	230	6.9	92446	Electric? (Y/N) Otherwise assumed diesel	
1	Forklifts	80	0.2	6	230	6.9	24564	Liquid Propane (LPG)? (Y/N) Otherwise Assumed diesel	
1	Generator Sets	84	0.74	6	230	9.2	114374	Or temporary line power? (Y/N)	
1	Tractors/Loaders/Backhoes	97	0.37	8	230	6.9	49528		
3	Welders	46	0.45	8	230	9.2	114264		
	Other Equipment?								
	Building - Interior/Architectural Coating	Start Date:	1/30/2024	Total phase:	10				
		End Date:	2/22/2024						
1	Air Compressors	78	0.48	6	18	10.8	4044		
	Aerial Lift	62	0.31			0	0		
	Other Equipment?								
	Paving	Start Date:	1/4/2024	Total phase:	10				
		Start Date:	1/29/2024						
1	Cement and Mortar Mixers	9	0.56	6	18	10.8	544	Asphalt? ___ cubic yards or ___ round trips?	
1	Pavers	130	0.42	6	18	10.8	5897		
1	Paving Equipment	132	0.36	8	18	14.4	6843		
1	Rollers	80	0.38	7	18	12.6	3830		
1	Tractors/Loaders/Backhoes	97	0.37	8	18	14.4	5168		
	Other Equipment?								
	Additional Phases	Start Date:		Total phase:					
		Start Date:							
						#DIV/0!	0		
						#DIV/0!	0		
						#DIV/0!	0		
						#DIV/0!	0		
						#DIV/0!	0		
Equipment types listed in "Equipment Types" worksheet tab.									
Equipment listed in this sheet is to provide an example of inputs									
It is assumed that water trucks would be used during grading									
Add or subtract phases and equipment, as appropriate									
Modify horsepower or load factor, as appropriate									
Complete one sheet for each project component									

Air Quality/Noise Construction Information Data Request

Project Name: Emeryville Public Market, Parcel B

Complete ALL Portions in Yellow

See Equipment Type TAB for type, horsepower and load factor

Project Size	Dwelling Units	1.64 total project acres disturbed
	s.f. residential	Based on plans 150,805sf
	3,074 s.f. retail	
	431,056 s.f. office/R&D	
	s.f. other, specify:	
	s.f. parking garage	spaces
	s.f. other paved areas (e.g., driveways)	
Construction Hours	am to	pm

Pile Driving? Y/N?

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

IF YES (if BOTH separate values) -->

3,000kw + (4) 500kW natural gas

Fuel Type: Diesel

Location in project (Plans Desired if Available): 5/16/2022 sheet emailed

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

Quantity	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	HP Annual Hours	Comments
	Demolition	Start Date: 1/1/2023 End Date: 1/27/2023		Total phase: 20				Overall Import/Export Volumes
1	Concrete/Industrial Saws	81	0.73	8	20	8	9461	Demolition Volume
	Excavators	158	0.38	8	20	8	0	Square footage of buildings to be demolished
1	Rubber-Tired Dozers	247	0.4	8	20	8	15808	(or total tons to be hauled)
3	Tractors/Loaders/Backhoes	97	0.37			0	0	? square feet or
	Other Equipment?							? Hauling volume (tons)
	Site Preparation	Start Date: 1/28/2023 End Date: 2/3/2023		Total phase: 2				Any pavement demolished and hauled? ? tons
1	Graders	187	0.41	8	2	8	1227	
1	Rubber Tired Dozers	247	0.4	7	2	7	1383	
1	Tractors/Loaders/Backhoes	97	0.37	8	2	8	574	
	Other Equipment?							
	Grading / Excavation	Start Date: 2/4/2023 End Date: 2/15/2023		Total phase: 4				Soil Hauling Volume
	Excavators	158	0.38	8	8	16	0	Export volume = 4,600 cubic yards?
1	Graders	187	0.41	8	8	16	4907	Import volume = 4,600 cubic yards?
1	Rubber Tired Dozers	247	0.4	8	8	16	6323	
	Scrapers	367	0.48			0	0	
2	Tractors/Loaders/Backhoes	97	0.37	7	8	14	4020	
	Other Equipment?							
	Trenching/Foundation	Start Date: 2/4/2023 End Date: 2/27/2023		Total phase: 4				
1	Tractor/Loader/Backhoe	97	0.37	8	16	32	4594	
1	Excavators	158	0.38	8	16	32	7685	
	Other Equipment?							
	Building - Exterior	Start Date: 2/16/2023 End Date: 1/3/2024		Total phase: 200				Cement Trucks? 2 Total Round-Trips
1	Cranes	231	0.29	8	230	6.9	92446	Electric? (Y/N) Otherwise assumed diesel
1	Forklifts	80	0.2	6	230	6.9	24564	Liquid Propane (LPG)? (Y/N) Otherwise Assumed diesel
1	Generator Sets	84	0.74	8	230	9.2	114374	Or temporary line power? (Y/N)
1	Tractors/Loaders/Backhoes	97	0.37	6	230	6.9	49528	
3	Welders	46	0.45	8	230	9.2	114264	
	Other Equipment?							
	Building - Interior/Architectural Coating	Start Date: 1/30/2024 End Date: 2/22/2024		Total phase: 10				
1	Air Compressors	78	0.48	6	18	10.8	4044	
	Aerial Lift	62	0.31			0	0	
	Other Equipment?							
	Paving	Start Date: 1/4/2024 Start Date: 1/29/2024		Total phase: 10				Asphalt? cubic yards or round trips?
1	Cement and Mortar Mixers	9	0.56	6	18	10.8	544	
1	Pavers	130	0.42	6	18	10.8	5897	
1	Paving Equipment	132	0.36	8	18	14.4	6843	
1	Rollers	80	0.38	7	18	12.6	3830	
1	Tractors/Loaders/Backhoes	97	0.37	8	18	14.4	5168	
	Other Equipment?							
	Additional Phases	Start Date: Start Date:		Total phase:				
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	

Equipment types listed in "Equipment Types" worksheet tab.

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

It is assumed that water trucks would be used during grading

Add or subtract phases and equipment, as appropriate

Modify horsepower or load factor, as appropriate

Complete one sheet for each project component

Air Quality/Noise Construction Information Data Request

Project Name: Emeryville Public Market, Parcel F

Complete ALL Portions in Yellow

See Equipment Type TAB for type, horsepower and load factor

Project Size	10 Dwelling Units	0.18 total project acres disturbed
	s.f. residential	Based on plans 150,805sf
	s.f. retail	
	s.f. office/R&D	
	s.f. other, specify:	
	s.f. parking garage	spaces
	s.f. other paved areas (e.g., driveways)	
Construction Hours	am to	pm

Pile Driving? Y/N?

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

IF YES (if BOTH separate values) -->

Fuel Type:

Location in project (Plans Desired if Available): 5/16/2022 sheet emailed

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

Quantity	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	HP Annual Hours	Comments
	Demolition	Start Date: 1/1/2023 End Date: 1/13/2023		Total phase: 8	10			Overall Import/Export Volumes
1	Concrete/Industrial Saws	81	0.73	8	10	8	4730	Demolition Volume
	Excavators	158	0.38			0	0	Square footage of buildings to be demolished
1	Rubber-Tired Dozers	247	0.4	1	10	1	988	(or total tons to be hauled)
2	Tractors/Loaders/Backhoes	97	0.37	6	10	6	4307	? square feet or
	Other Equipment?							? Hauling volume (tons)
	Site Preparation	Start Date: 1/14/2023 End Date: 1/16/2023		Total phase: 8	1			Any pavement demolished and hauled? ? tons
1	Graders	187	0.41	8	1	8	613	
	Rubber Tired Dozers	247	0.4			0	0	
1	Tractors/Loaders/Backhoes	97	0.37	8	1	8	287	
	Other Equipment?							
	Grading / Excavation	Start Date: 1/17/2023 End Date: 1/18/2023		Total phase: 6	2			Soil Hauling Volume
	Excavators	158	0.38			0	0	Export volume = ? cubic yards?
1	Graders	187	0.41	6	2	6	920	Import volume = ? cubic yards?
1	Rubber Tired Dozers	247	0.4	6	2	6	1186	
	Scrapers	367	0.48			0	0	
1	Tractors/Loaders/Backhoes	97	0.37	7	2	7	502	
	Other Equipment?							
	Trenching/Foundation	Start Date: 1/17/2023 End Date: 1/18/2023		Total phase: 8	2			
1	Tractor/Loader/Backhoe	97	0.37	8	2	8	574	
1	Excavators	158	0.38	8	2	8	961	
	Other Equipment?							
	Building - Exterior	Start Date: 1/19/2023 End Date: 6/7/2023		Total phase: 4	100			Cement Trucks? 2 Total Round-Trips
1	Cranes	231	0.29	4	100	4	26796	Electric? (Y/N) Otherwise assumed diesel
2	Forklifts	80	0.2	6	100	6	21360	Liquid Propane (LPG)? (Y/N) Otherwise Assumed diesel
	Generator Sets	84	0.74			0	0	Or temporary line power? (Y/N)
2	Tractors/Loaders/Backhoes	97	0.37	8	100	8	57424	
	Welders	46	0.45			0	0	
	Other Equipment?							
	Building - Interior/Architectural Coating	Start Date: 6/15/2023 End Date: 6/21/2023		Total phase: 6	5			
1	Air Compressors	78	0.48	6	5	6	1123	
	Aerial Lift	62	0.31			0	0	
	Other Equipment?							
	Paving	Start Date: 6/8/2023 Start Date: 6/14/2023		Total phase: 6	5			Asphalt? cubic yards or round trips?
4	Cement and Mortar Mixers	9	0.56	6	5	6	605	
1	Pavers	130	0.42	7	5	7	1911	
	Paving Equipment	132	0.36			0	0	
1	Rollers	80	0.38	7	5	7	1064	
1	Tractors/Loaders/Backhoes	97	0.37	7	5	7	1256	
	Other Equipment?							
	Additional Phases	Start Date: Start Date:		Total phase:				
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	
						#DIV/0!	0	

Equipment types listed in "Equipment Types" worksheet tab.

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

It is assumed that water trucks would be used during grading

Add or subtract phases and equipment, as appropriate

Modify horsepower or load factor, as appropriate

Complete one sheet for each project component

Construction Criteria Air Pollutants						
Unmitigated	ROG	NOX	PM10 Exhaust	PM2.5 Exhaust	CO2e	
Year	Tons				MT	
Construction Equipment						
2023	2.79	3.18	0.14	0.14	494.58	
EMFAC						
2023	0.10	0.60	0.04	0.02	558.23	
Total Construction Emissions by Year						
2023	2.89	3.77	0.18	0.15	1052.81	
	Total Construction Emissions					
Tons	2.89	3.77	0.18	0.15	1052.81	
Pounds/Workdays	Average Daily Emissions				Workdays	
2023	23.43	30.55	1.48	1.24		247
Threshold - lbs/day	54.0	54.0	82.0	54.0		
	Total Construction Emissions					
Pounds	23.43	30.55	1.48	1.24	0.00	
Average	23.43	30.55	1.48	1.24	0.00	247.00
Threshold - lbs/day	54.0	54.0	82.0	54.0		
Operational Criteria Air Pollutants						
Unmitigated	ROG	NOX	Total PM10	Total PM2.5		
Year	Tons					
Land Use	9.31	6.14	6.55	1.91		
Generators	0.76	0.14	0.01	0.01		
Cooling Towers	-	-	1.10	0.66		
Total	10.07	6.28	7.66	2.58		
	2008 PDP Approved Emissions					
Total	13.21	9.89	10.62	3.01		
	Net Annual Operational Emissions					
Tons/year	-3.13	-3.61	-2.96	-0.43		
Threshold - Tons/year	10.0	10.0	15.0	10.0		
	Average Daily Emissions					
Pounds Per Day	-17.18	-19.75	-16.23	-2.38		
Threshold - lbs/day	54.0	54.0	82.0	54.0		
Category	CO2e					
	Project	2008 PDP				
Area	38.86	53.64				
Energy	798.73	473.32				
Mobile	7450.25	12318.92				
Waste	148.08	307.26				
Water	335.39	107.03				
TOTAL	8771.32	13260.16				
Net GHG Emissions		-4488.85				

2008 PDP Land Use Trips

Traffic Consultant Trip Gen					CalEEMod Default		
Land Use	Size	Daily Trips	New Trips	Weekday Trip Gen	Weekday	Sat	Sun
Apartments Mid Rise	675	3065	3065	4.54	5.44	4.91	4.09
Reduction		0			Rev	4.10	3.41
Reduction		0					

Traffic Consultant Trip Gen					CalEEMod Default		
Land Use	Size	Daily Trips	New Trips	Weekday Trip Gen	Weekday	Sat	Sun
General Office Building	120	1301	1301	10.84	9.74	2.21	0.7
Reduction		0			Rev	2.46	0.78
Reduction		0					

Traffic Consultant Trip Gen					CalEEMod Default		
Land Use	Size	Daily Trips	New Trips	Weekday Trip Gen	Weekday	Sat	Sun
Shopping Plaza	147.8	9978	9978	67.52	37.75	46.12	21.1
Reduction		0			Rev	82.49	37.74
Reduction		0					

2022 Proposed Project Land Use Trips

Traffic Consultant Trip Gen					CalEEMod Default		
Land Use	Size	Daily Trips	New Trips	Weekday Trip Gen	Weekday	Sat	Sun
Apartments Mid Rise	489	2220	2220	4.54	7.32	8.14	6.28
Reduction		0			Rev	5.05	3.89
Reduction		0					

Traffic Consultant Trip Gen					CalEEMod Default		
Land Use	Size	Daily Trips	New Trips	Weekday Trip Gen	Weekday	Sat	Sun
R&D	431.06	4776	4776	11.08	11.26	1.9	1.11
Reduction		0			Rev	1.87	1.09
Reduction		0					

Traffic Consultant Trip Gen					CalEEMod Default		
Land Use	Size	Daily Trips	New Trips	Weekday Trip Gen	Weekday	Sat	Sun
Shopping Plaza	3.074	208	208	67.52	37.75	46.12	21.1
Reduction		0			Rev	82.49	37.74
Reduction		0					

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

22-094 Public Market Defaults Parcel A
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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	711.00	Space	1.82	289,600.00	0
Other Non-Asphalt Surfaces	20.00	1000sqft	0.00	20,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	63
Climate Zone	5			Operational Year	2024
Utility Company	Alameda Municipal Power				
CO2 Intensity (lb/MW hr)	0	CH4 Intensity (lb/MW hr)	0	N2O Intensity (lb/MW hr)	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Assume AMP

Land Use - Data from 5/16 FDP. Other non-asphalt surface = green space/plaza

Construction Phase - Defaults

Off-road Equipment - Defaults

Off-road Equipment - Defaults

Off-road Equipment - Defaults

Off-road Equipment - Defaults

Off-road Equipment - Defaults

Off-road Equipment - Defaults

Off-road Equipment - Defaults

Trips and VMT - All trips entered into EMFAC2021

[illegible]

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

tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblGrading	MaterialExported	0.00	760.70
tblGrading	MaterialImported	0.00	760.70
tblLandUse	LandUseSquareFeet	284,400.00	289,600.00
tblLandUse	LotAcreage	6.40	1.82
tblLandUse	LotAcreage	0.46	0.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	134.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	190.00	0.00
tblTripsAndVMT	VendorTripNumber	51.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	130.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	26.00	0.00

2.0 Emissions Summary**2.1 Overall Construction****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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22-094 Public Market Defaults Parcel A - Alameda County, Annual

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

Year	tons/yr										MT/yr					
2023	0.2396	1.3933	1.4728	2.5900e-003	0.0205	0.0618	0.0824	9.8700e-003	0.0594	0.0692	0.0000	214.9807	214.9807	0.0398	0.0000	215.9754
Maximum	0.2396	1.3933	1.4728	2.5900e-003	0.0205	0.0618	0.0824	9.8700e-003	0.0594	0.0692	0.0000	214.9807	214.9807	0.0398	0.0000	215.9754

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	0.1117	1.1363	1.5945	2.5900e-003	9.2300e-003	0.0168	0.0260	4.4400e-003	0.0168	0.0212	0.0000	214.9805	214.9805	0.0398	0.0000	215.9751
Maximum	0.1117	1.1363	1.5945	2.5900e-003	9.2300e-003	0.0168	0.0260	4.4400e-003	0.0168	0.0212	0.0000	214.9805	214.9805	0.0398	0.0000	215.9751

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	53.39	18.44	-8.27	0.00	55.02	72.88	68.43	55.02	71.75	69.36	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2023	3-31-2023	0.4560	0.3057
2	4-1-2023	6-30-2023	0.4301	0.3378
3	7-1-2023	9-30-2023	0.4348	0.3415
		Highest	0.4560	0.3415

2.2 Overall Operational

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

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	0.0271	6.0000e-005	6.7100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0131	0.0131	3.0000e-005	0.0000	0.0139
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Stationary	5.5000e-003	0.0154	0.0200	3.0000e-005		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	2.5513	2.5513	3.6000e-004	0.0000	2.5603
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0326	0.0154	0.0267	3.0000e-005	0.0000	8.3000e-004	8.3000e-004	0.0000	8.3000e-004	8.3000e-004	0.0000	2.5644	2.5644	3.9000e-004	0.0000	2.5742

Mitigated Operational

[illegible]

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

Stationary	5.5000e-003	0.0154	0.0200	3.0000e-005		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	2.5513	2.5513	3.6000e-004	0.0000	2.5603
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0326	0.0154	0.0267	3.0000e-005	0.0000	8.3000e-004	8.3000e-004	0.0000	8.3000e-004	8.3000e-004	0.0000	2.5644	2.5644	3.9000e-004	0.0000	2.5742

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

3.0 Construction Detail**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2023	1/27/2023	5	20	
2	Site Preparation	Site Preparation	1/28/2023	1/31/2023	5	2	
3	Grading	Grading	2/1/2023	2/6/2023	5	4	
4	Trenching	Trenching	2/1/2023	2/6/2023	5	4	
5	Building Construction	Building Construction	2/7/2023	11/13/2023	5	200	
6	Paving	Paving	11/14/2023	11/27/2023	5	10	
7	Architectural Coating	Architectural Coating	11/28/2023	12/11/2023	5	10	

Acres of Grading (Site Preparation Phase): 1.88**Acres of Grading (Grading Phase): 4****Acres of Paving: 1.82****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 18,576 (Architectural**

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

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

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Grading	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching			0.00	0.00	10.80	7.30				
Building Construction	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	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					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0147	0.1432	0.1346	2.4000e-004		6.7700e-003	6.7700e-003		6.3300e-003	6.3300e-003	0.0000	21.0866	21.0866	5.3500e-003	0.0000	21.2202
Total	0.0147	0.1432	0.1346	2.4000e-004	0.0000	6.7700e-003	6.7700e-003	0.0000	6.3300e-003	6.3300e-003	0.0000	21.0866	21.0866	5.3500e-003	0.0000	21.2202

Unmitigated Construction Off-Site

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

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.6300e-003	0.0854	0.1542	2.4000e-004		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	21.0865	21.0865	5.3500e-003	0.0000	21.2202
Total	4.6300e-003	0.0854	0.1542	2.4000e-004	0.0000	3.7000e-004	3.7000e-004	0.0000	3.7000e-004	3.7000e-004	0.0000	21.0865	21.0865	5.3500e-003	0.0000	21.2202

Mitigated Construction Off-Site

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

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

3.3 Site Preparation - 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					6.2700e-003	0.0000	6.2700e-003	3.0000e-003	0.0000	3.0000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1300e-003	0.0124	6.6400e-003	2.0000e-005		5.1000e-004	5.1000e-004		4.7000e-004	4.7000e-004	0.0000	1.5114	1.5114	4.9000e-004	0.0000	1.5236
Total	1.1300e-003	0.0124	6.6400e-003	2.0000e-005	6.2700e-003	5.1000e-004	6.7800e-003	3.0000e-003	4.7000e-004	3.4700e-003	0.0000	1.5114	1.5114	4.9000e-004	0.0000	1.5236

Unmitigated Construction Off-Site

22-094 Public Market Defaults Parcel A - Alameda 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					
Fugitive Dust					2.8200e-003	0.0000	2.8200e-003	1.3500e-003	0.0000	1.3500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0000e-004	5.0700e-003	9.8200e-003	2.0000e-005		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	1.5114	1.5114	4.9000e-004	0.0000	1.5236
Total	3.0000e-004	5.0700e-003	9.8200e-003	2.0000e-005	2.8200e-003	3.0000e-005	2.8500e-003	1.3500e-003	3.0000e-005	1.3800e-003	0.0000	1.5114	1.5114	4.9000e-004	0.0000	1.5236

Mitigated Construction Off-Site

22-094 Public Market Defaults Parcel A - Alameda 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

3.4 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					0.0143	0.0000	0.0143	6.8600e-003	0.0000	6.8600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6700e-003	0.0289	0.0174	4.0000e-005		1.2100e-003	1.2100e-003		1.1100e-003	1.1100e-003	0.0000	3.6208	3.6208	1.1700e-003	0.0000	3.6501
Total	2.6700e-003	0.0289	0.0174	4.0000e-005	0.0143	1.2100e-003	0.0155	6.8600e-003	1.1100e-003	7.9700e-003	0.0000	3.6208	3.6208	1.1700e-003	0.0000	3.6501

Unmitigated Construction Off-Site

22-094 Public Market Defaults Parcel A - Alameda 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					
Fugitive Dust					6.4100e-003	0.0000	6.4100e-003	3.0900e-003	0.0000	3.0900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.4000e-004	0.0127	0.0243	4.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	3.6208	3.6208	1.1700e-003	0.0000	3.6501
Total	7.4000e-004	0.0127	0.0243	4.0000e-005	6.4100e-003	7.0000e-005	6.4800e-003	3.0900e-003	7.0000e-005	3.1600e-003	0.0000	3.6208	3.6208	1.1700e-003	0.0000	3.6501

Mitigated Construction Off-Site

22-094 Public Market Defaults Parcel A - Alameda 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

3.5 Trenching - 2023**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
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
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
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

Mitigated Construction Off-Site

22-094 Public Market Defaults Parcel A - Alameda 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
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
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
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

3.6 Building Construction - 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	0.1523	1.1710	1.2611	2.2100e-003		0.0515	0.0515		0.0497	0.0497	0.0000	181.5991	181.5991	0.0308	0.0000	182.3701
Total	0.1523	1.1710	1.2611	2.2100e-003		0.0515	0.0515		0.0497	0.0497	0.0000	181.5991	181.5991	0.0308	0.0000	182.3701

Unmitigated Construction Off-Site

22-094 Public Market Defaults Parcel A - Alameda 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	0.0401	0.9992	1.3479	2.2100e-003		0.0162	0.0162		0.0162	0.0162	0.0000	181.5989	181.5989	0.0308	0.0000	182.3698
Total	0.0401	0.9992	1.3479	2.2100e-003		0.0162	0.0162		0.0162	0.0162	0.0000	181.5989	181.5989	0.0308	0.0000	182.3698

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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

3.7 Paving - 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	3.2200e-003	0.0312	0.0440	7.0000e-005		1.5400e-003	1.5400e-003		1.4200e-003	1.4200e-003	0.0000	5.8862	5.8862	1.8700e-003	0.0000	5.9329
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.2200e-003	0.0312	0.0440	7.0000e-005		1.5400e-003	1.5400e-003		1.4200e-003	1.4200e-003	0.0000	5.8862	5.8862	1.8700e-003	0.0000	5.9329

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
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22-094 Public Market Defaults Parcel A - Alameda County, Annual

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

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.0700e-003	0.0286	0.0493	7.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	5.8862	5.8862	1.8700e-003	0.0000	5.9329
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.0700e-003	0.0286	0.0493	7.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	5.8862	5.8862	1.8700e-003	0.0000	5.9329

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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22-094 Public Market Defaults Parcel A - Alameda County, Annual

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

Category	tons/yr										MT/yr					
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

3.8 Architectural Coating - 2023**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0646					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6000e-004	6.5100e-003	9.0600e-003	1.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2785
Total	0.0655	6.5100e-003	9.0600e-003	1.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2785

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
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22-094 Public Market Defaults Parcel A - Alameda County, Annual

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

Category	tons/yr										MT/yr					
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	0.0646					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-004	5.3000e-003	9.1600e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2785
Total	0.0648	5.3000e-003	9.1600e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2785

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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22-094 Public Market Defaults Parcel A - Alameda County, Annual

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

Category	tons/yr										MT/yr					
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT

[illegible]

Mitigated

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	1.57542e+006	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	1.57542e+006	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**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	0.0271	6.0000e-005	6.7100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0131	0.0131	3.0000e-005	0.0000	0.0139
Unmitigated	0.0271	6.0000e-005	6.7100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0131	0.0131	3.0000e-005	0.0000	0.0139

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	6.4600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0200					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.2000e-004	6.0000e-005	6.7100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0131	0.0131	3.0000e-005	0.0000	0.0139
Total	0.0271	6.0000e-005	6.7100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0131	0.0131	3.0000e-005	0.0000	0.0139

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

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	6.4600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0200					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.2000e-004	6.0000e-005	6.7100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0131	0.0131	3.0000e-005	0.0000	0.0139
Total	0.0271	6.0000e-005	6.7100e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0131	0.0131	3.0000e-005	0.0000	0.0139

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	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

Unmitigated	0.0000	0.0000	0.0000	0.0000
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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
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**8.0 Waste Detail****8.1 Mitigation Measures Waste****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

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
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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

	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
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	50	134	0.73	Diesel

Boilers

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

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

Equipment Type	Number
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10.1 Stationary Sources**Unmitigated/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
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (100 - 175 HP)	5.5000e-003	0.0154	0.0200	3.0000e-005		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	2.5513	2.5513	3.6000e-004	0.0000	2.5603
Total	5.5000e-003	0.0154	0.0200	3.0000e-005		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	2.5513	2.5513	3.6000e-004	0.0000	2.5603

11.0 Vegetation

1.3 User Entered Comments & Non-Default Data

[illegible]

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

tblConstEquipMitigation	Tier	No Change	Tier 4 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
tblGrading	MaterialExported	0.00	4,500.00
tblGrading	MaterialImported	0.00	4,500.00
tblLandUse	LandUseSquareFeet	431,060.00	431,056.00
tblLandUse	LandUseSquareFeet	3,070.00	3,074.00
tblLandUse	LotAcreage	9.90	1.64
tblLandUse	LotAcreage	0.34	0.00
tblLandUse	LotAcreage	0.07	0.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	670.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	4,023.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	4.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	HaulingTripNumber	1,125.00	0.00
tblTripsAndVMT	VendorTripNumber	74.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	145.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	29.00	0.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.0 Emissions Summary****2.1 Overall Construction****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	2.4426	1.3994	1.4838	2.6000e-003	0.0209	0.0621	0.0831	9.9300e-003	0.0597	0.0696	0.0000	216.4353	216.4353	0.0403	0.0000	217.4417
Maximum	2.4426	1.3994	1.4838	2.6000e-003	0.0209	0.0621	0.0831	9.9300e-003	0.0597	0.0696	0.0000	216.4353	216.4353	0.0403	0.0000	217.4417

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	2.3142	1.1436	1.6071	2.6000e-003	9.4200e-003	0.0168	0.0262	4.4700e-003	0.0168	0.0213	0.0000	216.4350	216.4350	0.0403	0.0000	217.4414
Maximum	2.3142	1.1436	1.6071	2.6000e-003	9.4200e-003	0.0168	0.0262	4.4700e-003	0.0168	0.0213	0.0000	216.4350	216.4350	0.0403	0.0000	217.4414

	ROG	NOx	CO	SO2	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

Percent Reduction	5.25	18.28	-8.31	0.00	55.01	72.96	68.44	54.98	71.84	69.43	0.00	0.00	0.00	0.00	0.00	0.00
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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2023	3-31-2023	0.4633	0.3137
2	4-1-2023	6-30-2023	0.4301	0.3378
3	7-1-2023	9-30-2023	0.4348	0.3415
		Highest	0.4633	0.3415

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	1.9235	4.0000e-005	4.1200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.0300e-003	8.0300e-003	2.0000e-005	0.0000	8.5500e-003
Energy	0.0572	0.5199	0.4367	3.1200e-003		0.0395	0.0395		0.0395	0.0395	0.0000	565.9266	565.9266	0.0109	0.0104	569.2896
Mobile	1.5820	2.0137	14.9538	0.0327	3.4498	0.0244	3.4742	0.9215	0.0228	0.9443	0.0000	3,020.3408	3,020.3408	0.1891	0.1559	3,071.5366
Stationary	0.7545	0.7835	1.9561	1.0000e-003		0.0275	0.0275		0.0275	0.0275	0.0000	110.7631	110.7631	0.0822	0.0000	112.8176
Waste						0.0000	0.0000		0.0000	0.0000	7.3036	0.0000	7.3036	0.4316	0.0000	18.0944
Water						0.0000	0.0000		0.0000	0.0000	67.3140	0.0000	67.3140	6.9138	0.1633	288.8071
Total	4.3172	3.3171	17.3507	0.0368	3.4498	0.0915	3.5412	0.9215	0.0898	1.0113	74.6176	3,697.0385	3,771.6561	7.6275	0.3296	4,060.5538

Mitigated Operational

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.9235	4.0000e-005	4.1200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.0300e-003	8.0300e-003	2.0000e-005	0.0000	8.5500e-003
Energy	0.0572	0.5199	0.4367	3.1200e-003		0.0395	0.0395		0.0395	0.0395	0.0000	565.9266	565.9266	0.0109	0.0104	569.2896
Mobile	1.5820	2.0137	14.9538	0.0327	3.4498	0.0244	3.4742	0.9215	0.0228	0.9443	0.0000	3,020.3408	3,020.3408	0.1891	0.1559	3,071.5366
Stationary	0.7545	0.7835	1.9561	1.0000e-003		0.0275	0.0275		0.0275	0.0275	0.0000	110.7631	110.7631	0.0822	0.0000	112.8176
Waste						0.0000	0.0000		0.0000	0.0000	7.3036	0.0000	7.3036	0.4316	0.0000	18.0944
Water						0.0000	0.0000		0.0000	0.0000	67.3140	0.0000	67.3140	6.9138	0.1633	288.8071
Total	4.3172	3.3171	17.3507	0.0368	3.4498	0.0915	3.5412	0.9215	0.0898	1.0113	74.6176	3,697.0385	3,771.6561	7.6275	0.3296	4,060.5538

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

3.0 Construction Detail**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2023	1/27/2023	5	20	
2	Site Preparation	Site Preparation	1/28/2023	1/31/2023	5	2	
3	Grading	Grading	2/1/2023	2/6/2023	5	4	
4	Trenching	Trenching	2/1/2023	2/6/2023	5	4	

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5	Building Construction	Building Construction	2/7/2023	11/13/2023	5	200
6	Paving	Paving	11/14/2023	11/27/2023	5	10
7	Architectural Coating	Architectural Coating	11/28/2023	12/11/2023	5	10

Acres of Grading (Site Preparation Phase): 1.88**Acres of Grading (Grading Phase): 4****Acres of Paving: 0****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 651,195; Non-Residential Outdoor: 217,065; Striped Parking Area: 900****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Trenching	Excavators	1	8.00	158	0.38
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56

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Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	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	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	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
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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					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0147	0.1432	0.1346	2.4000e-004		6.7700e-003	6.7700e-003		6.3300e-003	6.3300e-003	0.0000	21.0866	21.0866	5.3500e-003	0.0000	21.2202
Total	0.0147	0.1432	0.1346	2.4000e-004	0.0000	6.7700e-003	6.7700e-003	0.0000	6.3300e-003	6.3300e-003	0.0000	21.0866	21.0866	5.3500e-003	0.0000	21.2202

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
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22-094 Public Market Defaults Parcel B - Alameda County, Annual

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

Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.6300e-003	0.0854	0.1542	2.4000e-004		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	21.0865	21.0865	5.3500e-003	0.0000	21.2202
Total	4.6300e-003	0.0854	0.1542	2.4000e-004	0.0000	3.7000e-004	3.7000e-004	0.0000	3.7000e-004	3.7000e-004	0.0000	21.0865	21.0865	5.3500e-003	0.0000	21.2202

Mitigated Construction Off-Site

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

3.3 Site Preparation - 2023**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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22-094 Public Market Defaults Parcel B - Alameda County, Annual

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

Category	tons/yr										MT/yr					
Fugitive Dust					6.2700e-003	0.0000	6.2700e-003	3.0000e-003	0.0000	3.0000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1300e-003	0.0124	6.6400e-003	2.0000e-005		5.1000e-004	6.1000e-004		4.7000e-004	4.7000e-004	0.0000	1.5114	1.5114	4.9000e-004	0.0000	1.5236
Total	1.1300e-003	0.0124	6.6400e-003	2.0000e-005	6.2700e-003	5.1000e-004	6.7800e-003	3.0000e-003	4.7000e-004	3.4700e-003	0.0000	1.5114	1.5114	4.9000e-004	0.0000	1.5236

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
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22-094 Public Market Defaults Parcel B - Alameda County, Annual

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

Category	tons/yr										MT/yr					
Fugitive Dust					2.8200e-003	0.0000	2.8200e-003	1.3500e-003	0.0000	1.3500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0000e-004	5.0700e-003	9.8200e-003	2.0000e-005		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	1.5114	1.5114	4.9000e-004	0.0000	1.5236
Total	3.0000e-004	5.0700e-003	9.8200e-003	2.0000e-005	2.8200e-003	3.0000e-005	2.8500e-003	1.3500e-003	3.0000e-005	1.3800e-003	0.0000	1.5114	1.5114	4.9000e-004	0.0000	1.5236

Mitigated Construction Off-Site

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

3.4 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
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22-094 Public Market Defaults Parcel B - Alameda County, Annual

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

Category	tons/yr										MT/yr					
Fugitive Dust					0.0147	0.0000	0.0147	6.9300e-003	0.0000	6.9300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6700e-003	0.0289	0.0174	4.0000e-005		1.2100e-003	1.2100e-003		1.1100e-003	1.1100e-003	0.0000	3.6208	3.6208	1.1700e-003	0.0000	3.6501
Total	2.6700e-003	0.0289	0.0174	4.0000e-005	0.0147	1.2100e-003	0.0159	6.9300e-003	1.1100e-003	8.0400e-003	0.0000	3.6208	3.6208	1.1700e-003	0.0000	3.6501

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
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22-094 Public Market Defaults Parcel B - Alameda County, Annual

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

Category	tons/yr										MT/yr					
Fugitive Dust					6.6000e-003	0.0000	6.6000e-003	3.1200e-003	0.0000	3.1200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.4000e-004	0.0127	0.0243	4.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	3.6208	3.6208	1.1700e-003	0.0000	3.6501
Total	7.4000e-004	0.0127	0.0243	4.0000e-005	6.6000e-003	7.0000e-005	6.6700e-003	3.1200e-003	7.0000e-005	3.1900e-003	0.0000	3.6208	3.6208	1.1700e-003	0.0000	3.6501

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 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
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22-094 Public Market Defaults Parcel B - Alameda County, Annual

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

Category	tons/yr										MT/yr					
Off-Road	6.8000e-004	6.1700e-003	0.0110	2.0000e-005		3.0000e-004	3.0000e-004		2.8000e-004	2.8000e-004	0.0000	1.4546	1.4546	4.7000e-004	0.0000	1.4663
Total	6.8000e-004	6.1700e-003	0.0110	2.0000e-005		3.0000e-004	3.0000e-004		2.8000e-004	2.8000e-004	0.0000	1.4546	1.4546	4.7000e-004	0.0000	1.4663

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					

22-094 Public Market Defaults Parcel B - Alameda County, Annual

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

Off-Road	2.7000e-004	7.2600e-003	0.0125	2.0000e-005		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	1.4546	1.4546	4.7000e-004	0.0000	1.4663
Total	2.7000e-004	7.2600e-003	0.0125	2.0000e-005		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	1.4546	1.4546	4.7000e-004	0.0000	1.4663

Mitigated Construction Off-Site

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

3.6 Building Construction - 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	0.1523	1.1710	1.2611	2.2100e-003		0.0515	0.0515		0.0497	0.0497	0.0000	181.5991	181.5991	0.0308	0.0000	182.3701

22-094 Public Market Defaults Parcel B - Alameda County, Annual

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

Total	0.1523	1.1710	1.2611	2.2100e-003		0.0515	0.0515		0.0497	0.0497	0.0000	181.5991	181.5991	0.0308	0.0000	182.3701
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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	0.0401	0.9992	1.3479	2.2100e-003		0.0162	0.0162		0.0162	0.0162	0.0000	181.5989	181.5989	0.0308	0.0000	182.3698
Total	0.0401	0.9992	1.3479	2.2100e-003		0.0162	0.0162		0.0162	0.0162	0.0000	181.5989	181.5989	0.0308	0.0000	182.3698

22-094 Public Market Defaults Parcel B - Alameda 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

3.7 Paving - 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	3.2200e-003	0.0312	0.0440	7.0000e-005		1.5400e-003	1.5400e-003		1.4200e-003	1.4200e-003	0.0000	5.8862	5.8862	1.8700e-003	0.0000	5.9329
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.2200e-003	0.0312	0.0440	7.0000e-005		1.5400e-003	1.5400e-003		1.4200e-003	1.4200e-003	0.0000	5.8862	5.8862	1.8700e-003	0.0000	5.9329

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

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.0700e-003	0.0286	0.0493	7.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	5.8862	5.8862	1.8700e-003	0.0000	5.9329
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.0700e-003	0.0286	0.0493	7.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	5.8862	5.8862	1.8700e-003	0.0000	5.9329

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

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

3.8 Architectural Coating - 2023**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.2669					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6000e-004	6.5100e-003	9.0600e-003	1.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2785
Total	2.2678	6.5100e-003	9.0600e-003	1.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2785

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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	2.2669					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-004	5.3000e-003	9.1600e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2785
Total	2.2671	5.3000e-003	9.1600e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2785

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

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

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					

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

Mitigated	1.5820	2.0137	14.9538	0.0327	3.4498	0.0244	3.4742	0.9215	0.0228	0.9443	0.0000	3,020.3408	3,020.3408	0.1891	0.1559	3,071.5366
Unmitigated	1.5820	2.0137	14.9538	0.0327	3.4498	0.0244	3.4742	0.9215	0.0228	0.9443	0.0000	3,020.3408	3,020.3408	0.1891	0.1559	3,071.5366

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Regional Shopping Center	115.89	141.59	64.78	196,828	196,828
Research & Development	4,853.74	819.01	478.48	9,153,592	9,153,592
Total	4,969.63	960.60	543.25	9,350,420	9,350,420

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	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
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.569946	0.056495	0.180011	0.112201	0.020944	0.005169	0.013608	0.012941	0.000792	0.000570	0.024535	0.000337	0.002451
Regional Shopping Center	0.569946	0.056495	0.180011	0.112201	0.020944	0.005169	0.013608	0.012941	0.000792	0.000570	0.024535	0.000337	0.002451
Research & Development	0.569946	0.056495	0.180011	0.112201	0.020944	0.005169	0.013608	0.012941	0.000792	0.000570	0.024535	0.000337	0.002451

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0572	0.5199	0.4367	3.1200e-003		0.0395	0.0395		0.0395	0.0395	0.0000	565.9266	565.9266	0.0109	0.0104	569.2896
NaturalGas Unmitigated	0.0572	0.5199	0.4367	3.1200e-003		0.0395	0.0395		0.0395	0.0395	0.0000	565.9266	565.9266	0.0109	0.0104	569.2896

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					
Other Non-Asphalt Surfaces	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	14017.4	8.0000e-005	6.9000e-004	5.8000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7480	0.7480	1.0000e-005	1.0000e-005	0.7525
Research & Development	1.0591e+007	0.0571	0.5192	0.4361	3.1200e-003		0.0395	0.0395		0.0395	0.0395	0.0000	565.1785	565.1785	0.0108	0.0104	568.5371
Total		0.0572	0.5199	0.4367	3.1200e-003		0.0395	0.0395		0.0395	0.0395	0.0000	565.9266	565.9266	0.0108	0.0104	569.2896

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

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	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	14017.4	8.0000e-005	6.9000e-004	5.8000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7480	0.7480	1.0000e-005	1.0000e-005	0.7525
Research & Development	1.0591e+007	0.0571	0.5192	0.4361	3.1200e-003		0.0395	0.0395		0.0395	0.0395	0.0000	565.1785	565.1785	0.0108	0.0104	568.5371
Total		0.0572	0.5199	0.4367	3.1200e-003		0.0395	0.0395		0.0395	0.0395	0.0000	565.9266	565.9266	0.0108	0.0104	569.2896

5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	31477.8	0.0000	0.0000	0.0000	0.0000
Research & Development	3.20275e+006	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	31477.8	0.0000	0.0000	0.0000	0.0000
Research & Development	3.20275e+006	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.9235	4.0000e-005	4.1200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.0300e-003	8.0300e-003	2.0000e-005	0.0000	8.5500e-003

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

Unmitigated	1.9235	4.0000e-005	4.1200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.0300e-003	8.0300e-003	2.0000e-005	0.0000	8.5500e-003
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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	0.2267					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.6965					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.8000e-004	4.0000e-005	4.1200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.0300e-003	8.0300e-003	2.0000e-005	0.0000	8.5500e-003
Total	1.9235	4.0000e-005	4.1200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.0300e-003	8.0300e-003	2.0000e-005	0.0000	8.5500e-003

Mitigated

[illegible]

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

Landscaping	3.8000e-004	4.0000e-005	4.1200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.0300e-003	8.0300e-003	2.0000e-005	0.0000	8.5500e-003
Total	1.9235	4.0000e-005	4.1200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	8.0300e-003	8.0300e-003	2.0000e-005	0.0000	8.5500e-003

7.0 Water Detail**7.1 Mitigation Measures Water**

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	67.3140	6.9138	0.1633	288.8071
Unmitigated	67.3140	6.9138	0.1633	288.8071

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	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

Regional Shopping Center	0.227403 / 0.139376	0.0721	7.4100e-003	1.7000e-004	0.3095
Research & Development	211.95 / 0	67.2418	6.9064	0.1631	288.4976
Total		67.3140	6.9138	0.1632	288.8071

Mitigated

Indoor/Outdoor Use		Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.227403 / 0.139376	0.0721	7.4100e-003	1.7000e-004	0.3095
Research & Development	211.95 / 0	67.2418	6.9064	0.1631	288.4976
Total		67.3140	6.9138	0.1632	288.8071

8.0 Waste Detail**8.1 Mitigation Measures Waste****Category/Year**

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

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	7.3036	0.4316	0.0000	18.0944
Unmitigated	7.3036	0.4316	0.0000	18.0944

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	3.22	0.6536	0.0386	0.0000	1.6193
Research & Development	32.76	6.6500	0.3930	0.0000	16.4751
Total		7.3036	0.4316	0.0000	18.0944

Mitigated

	Waste Disposed	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

Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	3.22	0.6536	0.0386	0.0000	1.6193
Research & Development	32.76	6.6500	0.3930	0.0000	16.4751
Total		7.3036	0.4316	0.0000	18.0944

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	4	0	50	670	0.73	CNG
Emergency Generator	1	0	50	4023	0.73	Diesel

Boilers

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

Equipment Type	Number
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10.1 Stationary Sources**Unmitigated/Mitigated**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - CNG	0.5895	0.0454	1.5353	2.1000e-004		3.2500e-003	3.2500e-003		3.2500e-003	3.2500e-003	0.0000	34.1658	34.1658	0.0714	0.0000	35.9517
Emergency Generator - Diesel	0.1651	0.7381	0.4208	7.9000e-004		0.0243	0.0243		0.0243	0.0243	0.0000	76.5974	76.5974	0.0107	0.0000	76.8658
Total	0.7545	0.7835	1.9561	1.0000e-003		0.0275	0.0275		0.0275	0.0275	0.0000	110.7632	110.7632	0.0822	0.0000	112.8176

11.0 Vegetation

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

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	10.00	Dwelling Unit	0.18	10,000.00	29

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	63
Climate Zone	5			Operational Year	2024
Utility Company	Alameda Municipal Power				
CO2 Intensity (lb/MW hr)	0	CH4 Intensity (lb/MW hr)	0	N2O Intensity (lb/MW hr)	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Assume AMP

Land Use - Data from 5/16 FDP

Construction Phase - Defaults

Off-road Equipment - Defaults

Off-road Equipment - Defaults

Off-road Equipment - Defaults

Off-road Equipment - Defaults

Off-road Equipment - Defaults

Off-road Equipment - Defaults

Off-road Equipment - Defaults

Trips and VMT - All trips entered into EMFAC2021

Demolition -

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

Grading -

Construction Off-road Equipment Mitigation - All equipment t4i, BMP

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblLandUse	LotAcreage	0.63	0.18
tblOffRoadEquipment	LoadFactor	0.37	0.37

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

tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblTripsAndVMT	VendorTripNumber	1.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	7.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	1.00	0.00

2.0 Emissions Summary**2.1 Overall Construction****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.1088	0.3832	0.4269	6.9000e-004	5.5800e-003	0.0190	0.0245	2.6000e-003	0.0175	0.0201	0.0000	60.6954	60.6954	0.0187	0.0000	61.1617
Maximum	0.1088	0.3832	0.4269	6.9000e-004	5.5800e-003	0.0190	0.0245	2.6000e-003	0.0175	0.0201	0.0000	60.6954	60.6954	0.0187	0.0000	61.1617

Mitigated Construction

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0845	0.2687	0.4769	6.9000e-004	2.5100e-003	1.1100e-003	3.6200e-003	1.1700e-003	1.1100e-003	2.2800e-003	0.0000	60.6954	60.6954	0.0187	0.0000	61.1616
Maximum	0.0845	0.2687	0.4769	6.9000e-004	2.5100e-003	1.1100e-003	3.6200e-003	1.1700e-003	1.1100e-003	2.2800e-003	0.0000	60.6954	60.6954	0.0187	0.0000	61.1616

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	22.32	29.88	-11.72	0.00	55.02	94.14	85.24	55.00	93.66	88.66	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2023	3-31-2023	0.2287	0.1529
2	4-1-2023	6-30-2023	0.2607	0.1982
		Highest	0.2607	0.1982

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	0.0714	1.3900e-003	0.1060	7.0000e-005		4.9500e-003	4.9500e-003		4.9500e-003	4.9500e-003	0.4559	0.3086	0.7644	8.5000e-004	3.0000e-005	0.7946
Energy	1.1200e-003	9.6000e-003	4.0800e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1154	11.1154	2.1000e-004	2.0000e-004	11.1814

[illegible]

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**3.0 Construction Detail****Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2023	1/13/2023	5	10	
2	Site Preparation	Site Preparation	1/14/2023	1/16/2023	5	1	
3	Grading	Grading	1/17/2023	1/18/2023	5	2	
4	Building Construction	Building Construction	1/19/2023	6/7/2023	5	100	
5	Paving	Paving	6/8/2023	6/14/2023	5	5	
6	Architectural Coating	Architectural Coating	6/15/2023	6/21/2023	5	5	
7	Trenching	Trenching	1/17/2023	1/18/2023	5	2	

Acres of Grading (Site Preparation Phase): 0.5**Acres of Grading (Grading Phase): 1.5****Acres of Paving: 0****Residential Indoor: 20,250; Residential Outdoor: 6,750; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Site Preparation	Graders	1	8.00	187	0.41
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37

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

Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Trenching	Excavators	1	8.00	158	0.38
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	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

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**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2300e-003	0.0289	0.0370	6.0000e-005		1.4100e-003	1.4100e-003		1.3500e-003	1.3500e-003	0.0000	5.2091	5.2091	9.5000e-004	0.0000	5.2328
Total	3.2300e-003	0.0289	0.0370	6.0000e-005	0.0000	1.4100e-003	1.4100e-003	0.0000	1.3500e-003	1.3500e-003	0.0000	5.2091	5.2091	9.5000e-004	0.0000	5.2328

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1800e-003	0.0227	0.0397	6.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	5.2091	5.2091	9.5000e-004	0.0000	5.2328
Total	1.1800e-003	0.0227	0.0397	6.0000e-005	0.0000	9.0000e-005	9.0000e-005	0.0000	9.0000e-005	9.0000e-005	0.0000	5.2091	5.2091	9.5000e-004	0.0000	5.2328

Mitigated Construction Off-Site

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

3.3 Site Preparation - 2023**Unmitigated Construction On-Site**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-004	3.0900e-003	1.9600e-003	0.0000		1.1000e-004	1.1000e-004		1.0000e-004	1.0000e-004	0.0000	0.4275	0.4275	1.4000e-004	0.0000	0.4309
Total	2.7000e-004	3.0900e-003	1.9600e-003	0.0000	2.7000e-004	1.1000e-004	3.8000e-004	3.0000e-005	1.0000e-004	1.3000e-004	0.0000	0.4275	0.4275	1.4000e-004	0.0000	0.4309

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.2000e-004	0.0000	1.2000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0000e-005	1.5500e-003	2.9300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.4275	0.4275	1.4000e-004	0.0000	0.4309
Total	9.0000e-005	1.5500e-003	2.9300e-003	0.0000	1.2000e-004	1.0000e-005	1.3000e-004	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.4275	0.4275	1.4000e-004	0.0000	0.4309

Mitigated Construction Off-Site

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

3.4 Grading - 2023**Unmitigated Construction On-Site**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3100e-003	0.0000	5.3100e-003	2.5700e-003	0.0000	2.5700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.3000e-004	0.0102	5.5500e-003	1.0000e-005		4.2000e-004	4.2000e-004		3.9000e-004	3.9000e-004	0.0000	1.2381	1.2381	4.0000e-004	0.0000	1.2481
Total	9.3000e-004	0.0102	5.5500e-003	1.0000e-005	5.3100e-003	4.2000e-004	5.7300e-003	2.5700e-003	3.9000e-004	2.9600e-003	0.0000	1.2381	1.2381	4.0000e-004	0.0000	1.2481

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3900e-003	0.0000	2.3900e-003	1.1600e-003	0.0000	1.1600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.5000e-004	4.1800e-003	8.0800e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	1.2381	1.2381	4.0000e-004	0.0000	1.2481
Total	2.5000e-004	4.1800e-003	8.0800e-003	1.0000e-005	2.3900e-003	2.0000e-005	2.4100e-003	1.1600e-003	2.0000e-005	1.1800e-003	0.0000	1.2381	1.2381	4.0000e-004	0.0000	1.2481

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**Unmitigated Construction On-Site**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0316	0.3209	0.3549	5.7000e-004		0.0160	0.0160		0.0147	0.0147	0.0000	50.1042	50.1042	0.0162	0.0000	50.5093
Total	0.0316	0.3209	0.3549	5.7000e-004		0.0160	0.0160		0.0147	0.0147	0.0000	50.1042	50.1042	0.0162	0.0000	50.5093

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

22-094 Public Market Defaults - Alameda County, Annual

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0119	0.2240	0.3981	5.7000e-004		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004	0.0000	50.1042	50.1042	0.0162	0.0000	50.5093
Total	0.0119	0.2240	0.3981	5.7000e-004		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004	0.0000	50.1042	50.1042	0.0162	0.0000	50.5093

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 Paving - 2023**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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22-094 Public Market Defaults - Alameda County, Annual

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

Category	tons/yr										MT/yr					
Off-Road	1.5300e-003	0.0138	0.0176	3.0000e-005		6.6000e-004	6.6000e-004		6.2000e-004	6.2000e-004	0.0000	2.3498	2.3498	6.8000e-004	0.0000	2.3669
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.5300e-003	0.0138	0.0176	3.0000e-005		6.6000e-004	6.6000e-004		6.2000e-004	6.2000e-004	0.0000	2.3498	2.3498	6.8000e-004	0.0000	2.3669

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
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22-094 Public Market Defaults - Alameda County, Annual

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

Category	tons/yr										MT/yr					
Off-Road	4.1000e-004	0.0100	0.0173	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.3498	2.3498	6.8000e-004	0.0000	2.3669
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	4.1000e-004	0.0100	0.0173	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.3498	2.3498	6.8000e-004	0.0000	2.3669

Mitigated Construction Off-Site

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

3.7 Architectural Coating - 2023**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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22-094 Public Market Defaults - Alameda County, Annual

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

Category	tons/yr										MT/yr					
Archit. Coating	0.0704					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8000e-004	3.2600e-003	4.5300e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6393
Total	0.0709	3.2600e-003	4.5300e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6393

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
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22-094 Public Market Defaults - Alameda County, Annual

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

Category	tons/yr										MT/yr					
Archit. Coating	0.0704					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.4000e-004	2.6500e-003	4.5800e-003	1.0000e-005		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6393
Total	0.0705	2.6500e-003	4.5800e-003	1.0000e-005		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6393

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

3.8 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
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22-094 Public Market Defaults - Alameda County, Annual

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

Category	tons/yr										MT/yr					
Off-Road	3.4000e-004	3.0900e-003	5.5000e-003	1.0000e-005		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.7284	0.7284	2.4000e-004	0.0000	0.7343
Total	3.4000e-004	3.0900e-003	5.5000e-003	1.0000e-005		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.7284	0.7284	2.4000e-004	0.0000	0.7343

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

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

Off-Road	1.3000e-004	3.6400e-003	6.2700e-003	1.0000e-005		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.7284	0.7284	2.4000e-004	0.0000	0.7343
Total	1.3000e-004	3.6400e-003	6.2700e-003	1.0000e-005		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.7284	0.7284	2.4000e-004	0.0000	0.7343

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

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0297	0.0370	0.2745	5.9000e-004	0.0621	4.4000e-004	0.0626	0.0166	4.1000e-004	0.0170	0.0000	54.5069	54.5069	3.5100e-003	2.8600e-003	55.4468
Unmitigated	0.0297	0.0370	0.2745	5.9000e-004	0.0621	4.4000e-004	0.0626	0.0166	4.1000e-004	0.0170	0.0000	54.5069	54.5069	3.5100e-003	2.8600e-003	55.4468

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	73.20	81.40	62.80	168,337	168,337
Total	73.20	81.40	62.80	168,337	168,337

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.569946	0.056495	0.180011	0.112201	0.020944	0.005169	0.013608	0.012941	0.000792	0.000570	0.024535	0.000337	0.002451

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	1.1200e-003	9.6000e-003	4.0800e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1154	11.1154	2.1000e-004	2.0000e-004	11.1814
NaturalGas Unmitigated	1.1200e-003	9.6000e-003	4.0800e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1154	11.1154	2.1000e-004	2.0000e-004	11.1814

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					
Apartments Mid Rise	208294	1.1200e-003	9.6000e-003	4.0800e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1154	11.1154	2.1000e-004	2.0000e-004	11.1814
Total		1.1200e-003	9.6000e-003	4.0800e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1154	11.1154	2.1000e-004	2.0000e-004	11.1814

Mitigated

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

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	208294	1.1200e-003	9.6000e-003	4.0800e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1154	11.1154	2.1000e-004	2.0000e-004	11.1814
Total		1.1200e-003	9.6000e-003	4.0800e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.1154	11.1154	2.1000e-004	2.0000e-004	11.1814

5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	48390.6	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
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22-094 Public Market Defaults - Alameda County, Annual

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

Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	48390.6	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0714	1.3900e-003	0.1060	7.0000e-005		4.9500e-003	4.9500e-003		4.9500e-003	4.9500e-003	0.4559	0.3086	0.7644	8.5000e-004	3.0000e-005	0.7946
Unmitigated	0.0714	1.3900e-003	0.1060	7.0000e-005		4.9500e-003	4.9500e-003		4.9500e-003	4.9500e-003	0.4559	0.3086	0.7644	8.5000e-004	3.0000e-005	0.7946

6.2 Area by SubCategory**Unmitigated**

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

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

Architectural Coating	7.0400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0231	5.3000e-004	0.0318	6.0000e-005		4.5400e-003	4.5400e-003		4.5400e-003	4.5400e-003	0.4559	0.1873	0.6432	7.3000e-004	3.0000e-005	0.6704
Landscaping	2.2300e-003	8.6000e-004	0.0742	0.0000		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	0.1213	0.1213	1.2000e-004	0.0000	0.1242
Total	0.0714	1.3900e-003	0.1060	6.0000e-005		4.9500e-003	4.9500e-003		4.9500e-003	4.9500e-003	0.4559	0.3086	0.7645	8.5000e-004	3.0000e-005	0.7946

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	7.0400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0391					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0231	5.3000e-004	0.0318	6.0000e-005		4.5400e-003	4.5400e-003		4.5400e-003	4.5400e-003	0.4559	0.1873	0.6432	7.3000e-004	3.0000e-005	0.6704
Landscaping	2.2300e-003	8.6000e-004	0.0742	0.0000		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	0.1213	0.1213	1.2000e-004	0.0000	0.1242
Total	0.0714	1.3900e-003	0.1060	6.0000e-005		4.9500e-003	4.9500e-003		4.9500e-003	4.9500e-003	0.4559	0.3086	0.7645	8.5000e-004	3.0000e-005	0.7946

7.0 Water Detail**7.1 Mitigation Measures Water**

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.2067	0.0212	5.0000e-004	0.8869
Unmitigated	0.2067	0.0212	5.0000e-004	0.8869

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0.65154 / 0.410754	0.2067	0.0212	5.0000e-004	0.8869
Total		0.2067	0.0212	5.0000e-004	0.8869

Mitigated

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

Indoor/Outdoor Use		Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0.65154 / 0.410754	0.2067	0.0212	5.0000e-004	0.8869
Total		0.2067	0.0212	5.0000e-004	0.8869

8.0 Waste Detail**8.1 Mitigation Measures Waste****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.9338	0.0552	0.0000	2.3134
Unmitigated	0.9338	0.0552	0.0000	2.3134

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	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

Land Use	tons	MT/yr			
Apartments Mid Rise	4.6	0.9338	0.0552	0.0000	2.3134
Total		0.9338	0.0552	0.0000	2.3134

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	4.6	0.9338	0.0552	0.0000	2.3134
Total		0.9338	0.0552	0.0000	2.3134

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

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

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

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

Equipment Type	Number
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11.0 Vegetation

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**22-094 Public Market Operation
Alameda County, Annual****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Research & Development	431.06	1000sqft	0.00	431,056.00	0
Apartments Mid Rise	489.00	Dwelling Unit	0.00	489,000.00	1399
Regional Shopping Center	35.00	1000sqft	0.00	35,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	63
Climate Zone	5			Operational Year	2024
Utility Company	Alameda Municipal Power				
CO2 Intensity (lb/MW hr)	0	CH4 Intensity (lb/MW hr)	0	N2O Intensity (lb/MW hr)	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Assume AMP

Land Use - Data from 5/16 FDP. Other non-asphalt surface = green space/plaza

Construction Phase - Operational Only

Off-road Equipment - Defaults

Off-road Equipment - Operational Only

Trips and VMT - All trips entered into EMFAC2021

Demolition -

Grading -

Vehicle Trips - Trip rates updated by traffic consultant.

Vehicle Emission Factors - Emission factors from EMFAC2021

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

Woodstoves - No hearths/fireplaces

Water And Wastewater - 100% aerobic

Construction Off-road Equipment Mitigation - All equipment t4i, BMP

Energy Mitigation - Solar panels on roof of parking garage to offset entire parking garage electricity usage.

Fleet Mix - Fleex Mix from EMFAC2021

Stationary Sources - Emergency Generators and Fire Pumps - Parcel A - 100kw diesel generator. Parcel B - 3000kw diesel generator + 4 tenant 500kw nat gas

Stationary Sources - Emergency Generators and Fire Pumps EF - Tier 4 engine for 3,000kw generator.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblFleetMix	HHD	0.01	0.04
tblFleetMix	HHD	0.01	0.04
tblFleetMix	HHD	0.01	0.04
tblFleetMix	LDA	0.57	0.52
tblFleetMix	LDA	0.57	0.52
tblFleetMix	LDA	0.57	0.52
tblFleetMix	LDT1	0.06	0.04
tblFleetMix	LDT1	0.06	0.04
tblFleetMix	LDT1	0.06	0.04
tblFleetMix	LDT2	0.18	0.23
tblFleetMix	LDT2	0.18	0.23
tblFleetMix	LDT2	0.18	0.23
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD2	5.1690e-003	5.9134e-003
tblFleetMix	LHD2	5.1690e-003	5.9134e-003
tblFleetMix	LHD2	5.1690e-003	5.9134e-003
tblFleetMix	MCY	0.02	3.4914e-003

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

tblFleetMix	MCY	0.02	3.4914e-003
tblFleetMix	MCY	0.02	3.4914e-003
tblFleetMix	MDV	0.11	0.12
tblFleetMix	MDV	0.11	0.12
tblFleetMix	MDV	0.11	0.12
tblFleetMix	MH	2.4510e-003	5.5989e-004
tblFleetMix	MH	2.4510e-003	5.5989e-004
tblFleetMix	MH	2.4510e-003	5.5989e-004
tblFleetMix	MHD	0.01	0.02
tblFleetMix	MHD	0.01	0.02
tblFleetMix	MHD	0.01	0.02
tblFleetMix	OBUS	7.9200e-004	1.3161e-003
tblFleetMix	OBUS	7.9200e-004	1.3161e-003
tblFleetMix	OBUS	7.9200e-004	1.3161e-003
tblFleetMix	SBUS	3.3700e-004	3.3688e-004
tblFleetMix	SBUS	3.3700e-004	3.3688e-004
tblFleetMix	SBUS	3.3700e-004	3.3688e-004
tblFleetMix	UBUS	5.7000e-004	2.4344e-003
tblFleetMix	UBUS	5.7000e-004	2.4344e-003
tblFleetMix	UBUS	5.7000e-004	2.4344e-003
tblLandUse	LandUseSquareFeet	431,060.00	431,056.00
tblLandUse	LotAcreage	9.90	0.00
tblLandUse	LotAcreage	12.87	0.00
tblLandUse	LotAcreage	0.80	0.00
tblStationaryGeneratorsPumpsEF	NOX_EF	4.56	0.50
tblStationaryGeneratorsPumpsEF	PM10_EF	0.15	0.02
tblStationaryGeneratorsPumpsEF	PM2_5_EF	0.15	0.02
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	670.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	134.00

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

tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	4,023.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	4.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleEF	HHD	0.02	0.22
tblVehicleEF	HHD	0.03	0.07
tblVehicleEF	HHD	0.00	3.8262e-008
tblVehicleEF	HHD	6.63	5.37
tblVehicleEF	HHD	0.35	0.55
tblVehicleEF	HHD	3.9270e-003	2.3937e-003
tblVehicleEF	HHD	1,083.40	859.50
tblVehicleEF	HHD	1,374.34	1,579.94
tblVehicleEF	HHD	0.04	0.03
tblVehicleEF	HHD	0.17	0.14
tblVehicleEF	HHD	0.22	0.25
tblVehicleEF	HHD	4.0000e-006	4.1245e-008
tblVehicleEF	HHD	5.47	4.19
tblVehicleEF	HHD	2.59	1.72
tblVehicleEF	HHD	2.28	2.73
tblVehicleEF	HHD	2.3430e-003	2.0024e-003
tblVehicleEF	HHD	0.06	0.08
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	0.00	1.9348e-007
tblVehicleEF	HHD	2.2410e-003	1.9100e-003
tblVehicleEF	HHD	0.03	0.03

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

tblVehicleEF	HHD	8.9250e-003	8.8829e-003
tblVehicleEF	HHD	0.02	0.03
tblVehicleEF	HHD	0.00	1.7790e-007
tblVehicleEF	HHD	1.0000e-006	3.5367e-005
tblVehicleEF	HHD	7.2000e-005	1.2090e-005
tblVehicleEF	HHD	0.45	0.35
tblVehicleEF	HHD	1.0000e-006	0.00
tblVehicleEF	HHD	0.02	0.02
tblVehicleEF	HHD	3.1000e-005	7.5219e-005
tblVehicleEF	HHD	1.0000e-006	2.0776e-007
tblVehicleEF	HHD	0.01	7.6290e-003
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	0.00	2.8197e-007
tblVehicleEF	HHD	1.0000e-006	3.5367e-005
tblVehicleEF	HHD	7.2000e-005	1.2090e-005
tblVehicleEF	HHD	0.51	0.59
tblVehicleEF	HHD	1.0000e-006	0.00
tblVehicleEF	HHD	0.06	0.09
tblVehicleEF	HHD	3.1000e-005	7.5219e-005
tblVehicleEF	HHD	1.0000e-006	2.2747e-007
tblVehicleEF	LDA	1.8590e-003	2.0985e-003
tblVehicleEF	LDA	0.05	0.07
tblVehicleEF	LDA	0.53	0.63
tblVehicleEF	LDA	2.16	3.08
tblVehicleEF	LDA	239.62	248.92
tblVehicleEF	LDA	50.77	65.07
tblVehicleEF	LDA	4.1360e-003	4.2925e-003
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	0.03	0.04

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

tblVehicleEF	LDA	0.18	0.25
tblVehicleEF	LDA	0.04	6.6142e-003
tblVehicleEF	LDA	8.0000e-003	8.0000e-003
tblVehicleEF	LDA	1.3710e-003	1.2108e-003
tblVehicleEF	LDA	1.6920e-003	1.9468e-003
tblVehicleEF	LDA	0.02	2.3150e-003
tblVehicleEF	LDA	2.0000e-003	2.0000e-003
tblVehicleEF	LDA	1.2630e-003	1.1154e-003
tblVehicleEF	LDA	1.5560e-003	1.7900e-003
tblVehicleEF	LDA	0.04	0.29
tblVehicleEF	LDA	0.09	0.09
tblVehicleEF	LDA	0.03	0.00
tblVehicleEF	LDA	7.0560e-003	8.1536e-003
tblVehicleEF	LDA	0.03	0.22
tblVehicleEF	LDA	0.21	0.32
tblVehicleEF	LDA	2.3700e-003	2.4606e-003
tblVehicleEF	LDA	5.0200e-004	6.4325e-004
tblVehicleEF	LDA	0.04	0.29
tblVehicleEF	LDA	0.09	0.09
tblVehicleEF	LDA	0.03	0.00
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.03	0.22
tblVehicleEF	LDA	0.23	0.34
tblVehicleEF	LDT1	3.6820e-003	5.6534e-003
tblVehicleEF	LDT1	0.06	0.11
tblVehicleEF	LDT1	0.83	1.28
tblVehicleEF	LDT1	2.35	5.49
tblVehicleEF	LDT1	286.88	327.66
tblVehicleEF	LDT1	61.42	87.19

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

tblVehicleEF	LDT1	5.9310e-003	8.9716e-003
tblVehicleEF	LDT1	0.03	0.04
tblVehicleEF	LDT1	0.07	0.12
tblVehicleEF	LDT1	0.23	0.40
tblVehicleEF	LDT1	0.04	8.4541e-003
tblVehicleEF	LDT1	8.0000e-003	8.0000e-003
tblVehicleEF	LDT1	1.6970e-003	1.8505e-003
tblVehicleEF	LDT1	2.1880e-003	2.9498e-003
tblVehicleEF	LDT1	0.02	2.9589e-003
tblVehicleEF	LDT1	2.0000e-003	2.0000e-003
tblVehicleEF	LDT1	1.5610e-003	1.7034e-003
tblVehicleEF	LDT1	2.0120e-003	2.7122e-003
tblVehicleEF	LDT1	0.08	0.62
tblVehicleEF	LDT1	0.16	0.17
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.08	0.50
tblVehicleEF	LDT1	0.31	0.57
tblVehicleEF	LDT1	2.8390e-003	3.2393e-003
tblVehicleEF	LDT1	6.0800e-004	8.6197e-004
tblVehicleEF	LDT1	0.08	0.62
tblVehicleEF	LDT1	0.16	0.17
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.02	0.04
tblVehicleEF	LDT1	0.08	0.50
tblVehicleEF	LDT1	0.34	0.62
tblVehicleEF	LDT2	2.8980e-003	2.6790e-003
tblVehicleEF	LDT2	0.06	0.08
tblVehicleEF	LDT2	0.70	0.77

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

tblVehicleEF	LDT2	2.77	3.75
tblVehicleEF	LDT2	305.96	337.51
tblVehicleEF	LDT2	66.04	86.96
tblVehicleEF	LDT2	5.6150e-003	5.8821e-003
tblVehicleEF	LDT2	0.03	0.04
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.26	0.34
tblVehicleEF	LDT2	0.04	8.0988e-003
tblVehicleEF	LDT2	8.0000e-003	8.0000e-003
tblVehicleEF	LDT2	1.3900e-003	1.3311e-003
tblVehicleEF	LDT2	1.7150e-003	2.1199e-003
tblVehicleEF	LDT2	0.02	2.8346e-003
tblVehicleEF	LDT2	2.0000e-003	2.0000e-003
tblVehicleEF	LDT2	1.2800e-003	1.2246e-003
tblVehicleEF	LDT2	1.5770e-003	1.9491e-003
tblVehicleEF	LDT2	0.06	0.29
tblVehicleEF	LDT2	0.12	0.08
tblVehicleEF	LDT2	0.06	0.00
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.06	0.22
tblVehicleEF	LDT2	0.30	0.39
tblVehicleEF	LDT2	3.0270e-003	3.3362e-003
tblVehicleEF	LDT2	6.5300e-004	8.5973e-004
tblVehicleEF	LDT2	0.06	0.29
tblVehicleEF	LDT2	0.12	0.08
tblVehicleEF	LDT2	0.06	0.00
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.22
tblVehicleEF	LDT2	0.32	0.43

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tblVehicleEF	LHD1	5.2020e-003	5.5942e-003
tblVehicleEF	LHD1	8.2270e-003	8.4045e-003
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	0.19	0.20
tblVehicleEF	LHD1	0.75	0.94
tblVehicleEF	LHD1	1.08	2.22
tblVehicleEF	LHD1	8.87	8.71
tblVehicleEF	LHD1	791.34	791.19
tblVehicleEF	LHD1	11.92	18.39
tblVehicleEF	LHD1	7.2400e-004	6.2116e-004
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.03	0.04
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.67	0.65
tblVehicleEF	LHD1	0.32	0.46
tblVehicleEF	LHD1	8.0900e-004	6.5305e-004
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	9.7150e-003	9.3459e-003
tblVehicleEF	LHD1	9.8140e-003	0.01
tblVehicleEF	LHD1	2.5100e-004	2.2767e-004
tblVehicleEF	LHD1	7.7400e-004	6.2480e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.4290e-003	2.3365e-003
tblVehicleEF	LHD1	9.3410e-003	0.01
tblVehicleEF	LHD1	2.3100e-004	2.0934e-004
tblVehicleEF	LHD1	1.7640e-003	0.13
tblVehicleEF	LHD1	0.07	0.03
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.0180e-003	0.00

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tblVehicleEF	LHD1	0.09	0.09
tblVehicleEF	LHD1	0.21	0.18
tblVehicleEF	LHD1	0.07	0.12
tblVehicleEF	LHD1	8.6000e-005	8.4893e-005
tblVehicleEF	LHD1	7.7310e-003	7.7342e-003
tblVehicleEF	LHD1	1.1800e-004	1.8185e-004
tblVehicleEF	LHD1	1.7640e-003	0.13
tblVehicleEF	LHD1	0.07	0.03
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	1.0180e-003	0.00
tblVehicleEF	LHD1	0.11	0.11
tblVehicleEF	LHD1	0.21	0.18
tblVehicleEF	LHD1	0.08	0.13
tblVehicleEF	LHD2	3.5400e-003	3.6824e-003
tblVehicleEF	LHD2	6.7490e-003	7.0342e-003
tblVehicleEF	LHD2	9.1710e-003	0.01
tblVehicleEF	LHD2	0.15	0.15
tblVehicleEF	LHD2	0.60	0.60
tblVehicleEF	LHD2	0.68	1.40
tblVehicleEF	LHD2	13.53	13.36
tblVehicleEF	LHD2	781.19	841.06
tblVehicleEF	LHD2	8.80	11.48
tblVehicleEF	LHD2	1.6100e-003	1.5397e-003
tblVehicleEF	LHD2	0.07	0.08
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.09	0.08
tblVehicleEF	LHD2	0.77	0.83
tblVehicleEF	LHD2	0.21	0.29
tblVehicleEF	LHD2	1.3170e-003	1.2315e-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	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.3600e-004	1.0986e-004
tblVehicleEF	LHD2	1.2600e-003	1.1783e-003
tblVehicleEF	LHD2	0.04	0.03
tblVehicleEF	LHD2	2.6510e-003	2.6179e-003
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.2500e-004	1.0101e-004
tblVehicleEF	LHD2	1.0140e-003	0.07
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	6.0000e-004	0.00
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.11	0.10
tblVehicleEF	LHD2	0.05	0.07
tblVehicleEF	LHD2	1.3000e-004	1.2827e-004
tblVehicleEF	LHD2	7.5600e-003	8.1232e-003
tblVehicleEF	LHD2	8.7000e-005	1.1346e-004
tblVehicleEF	LHD2	1.0140e-003	0.07
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	6.0000e-004	0.00
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.11	0.10
tblVehicleEF	LHD2	0.05	0.08
tblVehicleEF	MCY	0.34	0.17
tblVehicleEF	MCY	0.26	0.19
tblVehicleEF	MCY	19.81	13.43

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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	9.13	8.23
tblVehicleEF	MCY	215.26	190.21
tblVehicleEF	MCY	61.48	50.62
tblVehicleEF	MCY	0.07	0.04
tblVehicleEF	MCY	0.02	8.6062e-003
tblVehicleEF	MCY	1.16	0.60
tblVehicleEF	MCY	0.27	0.15
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	4.0000e-003	4.0000e-003
tblVehicleEF	MCY	2.0940e-003	1.9299e-003
tblVehicleEF	MCY	3.0600e-003	3.6104e-003
tblVehicleEF	MCY	5.0400e-003	4.2000e-003
tblVehicleEF	MCY	1.9570e-003	1.8070e-003
tblVehicleEF	MCY	2.8790e-003	3.3985e-003
tblVehicleEF	MCY	0.80	4.02
tblVehicleEF	MCY	0.71	3.58
tblVehicleEF	MCY	0.49	0.00
tblVehicleEF	MCY	2.32	1.14
tblVehicleEF	MCY	0.56	3.79
tblVehicleEF	MCY	1.98	1.45
tblVehicleEF	MCY	2.1300e-003	1.8804e-003
tblVehicleEF	MCY	6.0800e-004	5.0047e-004
tblVehicleEF	MCY	0.80	0.09
tblVehicleEF	MCY	0.71	3.58
tblVehicleEF	MCY	0.49	0.00
tblVehicleEF	MCY	2.87	1.36
tblVehicleEF	MCY	0.56	3.79
tblVehicleEF	MCY	2.16	1.57
tblVehicleEF	MDV	3.3470e-003	3.5519e-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	MDV	0.07	0.10
tblVehicleEF	MDV	0.74	0.88
tblVehicleEF	MDV	3.06	4.11
tblVehicleEF	MDV	367.78	405.72
tblVehicleEF	MDV	78.89	104.38
tblVehicleEF	MDV	7.4350e-003	8.0026e-003
tblVehicleEF	MDV	0.03	0.04
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.31	0.44
tblVehicleEF	MDV	0.04	8.1894e-003
tblVehicleEF	MDV	8.0000e-003	8.0000e-003
tblVehicleEF	MDV	1.4830e-003	1.3605e-003
tblVehicleEF	MDV	1.8440e-003	2.1836e-003
tblVehicleEF	MDV	0.02	2.8663e-003
tblVehicleEF	MDV	2.0000e-003	2.0000e-003
tblVehicleEF	MDV	1.3680e-003	1.2540e-003
tblVehicleEF	MDV	1.6960e-003	2.0079e-003
tblVehicleEF	MDV	0.06	0.37
tblVehicleEF	MDV	0.14	0.10
tblVehicleEF	MDV	0.07	0.00
tblVehicleEF	MDV	0.01	0.01
tblVehicleEF	MDV	0.06	0.29
tblVehicleEF	MDV	0.37	0.52
tblVehicleEF	MDV	3.6350e-003	4.0085e-003
tblVehicleEF	MDV	7.8100e-004	1.0319e-003
tblVehicleEF	MDV	0.06	0.37
tblVehicleEF	MDV	0.14	0.10
tblVehicleEF	MDV	0.07	0.00
tblVehicleEF	MDV	0.02	0.02

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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	0.06	0.29
tblVehicleEF	MDV	0.40	0.57
tblVehicleEF	MH	9.2930e-003	0.01
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	0.90	1.25
tblVehicleEF	MH	2.07	2.59
tblVehicleEF	MH	1,505.16	1,694.28
tblVehicleEF	MH	18.45	23.05
tblVehicleEF	MH	0.06	0.07
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	1.21	1.49
tblVehicleEF	MH	0.25	0.31
tblVehicleEF	MH	0.13	0.04
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	2.6400e-004	3.2153e-004
tblVehicleEF	MH	0.06	0.02
tblVehicleEF	MH	3.2670e-003	3.2926e-003
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	2.4300e-004	2.9564e-004
tblVehicleEF	MH	0.55	33.38
tblVehicleEF	MH	0.05	9.04
tblVehicleEF	MH	0.22	0.00
tblVehicleEF	MH	0.06	0.08
tblVehicleEF	MH	0.01	0.21
tblVehicleEF	MH	0.09	0.12
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	1.8300e-004	2.2782e-004
tblVehicleEF	MH	0.55	33.38

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

tblVehicleEF	MH	0.05	9.04
tblVehicleEF	MH	0.22	0.00
tblVehicleEF	MH	0.08	0.11
tblVehicleEF	MH	0.01	0.21
tblVehicleEF	MH	0.10	0.13
tblVehicleEF	MHD	2.6790e-003	0.01
tblVehicleEF	MHD	1.3190e-003	0.01
tblVehicleEF	MHD	6.7490e-003	7.5594e-003
tblVehicleEF	MHD	0.35	0.65
tblVehicleEF	MHD	0.20	0.31
tblVehicleEF	MHD	0.78	0.91
tblVehicleEF	MHD	72.84	158.47
tblVehicleEF	MHD	1,042.25	1,225.83
tblVehicleEF	MHD	6.73	7.41
tblVehicleEF	MHD	0.01	0.02
tblVehicleEF	MHD	0.14	0.16
tblVehicleEF	MHD	5.3000e-003	5.2352e-003
tblVehicleEF	MHD	0.41	0.85
tblVehicleEF	MHD	1.44	0.98
tblVehicleEF	MHD	1.83	1.44
tblVehicleEF	MHD	3.0900e-004	1.5244e-003
tblVehicleEF	MHD	0.13	0.05
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	6.8920e-003	0.01
tblVehicleEF	MHD	7.7000e-005	8.3018e-005
tblVehicleEF	MHD	2.9600e-004	1.4579e-003
tblVehicleEF	MHD	0.06	0.02
tblVehicleEF	MHD	3.0000e-003	3.0000e-003
tblVehicleEF	MHD	6.5900e-003	9.5976e-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	7.1000e-005	7.6332e-005
tblVehicleEF	MHD	2.5400e-004	0.02
tblVehicleEF	MHD	0.01	5.4687e-003
tblVehicleEF	MHD	0.01	0.02
tblVehicleEF	MHD	1.5200e-004	0.00
tblVehicleEF	MHD	0.01	0.03
tblVehicleEF	MHD	0.01	0.04
tblVehicleEF	MHD	0.04	0.04
tblVehicleEF	MHD	6.9000e-004	1.4667e-003
tblVehicleEF	MHD	9.9100e-003	0.01
tblVehicleEF	MHD	6.7000e-005	7.3268e-005
tblVehicleEF	MHD	2.5400e-004	0.02
tblVehicleEF	MHD	0.01	5.4687e-003
tblVehicleEF	MHD	0.02	0.04
tblVehicleEF	MHD	1.5200e-004	0.00
tblVehicleEF	MHD	0.02	0.05
tblVehicleEF	MHD	0.01	0.04
tblVehicleEF	MHD	0.04	0.05
tblVehicleEF	OBUS	8.4040e-003	8.7980e-003
tblVehicleEF	OBUS	6.4160e-003	0.01
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.58	0.52
tblVehicleEF	OBUS	0.72	0.85
tblVehicleEF	OBUS	2.46	2.82
tblVehicleEF	OBUS	84.59	72.86
tblVehicleEF	OBUS	1,439.19	1,592.66
tblVehicleEF	OBUS	19.38	23.10
tblVehicleEF	OBUS	0.01	9.4856e-003
tblVehicleEF	OBUS	0.11	0.11

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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	0.02	0.02
tblVehicleEF	OBUS	0.33	0.29
tblVehicleEF	OBUS	1.26	1.10
tblVehicleEF	OBUS	0.82	0.71
tblVehicleEF	OBUS	1.1000e-004	3.4301e-004
tblVehicleEF	OBUS	0.13	0.05
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.2320e-003	0.02
tblVehicleEF	OBUS	1.9300e-004	2.2002e-004
tblVehicleEF	OBUS	1.0500e-004	3.2816e-004
tblVehicleEF	OBUS	0.06	0.02
tblVehicleEF	OBUS	3.0000e-003	3.0000e-003
tblVehicleEF	OBUS	6.9010e-003	0.02
tblVehicleEF	OBUS	1.7700e-004	2.0230e-004
tblVehicleEF	OBUS	1.4530e-003	0.09
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.05
tblVehicleEF	OBUS	6.9000e-004	0.00
tblVehicleEF	OBUS	0.04	0.07
tblVehicleEF	OBUS	0.07	0.11
tblVehicleEF	OBUS	0.12	0.13
tblVehicleEF	OBUS	8.0500e-004	6.9431e-004
tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	1.9200e-004	2.2832e-004
tblVehicleEF	OBUS	1.4530e-003	0.09
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.07	0.06
tblVehicleEF	OBUS	6.9000e-004	0.00
tblVehicleEF	OBUS	0.05	0.09

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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	0.07	0.11
tblVehicleEF	OBUS	0.13	0.14
tblVehicleEF	SBUS	0.07	0.09
tblVehicleEF	SBUS	4.2520e-003	0.16
tblVehicleEF	SBUS	6.2910e-003	4.2303e-003
tblVehicleEF	SBUS	2.99	1.47
tblVehicleEF	SBUS	0.34	1.19
tblVehicleEF	SBUS	0.91	0.59
tblVehicleEF	SBUS	343.38	179.58
tblVehicleEF	SBUS	980.93	1,051.90
tblVehicleEF	SBUS	5.28	3.03
tblVehicleEF	SBUS	0.05	0.03
tblVehicleEF	SBUS	0.11	0.14
tblVehicleEF	SBUS	5.9370e-003	3.0113e-003
tblVehicleEF	SBUS	2.78	1.04
tblVehicleEF	SBUS	3.34	1.67
tblVehicleEF	SBUS	1.14	0.60
tblVehicleEF	SBUS	2.7620e-003	8.8755e-004
tblVehicleEF	SBUS	0.74	0.04
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	8.6448e-003
tblVehicleEF	SBUS	7.7000e-005	3.6071e-005
tblVehicleEF	SBUS	2.6430e-003	8.4752e-004
tblVehicleEF	SBUS	0.32	0.02
tblVehicleEF	SBUS	2.6270e-003	2.6945e-003
tblVehicleEF	SBUS	0.02	8.2519e-003
tblVehicleEF	SBUS	7.0000e-005	3.3166e-005
tblVehicleEF	SBUS	3.7600e-004	0.03
tblVehicleEF	SBUS	3.6840e-003	6.5253e-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	SBUS	0.33	0.15
tblVehicleEF	SBUS	1.8000e-004	0.00
tblVehicleEF	SBUS	0.06	0.05
tblVehicleEF	SBUS	6.3190e-003	0.02
tblVehicleEF	SBUS	0.03	0.02
tblVehicleEF	SBUS	3.2760e-003	1.5690e-003
tblVehicleEF	SBUS	9.4020e-003	9.5416e-003
tblVehicleEF	SBUS	5.2000e-005	2.9966e-005
tblVehicleEF	SBUS	3.7600e-004	0.03
tblVehicleEF	SBUS	3.6840e-003	6.5253e-003
tblVehicleEF	SBUS	0.48	0.27
tblVehicleEF	SBUS	1.8000e-004	0.00
tblVehicleEF	SBUS	0.07	0.22
tblVehicleEF	SBUS	6.3190e-003	0.02
tblVehicleEF	SBUS	0.04	0.03
tblVehicleEF	UBUS	1.12	0.30
tblVehicleEF	UBUS	1.0810e-003	0.01
tblVehicleEF	UBUS	8.27	3.31
tblVehicleEF	UBUS	0.07	1.51
tblVehicleEF	UBUS	1,618.25	1,182.16
tblVehicleEF	UBUS	0.84	10.62
tblVehicleEF	UBUS	0.27	0.16
tblVehicleEF	UBUS	7.9500e-004	0.02
tblVehicleEF	UBUS	0.71	0.28
tblVehicleEF	UBUS	9.1230e-003	0.12
tblVehicleEF	UBUS	0.07	0.11
tblVehicleEF	UBUS	0.03	0.03
tblVehicleEF	UBUS	5.1750e-003	5.4279e-003
tblVehicleEF	UBUS	6.0000e-006	4.9102e-005

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

tblVehicleEF	UBUS	0.03	0.04
tblVehicleEF	UBUS	7.9020e-003	7.6765e-003
tblVehicleEF	UBUS	4.9510e-003	5.1845e-003
tblVehicleEF	UBUS	6.0000e-006	4.5148e-005
tblVehicleEF	UBUS	5.7000e-005	0.03
tblVehicleEF	UBUS	8.4600e-004	0.01
tblVehicleEF	UBUS	3.8000e-005	0.00
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	1.8000e-004	0.03
tblVehicleEF	UBUS	4.7200e-003	0.05
tblVehicleEF	UBUS	0.01	0.01
tblVehicleEF	UBUS	8.0000e-006	1.0502e-004
tblVehicleEF	UBUS	5.7000e-005	0.03
tblVehicleEF	UBUS	8.4600e-004	0.01
tblVehicleEF	UBUS	3.8000e-005	0.00
tblVehicleEF	UBUS	1.15	0.36
tblVehicleEF	UBUS	1.8000e-004	0.03
tblVehicleEF	UBUS	5.1680e-003	0.05
tblVehicleTrips	ST_TR	4.91	5.05
tblVehicleTrips	ST_TR	46.12	82.49
tblVehicleTrips	ST_TR	1.90	1.87
tblVehicleTrips	SU_TR	4.09	3.89
tblVehicleTrips	SU_TR	21.10	37.74
tblVehicleTrips	SU_TR	1.11	1.09
tblVehicleTrips	WD_TR	5.44	4.54
tblVehicleTrips	WD_TR	37.75	67.52
tblVehicleTrips	WD_TR	11.26	11.08

2.0 Emissions Summary

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**2.1 Overall Construction****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum					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

	ROG	NOx	CO	SO2	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					
2022					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)				Maximum Mitigated ROG + NOX (tons/quarter)			
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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Highest

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.5550	0.0678	5.1873	3.2800e-003		0.2423	0.2423		0.2423	0.2423	22.2934	15.0963	37.3896	0.0415	1.4600e-003	38.8639
Energy	0.0802	0.7172	0.5236	4.3800e-003		0.0554	0.0554		0.0554	0.0554	0.0000	794.0149	794.0149	0.0152	0.0146	798.7334
Mobile	3.6776	5.3577	26.7557	0.0781	6.1904	0.0665	6.2569	1.5487	0.0625	1.6112	0.0000	7,296.6285	7,296.6285	0.3749	0.4841	7,450.2468
Stationary	0.7600	0.1417	1.9761	1.0200e-003		7.3000e-003	7.3000e-003		7.3000e-003	7.3000e-003	0.0000	113.3145	113.3145	0.0825	0.0000	115.3778
Waste						0.0000	0.0000		0.0000	0.0000	59.7707	0.0000	59.7707	3.5324	0.0000	148.0794
Water						0.0000	0.0000		0.0000	0.0000	78.1721	0.0000	78.1721	8.0290	0.1896	335.3935
Total	10.0728	6.2845	34.4427	0.0868	6.1904	0.3714	6.5619	1.5487	0.3675	1.9162	160.2362	8,219.0542	8,379.2904	12.0756	0.6897	8,886.6947

Mitigated Operational

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

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

Area	5.5550	0.0678	5.1873	3.2800e-003		0.2423	0.2423		0.2423	0.2423	22.2934	15.0963	37.3896	0.0415	1.4600e-003	38.8639
Energy	0.0802	0.7172	0.5236	4.3800e-003		0.0554	0.0554		0.0554	0.0554	0.0000	794.0149	794.0149	0.0152	0.0146	798.7334
Mobile	3.6776	5.3577	26.7557	0.0781	6.1904	0.0665	6.2569	1.5487	0.0625	1.6112	0.0000	7,296.6285	7,296.6285	0.3749	0.4841	7,450.2468
Stationary	0.7600	0.1417	1.9761	1.0200e-003		7.3000e-003	7.3000e-003		7.3000e-003	7.3000e-003	0.0000	113.3145	113.3145	0.0825	0.0000	115.3778
Waste						0.0000	0.0000		0.0000	0.0000	59.7707	0.0000	59.7707	3.5324	0.0000	148.0794
Water						0.0000	0.0000		0.0000	0.0000	78.1721	0.0000	78.1721	8.0290	0.1896	335.3935
Total	10.0728	6.2845	34.4427	0.0868	6.1904	0.3714	6.5619	1.5487	0.3675	1.9162	160.2362	8,219.0542	8,379.2904	12.0756	0.6897	8,886.6947

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

3.0 Construction Detail**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/12/2022	7/11/2022	5	0	

Acres of Grading (Site Preparation Phase): 0**Acres of Grading (Grading Phase): 0****Acres of Paving: 0****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
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22-094 Public Market Defaults - Alameda County, Annual

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

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition			0.00	0.00	10.80	7.30				

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2022**Unmitigated Construction On-Site**

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

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
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22-094 Public Market Defaults - Alameda County, Annual

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

Category	tons/yr										MT/yr					
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					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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 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					

22-094 Public Market Defaults - Alameda 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

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.6776	5.3577	26.7557	0.0781	6.1904	0.0665	6.2569	1.5487	0.0625	1.6112	0.0000	7,296.6285	7,296.6285	0.3749	0.4841	7,450.2468
Unmitigated	3.6776	5.3577	26.7557	0.0781	6.1904	0.0665	6.2569	1.5487	0.0625	1.6112	0.0000	7,296.6285	7,296.6285	0.3749	0.4841	7,450.2468

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	2,220.06	2,469.45	1902.21	5,104,879	5,104,879
Regional Shopping Center	2,363.20	2,887.15	1320.90	4,013,578	4,013,578
Research & Development	4,776.14	806.08	469.86	9,006,974	9,006,974

5.0 Energy Detail

22-094 Public Market Defaults - Alameda County, Annual

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

Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0802	0.7172	0.5236	4.3800e-003		0.0554	0.0554		0.0554	0.0554	0.0000	794.0149	794.0149	0.0152	0.0146	798.7334
NaturalGas Unmitigated	0.0802	0.7172	0.5236	4.3800e-003		0.0554	0.0554		0.0554	0.0554	0.0000	794.0149	794.0149	0.0152	0.0146	798.7334

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					
Apartments Mid Rise	4.12863e+006	0.0223	0.1902	0.0810	1.2100e-003		0.0154	0.0154		0.0154	0.0154	0.0000	220.3195	220.3195	4.2200e-003	4.0400e-003	221.6288
Regional Shopping Center	159600	8.6000e-004	7.8200e-003	6.5700e-003	5.0000e-005		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004	0.0000	8.5169	8.5169	1.6000e-004	1.6000e-004	8.5675
Research & Development	1.0591e+007	0.0571	0.5192	0.4361	3.1200e-003		0.0395	0.0395		0.0395	0.0395	0.0000	565.1785	565.1785	0.0108	0.0104	568.5371
Total		0.0802	0.7172	0.5236	4.3800e-003		0.0554	0.0554		0.0554	0.0554	0.0000	794.0149	794.0149	0.0152	0.0146	798.7334

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					

22-094 Public Market Defaults - Alameda County, Annual

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

Apartments Mid Rise	4.12863e+006	0.0223	0.1902	0.0810	1.2100e-003		0.0154	0.0154		0.0154	0.0154	0.0000	220.3195	220.3195	4.2200e-003	4.0400e-003	221.6288
Regional Shopping Center	159600	8.6000e-004	7.8200e-003	6.5700e-003	5.0000e-005		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004	0.0000	8.5169	8.5169	1.6000e-004	1.6000e-004	8.5675
Research & Development	1.0591e+007	0.0571	0.5192	0.4361	3.1200e-003		0.0395	0.0395		0.0395	0.0395	0.0000	565.1785	565.1785	0.0108	0.0104	568.5371
Total		0.0802	0.7172	0.5236	4.3800e-003		0.0554	0.0554		0.0554	0.0554	0.0000	794.0149	794.0149	0.0152	0.0146	798.7334

5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.90043e+006	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	358400	0.0000	0.0000	0.0000	0.0000
Research & Development	3.20275e+006	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
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22-094 Public Market Defaults - Alameda County, Annual

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

Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.89915e+006	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	357111	0.0000	0.0000	0.0000	0.0000
Research & Development	3.20146e+006	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.5550	0.0678	5.1873	3.2800e-003		0.2423	0.2423		0.2423	0.2423	22.2934	15.0963	37.3896	0.0415	1.4600e-003	38.8639
Unmitigated	5.5550	0.0678	5.1873	3.2800e-003		0.2423	0.2423		0.2423	0.2423	22.2934	15.0963	37.3896	0.0415	1.4600e-003	38.8639

6.2 Area by SubCategory**Unmitigated**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5873					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.7300					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.1283	0.0260	1.5536	3.0900e-003		0.2221	0.2221		0.2221	0.2221	22.2934	9.1570	31.4503	0.0358	1.4600e-003	32.7817
Landscaping	0.1095	0.0419	3.6336	1.9000e-004		0.0201	0.0201		0.0201	0.0201	0.0000	5.9393	5.9393	5.7100e-003	0.0000	6.0821
Total	5.5550	0.0678	5.1873	3.2800e-003		0.2423	0.2423		0.2423	0.2423	22.2934	15.0963	37.3896	0.0415	1.4600e-003	38.8639

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	0.5873					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.7300					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.1283	0.0260	1.5536	3.0900e-003		0.2221	0.2221		0.2221	0.2221	22.2934	9.1570	31.4503	0.0358	1.4600e-003	32.7817
Landscaping	0.1095	0.0419	3.6336	1.9000e-004		0.0201	0.0201		0.0201	0.0201	0.0000	5.9393	5.9393	5.7100e-003	0.0000	6.0821
Total	5.5550	0.0678	5.1873	3.2800e-003		0.2423	0.2423		0.2423	0.2423	22.2934	15.0963	37.3896	0.0415	1.4600e-003	38.8639

22-094 Public Market Defaults - Alameda County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**7.0 Water Detail****7.1 Mitigation Measures Water**

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	78.1721	8.0290	0.1896	335.3935
Unmitigated	78.1721	8.0290	0.1896	335.3935

7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	31.8603 / 20.0859	10.1078	1.0382	0.0245	43.3670
Regional Shopping Center	2.59254 / 1.58898	0.8225	0.0845	1.9900e-003	3.5289
Research & Development	211.95 / 0	67.2418	6.9064	0.1631	288.4976
Total		78.1721	8.0290	0.1896	335.3935

22-094 Public Market Defaults - Alameda County, Annual

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

	Indoor/Out door Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	31.8603 / 20.0859	10.1078	1.0382	0.0245	43.3670
Regional Shopping Center	2.59254 / 1.58898	0.8225	0.0845	1.9900e-003	3.5289
Research & Development	211.95 / 0	67.2418	6.9064	0.1631	288.4976
Total		78.1721	8.0290	0.1896	335.3935

8.0 Waste Detail**8.1 Mitigation Measures Waste****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	59.7707	3.5324	0.0000	148.0794
Unmitigated	59.7707	3.5324	0.0000	148.0794

22-094 Public Market Defaults - Alameda County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**8.2 Waste by Land Use****Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	224.94	45.6608	2.6985	0.0000	113.1227
Regional Shopping Center	36.75	7.4599	0.4409	0.0000	18.4816
Research & Development	32.76	6.6500	0.3930	0.0000	16.4751
Total		59.7707	3.5324	0.0000	148.0794

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	224.94	45.6608	2.6985	0.0000	113.1227
Regional Shopping Center	36.75	7.4599	0.4409	0.0000	18.4816
Research & Development	32.76	6.6500	0.3930	0.0000	16.4751

22-094 Public Market Defaults - Alameda County, Annual

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

Total		59.7707	3.5324	0.0000	148.0794
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9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	4	0	50	670	0.73	CNG
Emergency Generator	1	0	50	134	0.73	Diesel
Emergency Generator	1	0	50	4023	0.73	Diesel

Boilers

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

Equipment Type	Number
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10.1 Stationary Sources**Unmitigated/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
Equipment Type	tons/yr										MT/yr					

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

Emergency Generator - CNG (500 - 2000 HP)	0.5895	0.0454	1.5353	2.1000e-004		3.2500e-003	3.2500e-003		3.2500e-003	3.2500e-003	0.0000	34.1658	34.1658	0.0714	0.0000	35.9517
Emergency Generator - Diesel (1000 - 1750 HP)	5.5000e-003	0.0154	0.0200	3.0000e-005		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	2.5513	2.5513	3.6000e-004	0.0000	2.5603
Emergency Generator - Diesel (750 - 999 HP)	0.1651	0.0809	0.4208	7.9000e-004		3.2400e-003	3.2400e-003		3.2400e-003	3.2400e-003	0.0000	76.5974	76.5974	0.0107	0.0000	76.8658
Total	0.7600	0.1417	1.9761	1.0300e-003		7.3000e-003	7.3000e-003		7.3000e-003	7.3000e-003	0.0000	113.3145	113.3145	0.0825	0.0000	115.3778

11.0 Vegetation

Emeryville Public Market 2008 PDP Land Uses - Alameda County, Annual

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

Emeryville Public Market 2008 PDP Land Uses
Alameda County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	120.00	1000sqft	0.00	120,000.00	0
Apartments Mid Rise	675.00	Dwelling Unit	0.00	675,000.00	1931
Regional Shopping Center	179.88	1000sqft	0.00	179,875.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	63
Climate Zone	5			Operational Year	2024
Utility Company	Alameda Municipal Power				
CO2 Intensity (lb/MW hr)	0	CH4 Intensity (lb/MW hr)	0	N2O Intensity (lb/MW hr)	0

1.3 User Entered Comments & Non-Default Data

- Project Characteristics - Operational Only
- Land Use - Land uses provided by traffic consultant from 2008 PDP.
- Construction Phase - Operational Only
- Off-road Equipment - Operational Only
- Vehicle Trips - Updated trip rates provided by traffic consultant.
- Vehicle Emission Factors - Emission factors from EMFAC2021
- Fleet Mix - Fleet mix from EMFAC2021

Table Name	Column Name	Default Value	New Value
tblFleetMix	HHD	0.01	0.04

Emeryville Public Market 2008 PDP Land Uses - Alameda County, Annual

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

tblFleetMix	HHD	0.01	0.04
tblFleetMix	HHD	0.01	0.04
tblFleetMix	LDA	0.57	0.52
tblFleetMix	LDA	0.57	0.52
tblFleetMix	LDA	0.57	0.52
tblFleetMix	LDT1	0.06	0.04
tblFleetMix	LDT1	0.06	0.04
tblFleetMix	LDT1	0.06	0.04
tblFleetMix	LDT2	0.18	0.23
tblFleetMix	LDT2	0.18	0.23
tblFleetMix	LDT2	0.18	0.23
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD2	5.1690e-003	5.9134e-003
tblFleetMix	LHD2	5.1690e-003	5.9134e-003
tblFleetMix	LHD2	5.1690e-003	5.9134e-003
tblFleetMix	MCY	0.02	3.4914e-003
tblFleetMix	MCY	0.02	3.4914e-003
tblFleetMix	MCY	0.02	3.4914e-003
tblFleetMix	MDV	0.11	0.12
tblFleetMix	MDV	0.11	0.12
tblFleetMix	MDV	0.11	0.12
tblFleetMix	MH	2.4510e-003	5.5989e-004
tblFleetMix	MH	2.4510e-003	5.5989e-004
tblFleetMix	MH	2.4510e-003	5.5989e-004
tblFleetMix	MHD	0.01	0.02
tblFleetMix	MHD	0.01	0.02
tblFleetMix	MHD	0.01	0.02

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tblFleetMix	OBUS	7.9200e-004	1.3161e-003
tblFleetMix	OBUS	7.9200e-004	1.3161e-003
tblFleetMix	OBUS	7.9200e-004	1.3161e-003
tblFleetMix	SBUS	3.3700e-004	3.3688e-004
tblFleetMix	SBUS	3.3700e-004	3.3688e-004
tblFleetMix	SBUS	3.3700e-004	3.3688e-004
tblFleetMix	UBUS	5.7000e-004	2.4344e-003
tblFleetMix	UBUS	5.7000e-004	2.4344e-003
tblFleetMix	UBUS	5.7000e-004	2.4344e-003
tblLandUse	LotAcreage	2.75	0.00
tblLandUse	LotAcreage	17.76	0.00
tblLandUse	LotAcreage	4.13	0.00
tblVehicleEF	HHD	0.02	0.22
tblVehicleEF	HHD	0.03	0.07
tblVehicleEF	HHD	0.00	3.8262e-008
tblVehicleEF	HHD	6.63	5.37
tblVehicleEF	HHD	0.35	0.55
tblVehicleEF	HHD	3.9270e-003	2.3937e-003
tblVehicleEF	HHD	1,083.40	859.50
tblVehicleEF	HHD	1,374.34	1,579.94
tblVehicleEF	HHD	0.04	0.03
tblVehicleEF	HHD	0.17	0.14
tblVehicleEF	HHD	0.22	0.25
tblVehicleEF	HHD	4.0000e-006	4.1245e-008
tblVehicleEF	HHD	5.47	4.19
tblVehicleEF	HHD	2.59	1.72
tblVehicleEF	HHD	2.28	2.73
tblVehicleEF	HHD	2.3430e-003	2.0024e-003
tblVehicleEF	HHD	0.06	0.08

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tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	0.00	1.9348e-007
tblVehicleEF	HHD	2.2410e-003	1.9100e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.9250e-003	8.8829e-003
tblVehicleEF	HHD	0.02	0.03
tblVehicleEF	HHD	0.00	1.7790e-007
tblVehicleEF	HHD	1.0000e-006	3.5367e-005
tblVehicleEF	HHD	7.2000e-005	1.2090e-005
tblVehicleEF	HHD	0.45	0.35
tblVehicleEF	HHD	1.0000e-006	0.00
tblVehicleEF	HHD	0.02	0.02
tblVehicleEF	HHD	3.1000e-005	7.5219e-005
tblVehicleEF	HHD	1.0000e-006	2.0776e-007
tblVehicleEF	HHD	0.01	7.6290e-003
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	0.00	2.8197e-007
tblVehicleEF	HHD	1.0000e-006	3.5367e-005
tblVehicleEF	HHD	7.2000e-005	1.2090e-005
tblVehicleEF	HHD	0.51	0.59
tblVehicleEF	HHD	1.0000e-006	0.00
tblVehicleEF	HHD	0.06	0.09
tblVehicleEF	HHD	3.1000e-005	7.5219e-005
tblVehicleEF	HHD	1.0000e-006	2.2747e-007
tblVehicleEF	LDA	1.8590e-003	2.0985e-003
tblVehicleEF	LDA	0.05	0.07
tblVehicleEF	LDA	0.53	0.63
tblVehicleEF	LDA	2.16	3.08

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tblVehicleEF	LDA	239.62	248.92
tblVehicleEF	LDA	50.77	65.07
tblVehicleEF	LDA	4.1360e-003	4.2925e-003
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	0.18	0.25
tblVehicleEF	LDA	0.04	6.6142e-003
tblVehicleEF	LDA	8.0000e-003	8.0000e-003
tblVehicleEF	LDA	1.3710e-003	1.2108e-003
tblVehicleEF	LDA	1.6920e-003	1.9468e-003
tblVehicleEF	LDA	0.02	2.3150e-003
tblVehicleEF	LDA	2.0000e-003	2.0000e-003
tblVehicleEF	LDA	1.2630e-003	1.1154e-003
tblVehicleEF	LDA	1.5560e-003	1.7900e-003
tblVehicleEF	LDA	0.04	0.29
tblVehicleEF	LDA	0.09	0.09
tblVehicleEF	LDA	0.03	0.00
tblVehicleEF	LDA	7.0560e-003	8.1536e-003
tblVehicleEF	LDA	0.03	0.22
tblVehicleEF	LDA	0.21	0.32
tblVehicleEF	LDA	2.3700e-003	2.4606e-003
tblVehicleEF	LDA	5.0200e-004	6.4325e-004
tblVehicleEF	LDA	0.04	0.29
tblVehicleEF	LDA	0.09	0.09
tblVehicleEF	LDA	0.03	0.00
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.03	0.22
tblVehicleEF	LDA	0.23	0.34
tblVehicleEF	LDT1	3.6820e-003	5.6534e-003

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tblVehicleEF	LDT1	0.06	0.11
tblVehicleEF	LDT1	0.83	1.28
tblVehicleEF	LDT1	2.35	5.49
tblVehicleEF	LDT1	286.88	327.66
tblVehicleEF	LDT1	61.42	87.19
tblVehicleEF	LDT1	5.9310e-003	8.9716e-003
tblVehicleEF	LDT1	0.03	0.04
tblVehicleEF	LDT1	0.07	0.12
tblVehicleEF	LDT1	0.23	0.40
tblVehicleEF	LDT1	0.04	8.4541e-003
tblVehicleEF	LDT1	8.0000e-003	8.0000e-003
tblVehicleEF	LDT1	1.6970e-003	1.8505e-003
tblVehicleEF	LDT1	2.1880e-003	2.9498e-003
tblVehicleEF	LDT1	0.02	2.9589e-003
tblVehicleEF	LDT1	2.0000e-003	2.0000e-003
tblVehicleEF	LDT1	1.5610e-003	1.7034e-003
tblVehicleEF	LDT1	2.0120e-003	2.7122e-003
tblVehicleEF	LDT1	0.08	0.62
tblVehicleEF	LDT1	0.16	0.17
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.08	0.50
tblVehicleEF	LDT1	0.31	0.57
tblVehicleEF	LDT1	2.8390e-003	3.2393e-003
tblVehicleEF	LDT1	6.0800e-004	8.6197e-004
tblVehicleEF	LDT1	0.08	0.62
tblVehicleEF	LDT1	0.16	0.17
tblVehicleEF	LDT1	0.07	0.00
tblVehicleEF	LDT1	0.02	0.04

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tblVehicleEF	LDT1	0.08	0.50
tblVehicleEF	LDT1	0.34	0.62
tblVehicleEF	LDT2	2.8980e-003	2.6790e-003
tblVehicleEF	LDT2	0.06	0.08
tblVehicleEF	LDT2	0.70	0.77
tblVehicleEF	LDT2	2.77	3.75
tblVehicleEF	LDT2	305.96	337.51
tblVehicleEF	LDT2	66.04	86.96
tblVehicleEF	LDT2	5.6150e-003	5.8821e-003
tblVehicleEF	LDT2	0.03	0.04
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.26	0.34
tblVehicleEF	LDT2	0.04	8.0988e-003
tblVehicleEF	LDT2	8.0000e-003	8.0000e-003
tblVehicleEF	LDT2	1.3900e-003	1.3311e-003
tblVehicleEF	LDT2	1.7150e-003	2.1199e-003
tblVehicleEF	LDT2	0.02	2.8346e-003
tblVehicleEF	LDT2	2.0000e-003	2.0000e-003
tblVehicleEF	LDT2	1.2800e-003	1.2246e-003
tblVehicleEF	LDT2	1.5770e-003	1.9491e-003
tblVehicleEF	LDT2	0.06	0.29
tblVehicleEF	LDT2	0.12	0.08
tblVehicleEF	LDT2	0.06	0.00
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.06	0.22
tblVehicleEF	LDT2	0.30	0.39
tblVehicleEF	LDT2	3.0270e-003	3.3362e-003
tblVehicleEF	LDT2	6.5300e-004	8.5973e-004
tblVehicleEF	LDT2	0.06	0.29

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tblVehicleEF	LDT2	0.12	0.08
tblVehicleEF	LDT2	0.06	0.00
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.22
tblVehicleEF	LDT2	0.32	0.43
tblVehicleEF	LHD1	5.2020e-003	5.5942e-003
tblVehicleEF	LHD1	8.2270e-003	8.4045e-003
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	0.19	0.20
tblVehicleEF	LHD1	0.75	0.94
tblVehicleEF	LHD1	1.08	2.22
tblVehicleEF	LHD1	8.87	8.71
tblVehicleEF	LHD1	791.34	791.19
tblVehicleEF	LHD1	11.92	18.39
tblVehicleEF	LHD1	7.2400e-004	6.2116e-004
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.03	0.04
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.67	0.65
tblVehicleEF	LHD1	0.32	0.46
tblVehicleEF	LHD1	8.0900e-004	6.5305e-004
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	9.7150e-003	9.3459e-003
tblVehicleEF	LHD1	9.8140e-003	0.01
tblVehicleEF	LHD1	2.5100e-004	2.2767e-004
tblVehicleEF	LHD1	7.7400e-004	6.2480e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.4290e-003	2.3365e-003
tblVehicleEF	LHD1	9.3410e-003	0.01

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tbVehicleEF	LHD1	2.3100e-004	2.0934e-004
tbVehicleEF	LHD1	1.7640e-003	0.13
tbVehicleEF	LHD1	0.07	0.03
tbVehicleEF	LHD1	0.02	0.02
tbVehicleEF	LHD1	1.0180e-003	0.00
tbVehicleEF	LHD1	0.09	0.09
tbVehicleEF	LHD1	0.21	0.18
tbVehicleEF	LHD1	0.07	0.12
tbVehicleEF	LHD1	8.6000e-005	8.4893e-005
tbVehicleEF	LHD1	7.7310e-003	7.7342e-003
tbVehicleEF	LHD1	1.1800e-004	1.8185e-004
tbVehicleEF	LHD1	1.7640e-003	0.13
tbVehicleEF	LHD1	0.07	0.03
tbVehicleEF	LHD1	0.03	0.03
tbVehicleEF	LHD1	1.0180e-003	0.00
tbVehicleEF	LHD1	0.11	0.11
tbVehicleEF	LHD1	0.21	0.18
tbVehicleEF	LHD1	0.08	0.13
tbVehicleEF	LHD2	3.5400e-003	3.6824e-003
tbVehicleEF	LHD2	6.7490e-003	7.0342e-003
tbVehicleEF	LHD2	9.1710e-003	0.01
tbVehicleEF	LHD2	0.15	0.15
tbVehicleEF	LHD2	0.60	0.60
tbVehicleEF	LHD2	0.68	1.40
tbVehicleEF	LHD2	13.53	13.36
tbVehicleEF	LHD2	781.19	841.06
tbVehicleEF	LHD2	8.80	11.48
tbVehicleEF	LHD2	1.6100e-003	1.5397e-003
tbVehicleEF	LHD2	0.07	0.08

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tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.09	0.08
tblVehicleEF	LHD2	0.77	0.83
tblVehicleEF	LHD2	0.21	0.29
tblVehicleEF	LHD2	1.3170e-003	1.2315e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.3600e-004	1.0986e-004
tblVehicleEF	LHD2	1.2600e-003	1.1783e-003
tblVehicleEF	LHD2	0.04	0.03
tblVehicleEF	LHD2	2.6510e-003	2.6179e-003
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.2500e-004	1.0101e-004
tblVehicleEF	LHD2	1.0140e-003	0.07
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	6.0000e-004	0.00
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.11	0.10
tblVehicleEF	LHD2	0.05	0.07
tblVehicleEF	LHD2	1.3000e-004	1.2827e-004
tblVehicleEF	LHD2	7.5600e-003	8.1232e-003
tblVehicleEF	LHD2	8.7000e-005	1.1346e-004
tblVehicleEF	LHD2	1.0140e-003	0.07
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	6.0000e-004	0.00
tblVehicleEF	LHD2	0.12	0.13

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tblVehicleEF	LHD2	0.11	0.10
tblVehicleEF	LHD2	0.05	0.08
tblVehicleEF	MCY	0.34	0.17
tblVehicleEF	MCY	0.26	0.19
tblVehicleEF	MCY	19.81	13.43
tblVehicleEF	MCY	9.13	8.23
tblVehicleEF	MCY	215.26	190.21
tblVehicleEF	MCY	61.48	50.62
tblVehicleEF	MCY	0.07	0.04
tblVehicleEF	MCY	0.02	8.6062e-003
tblVehicleEF	MCY	1.16	0.60
tblVehicleEF	MCY	0.27	0.15
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	4.0000e-003	4.0000e-003
tblVehicleEF	MCY	2.0940e-003	1.9299e-003
tblVehicleEF	MCY	3.0600e-003	3.6104e-003
tblVehicleEF	MCY	5.0400e-003	4.2000e-003
tblVehicleEF	MCY	1.9570e-003	1.8070e-003
tblVehicleEF	MCY	2.8790e-003	3.3985e-003
tblVehicleEF	MCY	0.80	4.02
tblVehicleEF	MCY	0.71	3.58
tblVehicleEF	MCY	0.49	0.00
tblVehicleEF	MCY	2.32	1.14
tblVehicleEF	MCY	0.56	3.79
tblVehicleEF	MCY	1.98	1.45
tblVehicleEF	MCY	2.1300e-003	1.8804e-003
tblVehicleEF	MCY	6.0800e-004	5.0047e-004
tblVehicleEF	MCY	0.80	0.09
tblVehicleEF	MCY	0.71	3.58

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tblVehicleEF	MCY	0.49	0.00
tblVehicleEF	MCY	2.87	1.36
tblVehicleEF	MCY	0.56	3.79
tblVehicleEF	MCY	2.16	1.57
tblVehicleEF	MDV	3.3470e-003	3.5519e-003
tblVehicleEF	MDV	0.07	0.10
tblVehicleEF	MDV	0.74	0.88
tblVehicleEF	MDV	3.06	4.11
tblVehicleEF	MDV	367.78	405.72
tblVehicleEF	MDV	78.89	104.38
tblVehicleEF	MDV	7.4350e-003	8.0026e-003
tblVehicleEF	MDV	0.03	0.04
tblVehicleEF	MDV	0.07	0.09
tblVehicleEF	MDV	0.31	0.44
tblVehicleEF	MDV	0.04	8.1894e-003
tblVehicleEF	MDV	8.0000e-003	8.0000e-003
tblVehicleEF	MDV	1.4830e-003	1.3605e-003
tblVehicleEF	MDV	1.8440e-003	2.1836e-003
tblVehicleEF	MDV	0.02	2.8663e-003
tblVehicleEF	MDV	2.0000e-003	2.0000e-003
tblVehicleEF	MDV	1.3680e-003	1.2540e-003
tblVehicleEF	MDV	1.6960e-003	2.0079e-003
tblVehicleEF	MDV	0.06	0.37
tblVehicleEF	MDV	0.14	0.10
tblVehicleEF	MDV	0.07	0.00
tblVehicleEF	MDV	0.01	0.01
tblVehicleEF	MDV	0.06	0.29
tblVehicleEF	MDV	0.37	0.52
tblVehicleEF	MDV	3.6350e-003	4.0085e-003

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tblVehicleEF	MDV	7.8100e-004	1.0319e-003
tblVehicleEF	MDV	0.06	0.37
tblVehicleEF	MDV	0.14	0.10
tblVehicleEF	MDV	0.07	0.00
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.06	0.29
tblVehicleEF	MDV	0.40	0.57
tblVehicleEF	MH	9.2930e-003	0.01
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	0.90	1.25
tblVehicleEF	MH	2.07	2.59
tblVehicleEF	MH	1,505.16	1,694.28
tblVehicleEF	MH	18.45	23.05
tblVehicleEF	MH	0.06	0.07
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	1.21	1.49
tblVehicleEF	MH	0.25	0.31
tblVehicleEF	MH	0.13	0.04
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	2.6400e-004	3.2153e-004
tblVehicleEF	MH	0.06	0.02
tblVehicleEF	MH	3.2670e-003	3.2926e-003
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	2.4300e-004	2.9564e-004
tblVehicleEF	MH	0.55	33.38
tblVehicleEF	MH	0.05	9.04
tblVehicleEF	MH	0.22	0.00
tblVehicleEF	MH	0.06	0.08

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tbVehicleEF	MH	0.01	0.21
tbVehicleEF	MH	0.09	0.12
tbVehicleEF	MH	0.01	0.02
tbVehicleEF	MH	1.8300e-004	2.2782e-004
tbVehicleEF	MH	0.55	33.38
tbVehicleEF	MH	0.05	9.04
tbVehicleEF	MH	0.22	0.00
tbVehicleEF	MH	0.08	0.11
tbVehicleEF	MH	0.01	0.21
tbVehicleEF	MH	0.10	0.13
tbVehicleEF	MHD	2.6790e-003	0.01
tbVehicleEF	MHD	1.3190e-003	0.01
tbVehicleEF	MHD	6.7490e-003	7.5594e-003
tbVehicleEF	MHD	0.35	0.65
tbVehicleEF	MHD	0.20	0.31
tbVehicleEF	MHD	0.78	0.91
tbVehicleEF	MHD	72.84	158.47
tbVehicleEF	MHD	1,042.25	1,225.83
tbVehicleEF	MHD	6.73	7.41
tbVehicleEF	MHD	0.01	0.02
tbVehicleEF	MHD	0.14	0.16
tbVehicleEF	MHD	5.3000e-003	5.2352e-003
tbVehicleEF	MHD	0.41	0.85
tbVehicleEF	MHD	1.44	0.98
tbVehicleEF	MHD	1.83	1.44
tbVehicleEF	MHD	3.0900e-004	1.5244e-003
tbVehicleEF	MHD	0.13	0.05
tbVehicleEF	MHD	0.01	0.01
tbVehicleEF	MHD	6.8920e-003	0.01

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tbVehicleEF	MHD	7.7000e-005	8.3018e-005
tbVehicleEF	MHD	2.9600e-004	1.4579e-003
tbVehicleEF	MHD	0.06	0.02
tbVehicleEF	MHD	3.0000e-003	3.0000e-003
tbVehicleEF	MHD	6.5900e-003	9.5976e-003
tbVehicleEF	MHD	7.1000e-005	7.6332e-005
tbVehicleEF	MHD	2.5400e-004	0.02
tbVehicleEF	MHD	0.01	5.4687e-003
tbVehicleEF	MHD	0.01	0.02
tbVehicleEF	MHD	1.5200e-004	0.00
tbVehicleEF	MHD	0.01	0.03
tbVehicleEF	MHD	0.01	0.04
tbVehicleEF	MHD	0.04	0.04
tbVehicleEF	MHD	6.9000e-004	1.4667e-003
tbVehicleEF	MHD	9.9100e-003	0.01
tbVehicleEF	MHD	6.7000e-005	7.3268e-005
tbVehicleEF	MHD	2.5400e-004	0.02
tbVehicleEF	MHD	0.01	5.4687e-003
tbVehicleEF	MHD	0.02	0.04
tbVehicleEF	MHD	1.5200e-004	0.00
tbVehicleEF	MHD	0.02	0.05
tbVehicleEF	MHD	0.01	0.04
tbVehicleEF	MHD	0.04	0.05
tbVehicleEF	OBUS	8.4040e-003	8.7980e-003
tbVehicleEF	OBUS	6.4160e-003	0.01
tbVehicleEF	OBUS	0.02	0.03
tbVehicleEF	OBUS	0.58	0.52
tbVehicleEF	OBUS	0.72	0.85
tbVehicleEF	OBUS	2.46	2.82

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tblVehicleEF	OBUS	84.59	72.86
tblVehicleEF	OBUS	1,439.19	1,592.66
tblVehicleEF	OBUS	19.38	23.10
tblVehicleEF	OBUS	0.01	9.4856e-003
tblVehicleEF	OBUS	0.11	0.11
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.33	0.29
tblVehicleEF	OBUS	1.26	1.10
tblVehicleEF	OBUS	0.82	0.71
tblVehicleEF	OBUS	1.1000e-004	3.4301e-004
tblVehicleEF	OBUS	0.13	0.05
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.2320e-003	0.02
tblVehicleEF	OBUS	1.9300e-004	2.2002e-004
tblVehicleEF	OBUS	1.0500e-004	3.2816e-004
tblVehicleEF	OBUS	0.06	0.02
tblVehicleEF	OBUS	3.0000e-003	3.0000e-003
tblVehicleEF	OBUS	6.9010e-003	0.02
tblVehicleEF	OBUS	1.7700e-004	2.0230e-004
tblVehicleEF	OBUS	1.4530e-003	0.09
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.05
tblVehicleEF	OBUS	6.9000e-004	0.00
tblVehicleEF	OBUS	0.04	0.07
tblVehicleEF	OBUS	0.07	0.11
tblVehicleEF	OBUS	0.12	0.13
tblVehicleEF	OBUS	8.0500e-004	6.9431e-004
tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	1.9200e-004	2.2832e-004

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tblVehicleEF	OBUS	1.4530e-003	0.09
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.07	0.06
tblVehicleEF	OBUS	6.9000e-004	0.00
tblVehicleEF	OBUS	0.05	0.09
tblVehicleEF	OBUS	0.07	0.11
tblVehicleEF	OBUS	0.13	0.14
tblVehicleEF	SBUS	0.07	0.09
tblVehicleEF	SBUS	4.2520e-003	0.16
tblVehicleEF	SBUS	6.2910e-003	4.2303e-003
tblVehicleEF	SBUS	2.99	1.47
tblVehicleEF	SBUS	0.34	1.19
tblVehicleEF	SBUS	0.91	0.59
tblVehicleEF	SBUS	343.38	179.58
tblVehicleEF	SBUS	980.93	1,051.90
tblVehicleEF	SBUS	5.28	3.03
tblVehicleEF	SBUS	0.05	0.03
tblVehicleEF	SBUS	0.11	0.14
tblVehicleEF	SBUS	5.9370e-003	3.0113e-003
tblVehicleEF	SBUS	2.78	1.04
tblVehicleEF	SBUS	3.34	1.67
tblVehicleEF	SBUS	1.14	0.60
tblVehicleEF	SBUS	2.7620e-003	8.8755e-004
tblVehicleEF	SBUS	0.74	0.04
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	8.6448e-003
tblVehicleEF	SBUS	7.7000e-005	3.6071e-005
tblVehicleEF	SBUS	2.6430e-003	8.4752e-004
tblVehicleEF	SBUS	0.32	0.02

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tblVehicleEF	SBUS	2.6270e-003	2.6945e-003
tblVehicleEF	SBUS	0.02	8.2519e-003
tblVehicleEF	SBUS	7.0000e-005	3.3166e-005
tblVehicleEF	SBUS	3.7600e-004	0.03
tblVehicleEF	SBUS	3.6840e-003	6.5253e-003
tblVehicleEF	SBUS	0.33	0.15
tblVehicleEF	SBUS	1.8000e-004	0.00
tblVehicleEF	SBUS	0.06	0.05
tblVehicleEF	SBUS	6.3190e-003	0.02
tblVehicleEF	SBUS	0.03	0.02
tblVehicleEF	SBUS	3.2760e-003	1.5690e-003
tblVehicleEF	SBUS	9.4020e-003	9.5416e-003
tblVehicleEF	SBUS	5.2000e-005	2.9966e-005
tblVehicleEF	SBUS	3.7600e-004	0.03
tblVehicleEF	SBUS	3.6840e-003	6.5253e-003
tblVehicleEF	SBUS	0.48	0.27
tblVehicleEF	SBUS	1.8000e-004	0.00
tblVehicleEF	SBUS	0.07	0.22
tblVehicleEF	SBUS	6.3190e-003	0.02
tblVehicleEF	SBUS	0.04	0.03
tblVehicleEF	UBUS	1.12	0.30
tblVehicleEF	UBUS	1.0810e-003	0.01
tblVehicleEF	UBUS	8.27	3.31
tblVehicleEF	UBUS	0.07	1.51
tblVehicleEF	UBUS	1,618.25	1,182.16
tblVehicleEF	UBUS	0.84	10.62
tblVehicleEF	UBUS	0.27	0.16
tblVehicleEF	UBUS	7.9500e-004	0.02
tblVehicleEF	UBUS	0.71	0.28

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tblVehicleEF	UBUS	9.1230e-003	0.12
tblVehicleEF	UBUS	0.07	0.11
tblVehicleEF	UBUS	0.03	0.03
tblVehicleEF	UBUS	5.1750e-003	5.4279e-003
tblVehicleEF	UBUS	6.0000e-006	4.9102e-005
tblVehicleEF	UBUS	0.03	0.04
tblVehicleEF	UBUS	7.9020e-003	7.6765e-003
tblVehicleEF	UBUS	4.9510e-003	5.1845e-003
tblVehicleEF	UBUS	6.0000e-006	4.5148e-005
tblVehicleEF	UBUS	5.7000e-005	0.03
tblVehicleEF	UBUS	8.4600e-004	0.01
tblVehicleEF	UBUS	3.8000e-005	0.00
tblVehicleEF	UBUS	0.02	0.05
tblVehicleEF	UBUS	1.8000e-004	0.03
tblVehicleEF	UBUS	4.7200e-003	0.05
tblVehicleEF	UBUS	0.01	0.01
tblVehicleEF	UBUS	8.0000e-006	1.0502e-004
tblVehicleEF	UBUS	5.7000e-005	0.03
tblVehicleEF	UBUS	8.4600e-004	0.01
tblVehicleEF	UBUS	3.8000e-005	0.00
tblVehicleEF	UBUS	1.15	0.36
tblVehicleEF	UBUS	1.8000e-004	0.03
tblVehicleEF	UBUS	5.1680e-003	0.05
tblVehicleTrips	ST_TR	4.91	4.10
tblVehicleTrips	ST_TR	2.21	2.46
tblVehicleTrips	ST_TR	46.12	82.49
tblVehicleTrips	SU_TR	4.09	3.41
tblVehicleTrips	SU_TR	0.70	0.78
tblVehicleTrips	SU_TR	21.10	37.74

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

tblVehicleTrips	WD_TR	5.44	4.54
tblVehicleTrips	WD_TR	9.74	10.84
tblVehicleTrips	WD_TR	37.75	67.52

2.0 Emissions Summary

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

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

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	6.1472	0.0936	7.1572	4.5300e-003		0.3344	0.3344		0.3344	0.3344	30.7731	20.8323	51.6053	0.0573	2.0200e-003	53.6399
Energy	0.0475	0.4155	0.2401	2.5900e-003		0.0329	0.0329		0.0329	0.0329	0.0000	470.5227	470.5227	9.0200e-003	8.6300e-003	473.3188
Mobile	7.0128	9.3806	47.2283	0.1290	10.1463	0.1109	10.2572	2.5383	0.1042	2.6426	0.0000	12,055.2937	12,055.2937	0.6862	0.8271	12,318.9183
Waste						0.0000	0.0000		0.0000	0.0000	124.0214	0.0000	124.0214	7.3295	0.0000	307.2577
Water						0.0000	0.0000		0.0000	0.0000	24.9461	0.0000	24.9461	2.5622	0.0605	107.0297
Total	13.2076	9.8896	54.6257	0.1361	10.1463	0.4781	10.6245	2.5383	0.4715	3.0098	179.7405	12,546.6487	12,726.3891	10.6442	0.8982	13,260.1643

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.1472	0.0936	7.1572	4.5300e-003		0.3344	0.3344		0.3344	0.3344	30.7731	20.8323	51.6053	0.0573	2.0200e-003	53.6399
Energy	0.0475	0.4155	0.2401	2.5900e-003		0.0329	0.0329		0.0329	0.0329	0.0000	470.5227	470.5227	9.0200e-003	8.6300e-003	473.3188
Mobile	7.0128	9.3806	47.2283	0.1290	10.1463	0.1109	10.2572	2.5383	0.1042	2.6426	0.0000	12,055.2937	12,055.2937	0.6862	0.8271	12,318.9183
Waste						0.0000	0.0000		0.0000	0.0000	124.0214	0.0000	124.0214	7.3295	0.0000	307.2577
Water						0.0000	0.0000		0.0000	0.0000	24.9461	0.0000	24.9461	2.5622	0.0605	107.0297
Total	13.2076	9.8896	54.6257	0.1361	10.1463	0.4781	10.6245	2.5383	0.4715	3.0098	179.7405	12,546.6487	12,726.3891	10.6442	0.8982	13,260.1643

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

3.0 Construction Detail**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2023	12/30/2022	5	0	

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**Acres of Grading (Site Preparation Phase): 0****Acres of Grading (Grading Phase): 0****Acres of Paving: 0****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
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Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition			0.00	0.00	10.80	7.30				

3.1 Mitigation Measures Construction**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	7.0128	9.3806	47.2283	0.1290	10.1463	0.1109	10.2572	2.5383	0.1042	2.6426	0.0000	12,055.2937	12,055.2937	0.6862	0.8271	12,318.9183

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

Unmitigated	7.0128	9.3806	47.2283	0.1290	10.1463	0.1109	10.2572	2.5383	0.1042	2.6426	0.0000	12,055.293	12,055.293	0.6862	0.8271	12,318.918
												7	7			3

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	3,064.50	2,767.50	2301.75	6,728,134	6,728,134
General Office Building	1,300.80	295.20	93.60	2,353,155	2,353,155
Regional Shopping Center	12,145.16	14,837.89	6788.48	20,626,923	20,626,923
Total	16,510.46	17,900.59	9,183.83	29,708,212	29,708,212

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.519068	0.039810	0.225450	0.117881	0.024857	0.005913	0.015858	0.043025	0.001316	0.002434	0.003491	0.000337	0.000560
General Office Building	0.519068	0.039810	0.225450	0.117881	0.024857	0.005913	0.015858	0.043025	0.001316	0.002434	0.003491	0.000337	0.000560
Regional Shopping Center	0.519068	0.039810	0.225450	0.117881	0.024857	0.005913	0.015858	0.043025	0.001316	0.002434	0.003491	0.000337	0.000560

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0475	0.4155	0.2401	2.5900e-003		0.0329	0.0329		0.0329	0.0329	0.0000	470.5227	470.5227	9.0200e-003	8.6300e-003	473.3188
NaturalGas Unmitigated	0.0475	0.4155	0.2401	2.5900e-003		0.0329	0.0329		0.0329	0.0329	0.0000	470.5227	470.5227	9.0200e-003	8.6300e-003	473.3188

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					
Apartments Mid Rise	5.69903e+006	0.0307	0.2626	0.1118	1.6800e-003		0.0212	0.0212		0.0212	0.0212	0.0000	304.1220	304.1220	5.8300e-003	5.5800e-003	305.9293
General Office Building	2.298e+006	0.0124	0.1127	0.0946	6.8000e-004		8.5600e-003	8.5600e-003		8.5600e-003	8.5600e-003	0.0000	122.6300	122.6300	2.3500e-003	2.2500e-003	123.3588
Regional Shopping Center	820230	4.4200e-003	0.0402	0.0338	2.4000e-004		3.0600e-003	3.0600e-003		3.0600e-003	3.0600e-003	0.0000	43.7706	43.7706	8.4000e-004	8.0000e-004	44.0307
Total		0.0475	0.4155	0.2401	2.6000e-003		0.0329	0.0329		0.0329	0.0329	0.0000	470.5227	470.5227	9.0200e-003	8.6300e-003	473.3187

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

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	5.69903e+006	0.0307	0.2626	0.1118	1.6800e-003		0.0212	0.0212		0.0212	0.0212	0.0000	304.1220	304.1220	5.8300e-003	5.5800e-003	305.9293
General Office Building	2.298e+006	0.0124	0.1127	0.0946	6.8000e-004		8.5600e-003	8.5600e-003		8.5600e-003	8.5600e-003	0.0000	122.6300	122.6300	2.3500e-003	2.2500e-003	123.3588
Regional Shopping Center	820230	4.4200e-003	0.0402	0.0338	2.4000e-004		3.0600e-003	3.0600e-003		3.0600e-003	3.0600e-003	0.0000	43.7706	43.7706	8.4000e-004	8.0000e-004	44.0307
Total		0.0475	0.4155	0.2401	2.6000e-003		0.0329	0.0329		0.0329	0.0329	0.0000	470.5227	470.5227	9.0200e-003	8.6300e-003	473.3187

5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	2.6233e+006	0.0000	0.0000	0.0000	0.0000
General Office Building	1.4448e+006	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	1.84192e+006	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	2.6233e+06	0.0000	0.0000	0.0000	0.0000
General Office Building	1.4448e+06	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	1.84192e+006	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.1472	0.0936	7.1572	4.5300e-003		0.3344	0.3344		0.3344	0.3344	30.7731	20.8323	51.6053	0.0573	2.0200e-003	53.6399
Unmitigated	6.1472	0.0936	7.1572	4.5300e-003		0.3344	0.3344		0.3344	0.3344	30.7731	20.8323	51.6053	0.0573	2.0200e-003	53.6399

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

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	0.6315					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.8074					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.5574	0.0358	2.1446	4.2700e-003		0.3066	0.3066		0.3066	0.3066	30.7731	12.6400	43.4130	0.0495	2.0200e-003	45.2509
Landscaping	0.1509	0.0578	5.0126	2.6000e-004		0.0278	0.0278		0.0278	0.0278	0.0000	8.1923	8.1923	7.8700e-003	0.0000	8.3890
Total	6.1472	0.0936	7.1572	4.5300e-003		0.3344	0.3344		0.3344	0.3344	30.7731	20.8323	51.6053	0.0573	2.0200e-003	53.6399

[illegible]

Emeryville Public Market 2008 PDP Land Uses - Alameda County, Annual

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

Hearth	1.5574	0.0358	2.1446	4.2700e-003		0.3066	0.3066		0.3066	0.3066	30.7731	12.6400	43.4130	0.0495	2.0200e-003	45.2509
Landscaping	0.1509	0.0578	5.0126	2.6000e-004		0.0278	0.0278		0.0278	0.0278	0.0000	8.1923	8.1923	7.8700e-003	0.0000	8.3890
Total	6.1472	0.0936	7.1572	4.5300e-003		0.3344	0.3344		0.3344	0.3344	30.7731	20.8323	51.6053	0.0573	2.0200e-003	53.6399

7.0 Water Detail**7.1 Mitigation Measures Water**

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	24.9461	2.5622	0.0605	107.0297
Unmitigated	24.9461	2.5622	0.0605	107.0297

7.2 Water by Land Use**Unmitigated**

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

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

Apartments Mid Rise	43.979 / 27.7259	13.9525	1.4331	0.0338	59.8625
General Office Building	21.328 / 13.072	6.7664	0.6950	0.0164	29.0309
Regional Shopping Center	13.3242 / 8.16642	4.2271	0.4342	0.0103	18.1363
Total		24.9461	2.5622	0.0605	107.0297

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	43.979 / 27.7259	13.9525	1.4331	0.0338	59.8625
General Office Building	21.328 / 13.072	6.7664	0.6950	0.0164	29.0309
Regional Shopping Center	13.3242 / 8.16642	4.2271	0.4342	0.0103	18.1363
Total		24.9461	2.5622	0.0605	107.0297

8.0 Waste Detail**8.1 Mitigation Measures Waste****Category/Year**

Emeryville Public Market 2008 PDP Land Uses - Alameda County, Annual

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

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	124.0214	7.3295	0.0000	307.2577
Unmitigated	124.0214	7.3295	0.0000	307.2577

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	310.5	63.0287	3.7249	0.0000	156.1509
General Office Building	111.6	22.6538	1.3388	0.0000	56.1238
Regional Shopping Center	188.87	38.3389	2.2658	0.0000	94.9830
Total		124.0214	7.3295	0.0000	307.2577

Mitigated

Emeryville Public Market 2008 PDP Land Uses - Alameda County, Annual

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

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	310.5	63.0287	3.7249	0.0000	156.1509
General Office Building	111.6	22.6538	1.3388	0.0000	56.1238
Regional Shopping Center	188.87	38.3389	2.2658	0.0000	94.9830
Total		124.0214	7.3295	0.0000	307.2577

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

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

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

Equipment Type	Number
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11.0 Vegetation

**Attachment 3: EMFAC2021 Emissions and CARB SAFE Off-Model
Adjustment Factors**

Summary of Construction Traffic Emissions (EMFAC2021) - Parcel A

Pollutants YEAR	ROG	NOx	CO	SO2	Fugitive PM10 <i>Tons</i>	Exhaust PM10 <i>Tons</i>	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2	CH4 <i>Metric Tons</i>	N2O	CO2e
Criteria Pollutants														
2023	0.0467	0.2408	0.5005	0.0024	0.1251	0.0167	0.1418	0.0188	0.0069	0.0257	226.6422	0.0093	0.0235	233.8815
Toxic Air Contaminants (1.0 Mile Trip Length)														
2023	0.0404	0.0879	0.1995	0.0003	0.0124	0.0019	0.0143	0.0019	0.0008	0.0027	31.9558	0.0044	0.0045	33.3981

Summary of Construction Traffic Emissions (EMFAC2021) - Parcel B

Pollutants YEAR	ROG	NOx	CO	SO2	Fugitive PM10 <i>Tons</i>	Exhaust PM10 <i>Tons</i>	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2	CH4 <i>Metric Tons</i>	N2O	CO2e
Criteria Pollutants														
2023	0.0541	0.3531	0.5946	0.0032	0.1515	0.0234	0.1748	0.0228	0.0098	0.0326	309.4119	0.0129	0.0348	320.1146
Toxic Air Contaminants (1.0 Mile Trip Length)														
2023	0.0462	0.1266	0.2412	0.0005	0.0152	0.0026	0.0178	0.0023	0.0012	0.0034	43.7449	0.0056	0.0062	45.7410

Summary of Construction Traffic Emissions (EMFAC2021) - Parcel F

Pollutants YEAR	ROG	NOx	CO	SO2	Fugitive PM10 <i>Tons</i>	Exhaust PM10 <i>Tons</i>	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2	CH4 <i>Metric Tons</i>	N2O	CO2e
Criteria Pollutants														
2023	0.0015	0.0028	0.0149	0.0000	0.0035	0.0003	0.0038	0.0005	0.0001	0.0006	4.1568	0.0002	0.0003	4.2377
Toxic Air Contaminants (1.0 Mile Trip Length)														
2023	0.0013	0.0011	0.0056	0.0000	0.0003	0.0000	0.0004	0.0001	0.0000	0.0001	0.5443	0.0001	0.0001	0.5674

CalEEMod Construction Inputs - Parcel A

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	13	0	260	0	178	10.8	7.3	7.3	20 LD_Mix	HDT_Mix	HHDT	2808	0	3560
Site Preparation	8	0	16	0	0	10.8	7.3	7.3	20 LD_Mix	HDT_Mix	HHDT	172.8	0	0
Grading	10	0	40	0	190	10.8	7.3	7.3	20 LD_Mix	HDT_Mix	HHDT	432	0	3800
Trenching	5	0	20	0	0	10.8	7.3	7.3	20 LD_Mix	HDT_Mix	HHDT	216	0	0
Paving	13	0	130	0	0	10.8	7.3	7.3	20 LD_Mix	HDT_Mix	HHDT	1404	0	0
Building Construction	130	51	26000	10200	452	10.8	7.3	7.3	20 LD_Mix	HDT_Mix	HHDT	280800	74460	9040
Architectural Coating	26	0	260	0	0	10.8	7.3	7.3	20 LD_Mix	HDT_Mix	HHDT	2808	0	0

Level 1 sqft rounded up + P1sqft

Number of Days Per Year

2023	1/1/23	12/11/23	345	247
			345	247 Total Workdays

Phase	Start Date	End Date	Days/Week	Workdays
Demolition	1/1/2023	1/27/2023	5	20
Site Preparation	1/28/2023	1/31/2023	5	2
Grading	2/1/2023	2/6/2023	5	4
Trenching	2/1/2023	2/6/2023	5	4
Paving	11/14/2023	11/27/2023	5	10
Building Construction	2/7/2023	11/13/2023	5	200
Architectural Coating	11/28/2023	12/11/2023	5	10

CalEEMod Construction Inputs - Parcel B

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	13	0	260	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2808	0	0
Site Preparation	8	0	16	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	172.8	0	0
Grading	10	0	40	0	1125	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	432	0	22500
Trenching	5	0	20	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	216	0	0
Paving	13	0	130	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	1404	0	0
Building Construction	145	74	29000	14800	382	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	313200	108040	7640
Architectural Coating	29	0	290	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	3132	0	0

Level 1 sqft rounded up + P1sqft

Number of Days Per Year				
2023	1/1/23	12/11/23	345	247
			345	247 Total Workdays

Phase	Start Date	End Date	Days/Week	Workdays
Demolition	1/1/2023	1/27/2023	5	20
Site Preparation	1/28/2023	1/31/2023	5	2
Grading	2/1/2023	2/6/2023	5	4
Trenching	2/1/2023	2/6/2023	5	4
Paving	11/14/2023	11/27/2023	5	10
Building Construction	2/7/2023	11/13/2023	5	200
Architectural Coating	11/28/2023	12/11/2023	5	10

CalEEMod Construction Inputs - Parcel F

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	10	0	100	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	1080	0	0
Site Preparation	5	0	5	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	54	0	0
Grading	8	0	16	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	172.8	0	0
Trenching/Foundation	5	0	10	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	108	0	0
Paving	18	0	90	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	972	0	0
Building Construction	7	1	700	100	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	7560	730	0
Architectural Coating	1	0	5	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	54	0	0

Level 1 sqft rounded up + P1sqft

Number of Days Per Year				
2023	1/1/23	6/21/23	172	124
			172	124 Total Workdays

Phase	Start Date	End Date	Days/Week	Workdays
Demolition	1/1/2023	1/13/2023	5	10
Site Preparation	1/14/2023	1/16/2023	5	1
Grading	1/17/2023	1/18/2023	5	2
Trenching/Foundation	1/17/2023	1/18/2023	5	2
Paving	6/8/2023	6/14/2023	5	5
Building Construction	1/19/2023	6/7/2023	5	100
Architectural Coating	6/15/2023	6/21/2023	5	5

Season	EmissionTy	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.005594	0.003682	0.014797	0.215227	0.008798	0	0	0.092641	0
A	CH4_RUNE	0.002099	0.005653	0.002679	0.003552	0.008404	0.007034	0.010644	0.07404	0.010338	0.296064	0.171144	0.16163	0.012525
A	CH4_STRE	0.068183	0.109891	0.084504	0.103636	0.023449	0.014516	0.007559	3.83E-08	0.025535	0.01229	0.193485	0.00423	0.027736
A	CO_IDLEX	0	0	0	0	0.199535	0.15281	0.650751	5.372092	0.520829	0	0	1.473366	0
A	CO_RUNE	0.634614	1.278823	0.770586	0.875269	0.935636	0.601618	0.308848	0.551278	0.848966	3.309458	13.42866	1.191442	1.248627
A	CO_STREX	3.081581	5.490526	3.748804	4.11478	2.221927	1.396877	0.912225	0.002394	2.824359	1.508326	8.225897	0.591639	2.588121
A	CO2_NBIO	0	0	0	0	8.71285	13.35671	158.4731	859.5034	72.85778	0	0	179.5786	0
A	CO2_NBIO	248.921	327.6641	337.5117	405.7155	791.1867	841.0647	1225.828	1579.94	1592.656	1182.157	190.2056	1051.9	1694.28
A	CO2_NBIO	65.06634	87.1909	86.96457	104.3784	18.39444	11.47673	7.411309	0.028522	23.09541	10.623	50.62349	3.03111	23.04502
A	NOX_IDLEX	0	0	0	0	0.046639	0.083545	0.850783	4.191335	0.285943	0	0	1.039454	0
A	NOX_RUNE	0.039155	0.119459	0.064801	0.093421	0.654193	0.825713	0.976468	1.724301	1.102428	0.276461	0.599799	1.669332	1.489423
A	NOX_STRE	0.245264	0.400536	0.340925	0.438845	0.461895	0.289514	1.436047	2.728448	0.714762	0.120442	0.147984	0.604682	0.306586
A	PM10_IDLE	0	0	0	0	0.000653	0.001232	0.001524	0.002002	0.000343	0	0	0.000888	0
A	PM10_PMI	0.006614	0.008454	0.008099	0.008189	0.07784	0.090808	0.045605	0.079016	0.05054	0.111637	0.012	0.044848	0.04495
A	PM10_PMI	0.008	0.008	0.008	0.008	0.009346	0.010471	0.012	0.035532	0.012	0.030706	0.004	0.010778	0.01317
A	PM10_RUN	0.001211	0.001851	0.001331	0.001361	0.013653	0.021488	0.010039	0.026738	0.018307	0.005428	0.00193	0.008645	0.029362
A	PM10_STR	0.001947	0.00295	0.00212	0.002184	0.000228	0.00011	8.30E-05	1.93E-07	0.00022	4.91E-05	0.00361	3.61E-05	0.000322
A	PM25_IDLE	0	0	0	0	0.000625	0.001178	0.001458	0.00191	0.000328	0	0	0.000848	0
A	PM25_PMI	0.002315	0.002959	0.002835	0.002866	0.027244	0.031783	0.015962	0.027656	0.017689	0.039073	0.0042	0.015697	0.015732
A	PM25_PMI	0.002	0.002	0.002	0.002	0.002336	0.002618	0.003	0.008883	0.003	0.007676	0.001	0.002695	0.003293
A	PM25_RUN	0.001115	0.001703	0.001225	0.001254	0.013022	0.020538	0.009598	0.025579	0.017494	0.005184	0.001807	0.008252	0.028043
A	PM25_STR	0.00179	0.002712	0.001949	0.002008	0.000209	0.000101	7.63E-05	1.78E-07	0.000202	4.51E-05	0.003398	3.32E-05	0.000296
A	ROG_DIUR	0.291231	0.615183	0.291723	0.366821	0.126223	0.073683	0.021416	3.54E-05	0.093118	0.032165	4.021976	0.025895	33.38348
A	ROG_HTSK	0.08782	0.172205	0.08337	0.099897	0.033408	0.019726	0.005469	1.21E-05	0.024063	0.011007	3.576934	0.006525	9.0431
A	ROG_IDLEX	0	0	0	0	0.022592	0.017479	0.023467	0.346302	0.047342	0	0	0.146238	0
A	ROG_REST	0	0	0	0	0	0	0	0	0	0	0	0	0
A	ROG_RUNE	0.008154	0.024944	0.010409	0.014994	0.08698	0.110698	0.03063	0.016431	0.070473	0.053598	1.137018	0.045158	0.082312
A	ROG_RUNI	0.224201	0.495567	0.222678	0.286528	0.183099	0.103828	0.043199	7.52E-05	0.106971	0.025469	3.789874	0.018628	0.212632
A	ROG_STRE	0.315103	0.566663	0.39135	0.523643	0.115792	0.071114	0.041763	2.08E-07	0.132072	0.045925	1.44773	0.024212	0.118304
A	SO2_IDLEX	0	0	0	0	8.49E-05	0.000128	0.001467	0.007629	0.000694	0	0	0.001569	0
A	SO2_RUNE	0.002461	0.003239	0.003336	0.004009	0.007734	0.008123	0.011602	0.014466	0.01545	0.010266	0.00188	0.009542	0.01662
A	SO2_STRE	0.000643	0.000862	0.00086	0.001032	0.000182	0.000113	7.33E-05	2.82E-07	0.000228	0.000105	0.0005	3.00E-05	0.000228
A	TOG_DIUR	0.291231	0.615183	0.291723	0.366821	0.126223	0.073683	0.021416	3.54E-05	0.093118	0.032165	0.091629	0.025895	33.38348
A	TOG_HTSK	0.08782	0.172205	0.08337	0.099897	0.033408	0.019726	0.005469	1.21E-05	0.024063	0.011007	3.576934	0.006525	9.0431
A	TOG_IDLEX	0	0	0	0	0.032157	0.023956	0.041376	0.594375	0.063245	0	0	0.270828	0
A	TOG_RESTI	0	0	0	0	0	0	0	0	0	0	0	0	0
A	TOG_RUNE	0.011871	0.036376	0.015173	0.021817	0.108167	0.129623	0.045642	0.0924	0.092606	0.356072	1.359039	0.2154	0.108949
A	TOG_RUNI	0.224201	0.495567	0.222678	0.286528	0.183099	0.103828	0.043199	7.52E-05	0.106971	0.025469	3.789874	0.018628	0.212632
A	TOG_STRE	0.344999	0.620425	0.428479	0.573321	0.126778	0.077861	0.045726	2.27E-07	0.144602	0.050282	1.573636	0.026509	0.129528
A	N2O_IDLEX	0	0	0	0	0.000621	0.00154	0.024526	0.137909	0.009486	0	0	0.025003	0
A	N2O_RUNE	0.004293	0.008972	0.005882	0.008003	0.040058	0.077316	0.161464	0.251239	0.114786	0.161834	0.040778	0.140325	0.068557
A	N2O_STRE	0.030974	0.04001	0.037845	0.041137	0.037007	0.022914	0.005235	4.12E-08	0.022831	0.017208	0.008606	0.003011	0.031727

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.519068	0.03981	0.22545	0.117881	0.024857	0.005913	0.015858	0.043025	0.001316	0.002434	0.003491	0.000337	0.00056
Regional Shopping Center	0.519068	0.03981	0.22545	0.117881	0.024857	0.005913	0.015858	0.043025	0.001316	0.002434	0.003491	0.000337	0.00056
Research & Development	0.519068	0.03981	0.22545	0.117881	0.024857	0.005913	0.015858	0.043025	0.001316	0.002434	0.003491	0.000337	0.00056

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.519068	0.03981	0.22545	0.117881	0.024857	0.005913	0.015858	0.043025	0.001316	0.002434	0.003491	0.000337	0.00056
General Office Building	0.519068	0.03981	0.22545	0.117881	0.024857	0.005913	0.015858	0.043025	0.001316	0.002434	0.003491	0.000337	0.00056
Regional Shopping Center	0.519068	0.03981	0.22545	0.117881	0.024857	0.005913	0.015858	0.043025	0.001316	0.002434	0.003491	0.000337	0.00056

Attachment 4: Project Construction and Operation Dispersion Modeling Inputs and Risk Calculations

Public Market, Emeryville, CA

DPM Emissions and Modeling Emission Rates - Unmitigated

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions			Modeled Area (m ²)	DPM Emission Rate (g/s/m ²)
				(lb/yr)	(lb/hr)	(g/s)		
Parcel A								
2023	Construction	0.0637	CON_DPM	127.4	0.03879	4.89E-03	7,488	6.53E-07
Parcel B								
2023	Construction	0.0647	CON_DPM	129.4	0.03940	4.96E-03	7,124	6.97E-07
Parcel F								
2023	Construction	0.0190	CON_DPM	38.1	0.01159	1.46E-03	783	1.86E-06
Total		0.1475		294.9	0.0898	0.0113		

Construction Hours

hr/day = 9 (8am - 5pm)
 days/yr = 365
 hours/year = 3285

Public Market, Emeryville, CA

PM2.5 Fugitive Dust Emissions for Modeling - Unmitigated

								PM2.5
Construction		Area	PM2.5 Emissions				Modeled	Emission
Year	Activity	Source	(ton/year)	(lb/yr)	(lb/hr)	(g/s)	Area (m ²)	Rate g/s/m ²
Parcel A								
2023	Construction	CON_FUG	0.0117	23.5	0.00715	9.01E-04	7,488	1.20E-07
Parcel B								
2023	Construction	CON_FUG	0.0122	24.4	0.00744	9.37E-04	7,124	1.32E-07
Parcel F								
2023	Construction	CON_FUG	0.0027	5.3	0.00161	2.03E-04	783	2.60E-07
Total			0.0266	53.2	0.0162	0.0020		

Construction Hours

hr/day = 9 (8am - 5pm)
 days/yr = 365
 hours/year = 3285

DPM Construction Emissions and Modeling Emission Rates - With Mitigation

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions			Modeled Area (m ²)	DPM Emission Rate (g/s/m ²)
				(lb/yr)	(lb/hr)	(g/s)		
Parcel A								
2023	Construction	0.0187	CON_DPM	37.4	0.01139	1.43E-03	7,488	1.92E-07
Parcel B								
2023	Construction	0.0194	CON_DPM	38.8	0.01182	1.49E-03	7,124	2.09E-07
Parcel F								
2023	Construction	0.0011	CON_DPM	2.3	0.00069	8.76E-05	783	1.12E-07
Total		0.0393		78.5	0.0239	0.0030		

Construction Hours

hr/day = 9 (8am - 5pm)
days/yr = 365
hours/year = 3285

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

								PM2.5
Construction		Area	PM2.5 Emissions				Modeled	Emission
Year	Activity	Source	(ton/year)	(lb/yr)	(lb/hr)	(g/s)	Area (m ²)	Rate g/s/m ²
Parcel A								
2023	Construction	CON_FUG	0.0063	12.6	0.00384	4.84E-04	7,488	6.47E-08
Parcel B								
2023	Construction	CON_FUG	0.0068	13.5	0.00411	5.18E-04	7,124	7.27E-08
Parcel F								
2023	Construction	CON_FUG	0.0012	2.4	0.00074	9.37E-05	783	1.20E-07
Total			0.0143	28.6	0.0087	0.0011		

Construction Hours

hr/day = 9 (8am - 5pm)
days/yr = 365
hours/year = 3285

Public Market, Emeryville, CA
Construction Health Impact Summary

Maximum Impacts at MEI Location - Without Mitigation

Emissions Year						Maximum Annual PM2.5 Concentration (µg/m³)
	Maximum Concentrations		Cancer Risk (per million)		Hazard Index (-)	
	Exhaust PM10/DPM (µg/m³)	Fugitive PM2.5 (µg/m³)				
2023	0.1240	0.0235	22.04	0.36	0.02	0.15
Total	-	-	22.04	0.36		-
Maximum	0.1240	0.0235	-	-	0.02	0.15

Maximum Impacts at MEI Location - With Mitigation

Emissions Year						
	Maximum Concentrations		Cancer Risk (per million)		Hazard Index	Maximum Annual PM2.5 Concentration
	Exhaust PM10/DPM	Fugitive PM2.5				
	(µg/m³)	(µg/m³)	Infant/Child	Adult	(-)	(µg/m³)
2023	0.0321	0.0125	5.72	0.09	0.01	0.04
Total	-	-	5.72	0.09	-	-
Maximum	0.0321	0.0125	-	-	0.01	0.04

- Tier 4 interim engines, and BMPs as Mitigation Measures.

Public Market, Emeryville, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 10.7 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-day)⁻¹

ASF = Age sensitivity factor for specified age group

ED = Exposure duration (years)

AT = Averaging time for lifetime cancer risk (years)

FAH = Fraction of time spent at home (unitless)

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

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

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

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

10⁻⁶ = Conversion factor

Values

Age --> Parameter	Infant/Child			Adult
	3rd Trimester	0 - 2	2 - 16	16 - 30
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 Year	Exposure Duration (years)	Age	Infant/Child - Exposure Information			Infant/Child Cancer Risk (per million)	Adult - Exposure Information			Adult Cancer Risk (per million)
			DPM Conc (ug/m3)		Age Sensitivity Factor		Modeled		Age Sensitivity Factor	
			DPM Conc (ug/m3)							
			Year	Annual			Year	Annual		
0	0.25	-0.25 - 0*	2023	0.0966	10	1.31	2023	0.0966	-	-
1	1	0 - 1	2023	0.0966	10	15.87	2023	0.0966	1	0.28
2	1	1 - 2		0.0000	10	0.00		0.0000	1	0.00
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00
Total Increased Cancer Risk						17.18				0.28

* Third trimester of pregnancy

Maximum		
Hazard Index	Fugitive PM2.5	Total PM2.5
0.019	0.02	0.11

Public Market, Emeryville, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 7.6 meter receptor height

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

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

ASF = Age sensitivity factor for specified age group

ED = Exposure duration (years)

AT = Averaging time for lifetime cancer risk (years)

FAH = Fraction of time spent at home (unitless)

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

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

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

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

10⁻⁶ = Conversion factor

Values

Age --> Parameter	Infant/Child			Adult
	3rd Trimester	0 - 2	2 - 16	16 - 30
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 Year	Exposure Duration (years)	Age	Infant/Child - Exposure Information			Infant/Child Cancer Risk (per million)	Adult - Exposure Information			Adult Cancer Risk (per million)
			DPM Conc (ug/m3)		Age Sensitivity Factor		Modeled		Age Sensitivity Factor	
			DPM Conc (ug/m3)							
			Year	Annual			Year	Annual		
0	0.25	-0.25 - 0*	2023	0.1240	10	1.69	2023	0.1240	-	-
1	1	0 - 1	2023		10	20.36	2023	0.1240	1	0.36
2	1	1 - 2		0.0000	10	0.00		0.0000	1	0.00
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00
Total Increased Cancer Risk						22.04				0.36

* Third trimester of pregnancy

Maximum		
Hazard Index	Fugitive PM2.5	Total PM2.5
0.025	0.02	0.15

Public Market, Emeryville, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 4.5 meter receptor height

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

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

ASF = Age sensitivity factor for specified age group

ED = Exposure duration (years)

AT = Averaging time for lifetime cancer risk (years)

FAH = Fraction of time spent at home (unitless)

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

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

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

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

10⁻⁶ = Conversion factor

Values

Age --> Parameter	Infant/Child			Adult
	3rd Trimester	0 - 2	2 - 16	16 - 30
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 Year	Exposure Duration (years)	Age	Infant/Child - Exposure Information			Infant/Child Cancer Risk (per million)	Adult - Exposure Information			Adult Cancer Risk (per million)
			DPM Conc (ug/m3)		Age Sensitivity Factor		Modeled		Age Sensitivity Factor	
			DPM Conc (ug/m3)							
			Year	Annual			Year	Annual		
0	0.25	-0.25 - 0*	2023	0.0304	10	0.41	2023	0.0304	-	-
1	1	0 - 1	2023	0.0304	10	4.98	2023	0.0304	1	0.09
2	1	1 - 2		0.0000	10	0.00		0.0000	1	0.00
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00
Total Increased Cancer Risk						5.40				0.09

* Third trimester of pregnancy

Maximum		
Hazard Index	Fugitive PM2.5	Total PM2.5
0.006	0.007	0.04

Public Market, Emeryville, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height

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

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

ASF = Age sensitivity factor for specified age group

ED = Exposure duration (years)

AT = Averaging time for lifetime cancer risk (years)

FAH = Fraction of time spent at home (unitless)

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

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

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

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

10⁻⁶ = Conversion factor

Values

Age --> Parameter	Infant/Child			Adult
	3rd Trimester	0 - 2	2 - 16	16 - 30
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 Year	Exposure Duration (years)	Age	Infant/Child - Exposure Information			Infant/Child Cancer Risk (per million)	Adult - Exposure Information			Adult Cancer Risk (per million)
			DPM Conc (ug/m3)		Age Sensitivity Factor		Modeled		Age Sensitivity Factor	
			DPM Conc (ug/m3)							
			Year	Annual			Year	Annual		
0	0.25	-0.25 - 0*	2023	0.0333	10	0.45	2023	0.0333	-	-
1	1	0 - 1	2023	0.0333	10	5.48	2023	0.0333	1	0.10
2	1	1 - 2		0.0000	10	0.00		0.0000	1	0.00
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00
Total Increased Cancer Risk						5.93				0.10

* Third trimester of pregnancy

Maximum		
Hazard Index	Fugitive PM2.5	Total PM2.5
0.01	0.008	0.04

Public Market, Emeryville, CA - Construction Impacts - With Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 10.7 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-day)⁻¹

ASF = Age sensitivity factor for specified age group

ED = Exposure duration (years)

AT = Averaging time for lifetime cancer risk (years)

FAH = Fraction of time spent at home (unitless)

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

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

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

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

10⁻⁶ = Conversion factor

Values

Age --> Parameter	Infant/Child			Adult
	3rd Trimester	0 - 2	2 - 16	16 - 30
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 Year	Exposure Duration (years)	Age	Infant/Child - Exposure Information			Infant/Child Cancer Risk (per million)	Adult - Exposure Information			Adult Cancer Risk (per million)
			DPM Conc (ug/m3)		Age Sensitivity Factor		Modeled		Age Sensitivity Factor	
							DPM Conc (ug/m3)			
			Year	Annual	Factor		Year	Annual	Factor	
0	0.25	-0.25 - 0*	2023	0.0248	10	0.34	2023	0.0248	-	-
1	1	0 - 1	2023	0.0248	10	4.07	2023	0.0248	1	0.07
2	1	1 - 2		0.0000	10	0.00		0.0000	1	0.00
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00
Total Increased Cancer Risk						4.41				0.07

* Third trimester of pregnancy

Maximum		
Hazard Index	Fugitive PM2.5	Total PM2.5
0.0050	0.009	0.03

Public Market, Emeryville, CA - Construction Impacts - With Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 7.6 meter receptor height

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

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

ASF = Age sensitivity factor for specified age group

ED = Exposure duration (years)

AT = Averaging time for lifetime cancer risk (years)

FAH = Fraction of time spent at home (unitless)

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

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

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

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

10⁻⁶ = Conversion factor

Values

Age --> Parameter	Infant/Child			Adult
	3rd Trimester	0 - 2	2 - 16	16 - 30
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 Year	Exposure Duration (years)	Age	Infant/Child - Exposure Information			Infant/Child Cancer Risk (per million)	Adult - Exposure Information			Adult Cancer Risk (per million)
			DPM Conc (ug/m3)		Age Sensitivity Factor		Modeled		Age Sensitivity Factor	
			DPM Conc (ug/m3)							
			Year	Annual			Year	Annual		
0	0.25	-0.25 - 0*	2023	0.0321	10	0.44	2023	0.0321	-	-
1	1	0 - 1	2023	0.0321	10	5.28	2023	0.0321	1	0.09
2	1	1 - 2		0.0000	10	0.00		0.0000	1	0.00
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00
Total Increased Cancer Risk						5.72				0.09

* Third trimester of pregnancy

Maximum		
Hazard Index	Fugitive PM2.5	Total PM2.5
0.0064	0.012	0.04

Public Market, Emeryville, CA - Construction Impacts - With Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 4.5 meter receptor height

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

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

ASF = Age sensitivity factor for specified age group

ED = Exposure duration (years)

AT = Averaging time for lifetime cancer risk (years)

FAH = Fraction of time spent at home (unitless)

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

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

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

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

10⁻⁶ = Conversion factor

Values

Age → Parameter	Infant/Child			Adult
	3rd Trimester	0 - 2	2 - 16	16 - 30
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 Year	Exposure Duration (years)	Age	Infant/Child - Exposure Information			Infant/Child Cancer Risk (per million)	Adult - Exposure Information			Adult Cancer Risk (per million)	Maximum		
			DPM Conc (ug/m3)		Age Sensitivity		Modeled		Age Sensitivity				
			Year	Annual	Factor		Year	Annual	Factor		Hazard Index	Fugitive PM2.5	Total PM2.5
0	0.25	-0.25 - 0*	2023	0.0089	10	0.12	2023	0.0089	-	-	0.002	0.00	0.01
1	1	0 - 1	2023	0.0089	10	1.46	2023	0.0089	1	0.03			
2	1	1 - 2		0.0000	10	0.00		0.0000	1	0.00			
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00			
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00			
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00			
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00			
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00			
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00			
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00			
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00			
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00			
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00			
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00			
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00			
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00			
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00			
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00			
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00			
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00			
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00			
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00			
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00			
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00			
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00			
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00			
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00			
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00			
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00			
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00			
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00			
Total Increased Cancer Risk						1.58				0.03			

* Third trimester of pregnancy

Public Market, Emeryville, CA - Construction Impacts - With Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height

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

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

ASF = Age sensitivity factor for specified age group

ED = Exposure duration (years)

AT = Averaging time for lifetime cancer risk (years)

FAH = Fraction of time spent at home (unitless)

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

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

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

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

10⁻⁶ = Conversion factor

Values

Age → Parameter	Infant/Child			Adult
	3rd Trimester	0 - 2	2 - 16	16 - 30
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 Year	Exposure Duration (years)	Age	Infant/Child - Exposure Information			Infant/Child Cancer Risk (per million)	Adult - Exposure Information			Adult Cancer Risk (per million)	Maximum		
			DPM Conc (ug/m3)		Age Sensitivity		Modeled		Age Sensitivity				
			Year	Annual	Factor		Year	Annual	Factor		Hazard Index	Fugitive PM2.5	Total PM2.5
0	0.25	-0.25 - 0*	2023	0.0098	10	0.13	2023	0.0098	-	-	0.002	0.00	0.01
1	1	0 - 1	2023	0.0098	10	1.60	2023	0.0098	1	0.03			
2	1	1 - 2		0.0000	10	0.00		0.0000	1	0.00			
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00			
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00			
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00			
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00			
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00			
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00			
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00			
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00			
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00			
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00			
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00			
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00			
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00			
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00			
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00			
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00			
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00			
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00			
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00			
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00			
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00			
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00			
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00			
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00			
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00			
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00			
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00			
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00			
Total Increased Cancer Risk						1.74				0.03			

* Third trimester of pregnancy

Attachment 5: Cumulative Community Risk from Existing TAC Sources

Public Market Parcel A, Emeryville, CA

Standby Emergency Generator Impacts

Off-site Sensitive Receptors

MEI Locations = 7.6 meter receptor height

DPM Emission Rates		
Source Type	DPM Emissions per Generator	
	Max Daily (lb/day)	Annual (lb/year)
100kw, 134-hp diesel-fired emergency generator	0.004	1.62
CalEEMod DPM Emissions	8.10E-04	tons/year

Modeling Information	
Model	AERMOD
Source	Diesel Generator Engine
Source Type	Point
Meteorological Data	2013 - 2017 Oakland International Airport
Point Source Stack Parameters	
Generator Engine Size (hp)	127
Stack Height (ft)	10.00
Stack Diameter (ft)**	0.60
Exhaust Gas Flowrate (CFM)*	2527.73
Stack Exit Velocity (ft/sec)**	149.00
Exhaust Temperature (°F)**	872.00
Emissions Rate (lb/hr)	0.000185

* AERMOD default

**BAAQMD default generator parameters

Public Market Parcel B, Emeryville, CA

Standby Emergency Generator Impacts

Off-site Sensitive Receptors

MEI Locations = 7.6 meter receptor height

DPM Emission Rates		
Source Type	DPM Emissions per Generator	
	Max Daily (lb/day)	Annual (lb/year)
(1) 3,000-kW, 4,023-hp diesel fired emergency generator, (4) 500 kw, 670-hp natural gas fired emergency generators	0.040	14.60
CalEEMod DPM Emissions	7.30E-03	tons/year

Modeling Information	
Model	AERMOD
Source	Diesel Generator Engine
Source Type	Point
Meteorological Data	2013 - 2017 Oakland International Airport
Point Source Stack Parameters	
Generator Engine Size (hp)	127
Stack Height (ft)	10.00
Stack Diameter (ft)**	0.60
Exhaust Gas Flowrate (CFM)*	2527.73
Stack Exit Velocity (ft/sec)**	149.00
Exhaust Temperature (°F)**	872.00
Emissions Rate (lb/hr)	0.001667

* AERMOD default

**BAAQMD default generator parameters

* Third trimester of pregnancy

Evaporative Cooling Tower PM Emissions

No. Cooling Tower Cells	3		
Total Water Flow Rate (gpm)	6,000		
Cooling Tower Circulating Water TDS (ppm)*	3,000		
Mist Eliminator Efficiency (%)	0.004		
Total Cooling Tower Drift (gpm)	0.24		
<u>Particulate Matter Emissions</u>			
	PM	PM10	PM2.5
Fraction of PM**	1.0	0.7	0.42
Hourly (lb/hr)	0.36	0.25	0.15
Daily (lb/day)	8.6	6.1	3.6
Annual lb/yr)	3156	2209.3	1325.6
Annual (ton/yr)	1.58	1.10	0.66

* Maximum TDS value provided by applicant.

** South Coast AQMD, Final-Methodology to Calculate Particulate Matter (PM) 2.5 and PM2.5 Significance Thresholds, Appendix A.