APPENDIX A

Air Quality, Greenhouse Gas Assessment, GHGRS 2030 Compliance Checklist

OLD OAKLAND ROAD INDUSTRIAL/OFFICE PROJECT AIR QUALITY & GREENHOUSE GAS EMISSIONS ASSESSMENT

San José, California

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Introduction

The purpose of this report is to address air quality and greenhouse gas (GHG) emissions impacts associated with the proposed commercial/office development on a currently vacant parcel adjacent to Oakland Road, approximately 900 feet north of the intersection with East Brokaw Road in San José, California. The air quality impacts and GHG emissions associated with the project would be from site preparation and grading, construction of infrastructure, and construction and operation of 15,000 square feet (sf) of commercial office space, 21,856 sf of research and development space, and 2,185 sf of unrefrigerated warehouse space. Air pollutant and GHG emissions associated with the construction and operation of the project were predicted using appropriate computer models. In addition, the potential construction community risk impact to nearby sensitive receptors from toxic air contaminant (TAC) sources (i.e., construction, local roadways, and railroad) was evaluated. This analysis addresses those issues following the guidance provided by the Bay Area Air Quality Management District (BAAQMD).[1]

Project Description

The project proposes to develop the site with approximately 39,100 gross square feet of industrial office and warehouse uses configured in two three-story buildings and 128 vehicle parking spaces on a currently vacant 2-acre lot. The project site is located approximately 900 feet north of the intersection of Oakland Road and East Brokaw Road, adjacent to both the Southern Pacific railroad tracks (to the west) and Oakland Road (to the east).

Setting

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

Air Pollutants of Concern

High ozone 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, reduce lung function, and increase coughing and chest discomfort.

Particulate matter is another problematic air pollutant of the Bay Area. Particulate matter is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less (PM_{10}) and fine particulate matter where particles have a diameter of 2.5 micrometers or less ($PM_{2.5}$). Elevated concentrations of PM_{10} and $PM_{2.5}$ are the result of both region-wide (or cumulative) emissions and localized emissions. High particulate matter levels

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

aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

Toxic Air Contaminants

TACs are a broad class of compounds known to cause morbidity or mortality (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 complicated 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 infants and children that may be living in the multi-family housing developments along the eastern side of Oakland Road, across from the project site. A Headstart preschool and special education building are located at the Santa Clara County Office of Education complex approximately 360 feet southwest of the site.

Regulatory Agencies

CARB has adopted and implemented several regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy-duty

[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.

diesel trucks that represent the bulk of DPM emissions from California highways. These regulations include the solid waste collection vehicle (SWCV) rule, in-use public and utility fleets, and the heavy-duty diesel truck and bus regulations. In 2008, CARB approved a new regulation to reduce emissions of DPM and NO_X from existing on-road heavy-duty diesel fueled vehicles.[3] The regulation requires affected vehicles to meet specific performance requirements between 2014 and 2023, with all affected diesel vehicles required to have 2010 model-year engines or equivalent by 2023. These requirements are phased in over the compliance period and depend on the model year of the vehicle.

The BAAQMD is the regional agency tasked with managing air quality in the region. At the State level, the CARB (a part of the California Environmental Protection Agency [EPA]) oversees regional air district activities and regulates air quality at the State level. The BAAQMD has published California Environmental Quality Act (CEQA) Air Quality Guidelines that are used in this assessment to evaluate air quality impacts of projects.[4] The detailed community risk modeling methodology used in this assessment is contained in *Attachment 1*.

City San José Envision 2040 General Plan

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

Applicable Goals – Air Pollutant Emission Reduction

Goal MS-10 Minimize air pollutant emissions from new and existing development.

Applicable Policies – Air Pollutant Emission Reduction

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

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

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

Applicable Goals – Toxic Air Contaminants

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

[3] Available online: http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm. Accessed: November 21, 2014.
[4] Bay Area Air Quality Management District. 2017. *BAAQMD CEQA Air Quality Guidelines*. May.

Applicable Policies – Toxic Air Contaminants

MS-11.1 Require completion of air quality modeling for sensitive land uses such as new residential developments that are located near sources of pollution such as freeways and industrial uses. Require new residential development projects and projects categorized as sensitive receptors to incorporate effective mitigation into project designs or be located an adequate distance from sources of toxic air contaminants (TACs) to avoid significant risks to health and safety.

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

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

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

Actions – Toxic Air Contaminants

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

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

Applicable Goals – Construction Air Emissions

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

Applicable Policies – Construction Air Emissions

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

Applicable Actions – Construction Air Emissions

MS-13.4 Adopt and periodically update dust, particulate, and exhaust control standard measures for demolition and grading activities to include on project plans as

conditions of approval based upon construction mitigation measures in the BAAQMD CEQA Guidelines.

Significance Thresholds

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

Table 1. Air Quality Significance Thresholds

Criteria Air Pollutant	**Construction Thresholds**	**Operational Thresholds**	
	Average Daily Emissions (lbs./day)	**Average Daily Emissions (lbs./day)**	**Annual Average Emissions (tons/year)**
ROG	54	54	10
NO_x	54	54	10
PM_{10}	82 (Exhaust)	82	15
$PM_{2.5}$	54 (Exhaust)	54	10
CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
Health Risks and Hazards	**Single Sources Within 1,000-foot Zone of Influence**	**Combined Sources (Cumulative from all sources within 1000-foot zone of influence)**	
Excess Cancer Risk	>10 per one million	>100 per one million	
Hazard Index	>1.0	>10.0	
Incremental annual $PM_{2.5}$	>0.3 µg/m^3	>0.8 µg/m^3	
Greenhouse Gas Emissions			
Land Use Projects – direct and indirect emissions	Compliance with a Qualified GHG Reduction Strategy OR 1,100 metric tons annually or 4.6 metric tons per service population *		

Note: ROG = reactive organic gases, NOx = nitrogen oxides, PM_{10} = course particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, $PM_{2.5}$ = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less. GHG = greenhouse gases.

*BAAQMD does not have a recommended post-2020 GHG threshold.

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), has prepared 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*.[5] 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 impacts. In formulating compliance strategies, BAAQMD relies on planned land uses established by local general plans. Land use planning affects vehicle travel, which in turn affects region-wide emissions of air pollutants and GHGs.

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

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

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

Construction Period Emissions

The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to estimate emissions from on-site construction activity, construction vehicle trips, and evaporative emissions. The project land use types and size were input to CalEEMod as were the construction data initially provided by the applicant (i.e., construction schedule, phases, durations, and equipment). The

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

construction schedule was later modified to a staged approach, one that would construct the general office building after the research and development building and warehouse. This modified schedule would result in approximately the same total emissions but would reduce daily construction emissions. Thus, the initial construction schedule used in the analysis would result in higher (i.e., more conservative) impacts than the staged approach.

The CARB EMission FACtors 2017 (EMFAC2017) model was used to predict emissions from construction traffic, which includes worker travel, vendor trucks and haul trucks.[6] The model output from CalEEMod along with construction inputs are included as *Attachment 2* and EMFAC2017 vehicle emissions modeling outputs are included in *Attachment 3*.

CalEEMod Inputs

Land Uses

The proposed project land uses were input into CalEEMod as follows:

- 21,860 sf entered as "Commercial – Research & Development" on 2-acres,
- 15,000 sf entered as "Commercial – General Office Building,"
- 2,180 sf entered as "Industrial – Unrefrigerated Warehouse-No Rail," and
- 128 spaces and 38,511 sf entered as "Parking – Parking Lot."

Construction Inputs

CalEEMod computes annual emissions from 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 initial construction build-out scenario provided by the applicant, including schedule, phases, durations, equipment list, equipment quantities, average hours of equipment use per day, and work schedule for each phase was for this project was used for the analysis. The construction start date was May 25, 2021. The construction schedule was approximately 10 months, or 224 construction workdays. Construction was estimated to be complete by April 2022, with the first full year of operation for both buildings assumed to be 2023. The revised scenario has the general office building being constructed sometime after the other improvements are constructed.

Construction Truck Traffic Emissions

Construction would produce traffic in the form of worker trips and truck traffic. The traffic-related emissions are based on worker and vendor trip estimates produced by CalEEMod and haul trips that were estimated for soil material exported from the site and 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. The number of concrete and asphalt total round haul trips were estimated using the project plans provided by the applicant to estimate material volumes and an assumed 9 cubic yards (CY)

[6] See CARB's EMFAC2017 Web Database at https://www.arb.ca.gov/emfac/2017/

per cement truck delivery and 10 CY per asphalt material delivery for the project. Concrete/asphalt deliveries were converted to total one-way trips by assuming two trips per delivery. A total of 800 CY of soil is expected to be exported from the site.

The latest version of the CalEEMod model is based on the older version of the CARB EMFAC2014 motor vehicle emission factor model. This model has been superseded by the EMFAC2017 model. However, CalEEMod has not been updated to include EMFAC2017. Therefore, construction traffic information was combined with EMFAC2017 motor vehicle emissions factors to estimate construction site trip emissions. EMFAC2017 provides aggregate emission rates in grams per mile for each vehicle type. The construction traffic vehicle mix for this study was based on CalEEMod default assumptions, where worker trips are assumed to be comprised of light-duty autos (EMFAC category LDA) and light duty trucks (EMFAC category LDT1and LDT2). Vendor trips are comprised of delivery and large trucks (EMFAC category MHDT and HHDT) and haul trips, including cement trucks, are comprised of large trucks (EMFAC category HHDT). Travel distances are based on CalEEMod default lengths, which are 10.8 miles for worker travel, 7.3 miles for vendor trips and 20 miles for hauling. Since CalEEMod does not address cement or asphalt haul trips, these were treated as vendor travel distances. Each trip was assumed to include an idle time of 5 minutes and emissions associated with vehicle starts were also included. EMFAC2017 emission rates from calendar year 2021 for Santa Clara County were used. Table 2 provides the traffic inputs that were combined with the EMFAC2017 emission factors to compute vehicle emissions.

Table 2. Construction Traffic Data Used for EMFAC2017 Model Runs

CalEEMod Run/Land Uses and Construction Phase	Trips by Trip Type			Notes
	Total Worker[1]	Total Vendor[1]	Total Haul[2]	
Vehicle mix[1]	71.5% LDA 6.4% LDT1 22.1% LDT2	38.1% MHDT 61.9% HHDT	100% HHDT	
Trip Length (miles)	10.8	7.3	7.3 (Cement/Asphalt)	5 Minute Truck Idle Time
Demolition	260	-	-	
Site Preparation	320	-	-	
Grading	200	-	100	800 CY Soil Export
Trenching/Foundation	150	-	222	111 Cement Truck Deliveries
Building Construction	1,740	780	-	
Architectural Coating	240	-	-	
Paving	210	-	95	476 CY Asphalt

Notes:
[1] Based on 2021 EMFAC2017 vehicle fleet mix for Santa Clara County.
[2] Hauling trips for soil export and cement provided by the applicant. Asphalt estimated based on plans provided by the applicant.

Summary of Computed Construction Period Emissions

Annual emissions were predicted using CalEEMod and EMFAC2017. Average daily emissions were computed by dividing the total construction emissions by the number of construction days (224 construction workdays). Table 3 shows average daily construction emissions of ROG, NO_X,

PM_{10} exhaust, and $PM_{2.5}$ exhaust estimated during construction of the project. As indicated in Table 3, predicted construction period emissions would not exceed the BAAQMD significance thresholds.

Table 3. Construction Period Emissions - Unmitigated

Scenario	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Total construction emissions (tons)	0.4 tons	0.7 tons	0.03 tons	0.03 tons
Average daily emissions (pounds)[1]	3.6 lbs./day	6.3 lbs./day	0.3 lbs./day	0.3 lbs./day
BAAQMD Thresholds (pounds per day)	*54* lbs./day	*54* lbs./day	*82* lbs./day	*54* lbs./day
Exceed Threshold?	No	No	No	No

Notes: [1]Assumes 224 workdays.

Construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD CEQA Air Quality Guidelines consider these impacts to be less-than-significant if best management practices are implemented to reduce these emissions. *Mitigation Measure AQ-1 would implement BAAQMD-recommended best management practices*.

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

Measures to reduce pollutant emissions from construction are recommended to reduce fugitive dust emissions and ensure that short-term health impacts to nearby sensitive receptors are minimized. During any construction period ground disturbance, the applicant shall ensure that the project contractor implement measures to control dust and exhaust. Implementation of the measures recommended by BAAQMD and listed below would reduce the air quality impacts associated with grading and new construction to a less-than-significant level. The contractor shall implement the following best management practices:

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

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

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

4. All vehicle speeds on unpaved roads shall be limited to 15 mph.

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

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

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

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

Effectiveness of Mitigation Measure AQ-1

Mitigation Measure AQ-1 represents basic mitigation measures that would achieve greater than a 55 percent reduction in on-site fugitive PM_{10} and $PM_{2.5}$ emissions. These measures are consistent with recommendations in the BAAMQD CEQA Guidance for providing "best management practices" to control construction emissions.

Operational Period Emissions

Operational air emissions from the project would be generated primarily from autos driven by future employees and vendors. 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 proposed project assuming full build-out.

<u>CalEEMod Inputs</u>

Land Uses

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

Model Year

Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the

model, the higher the emission rates utilized by CalEEMod. The earliest full year of operation would be 2023 if construction begins at the end of May 2021. Emissions associated with build-out later than 2023 would be lower than those estimated for 2023.

Trip Generation Rates

CalEEMod allows the user to enter specific vehicle trip generation rates. Therefore, the applicable daily Institute of Transportation Engineers (ITE) trip generation rates for R&D (ITE Land Use Code 760), Warehouse (ITE Land Use Code 150), and Office (ITE Land Use Code 710) were provided by the traffic consultant.[7] Saturday and Sunday trip rates were assumed to be the weekday rate adjusted by multiplying the ratio of the CalEEMod default rates for Saturday and Sunday trips to the default weekday rate. The default trip lengths and trip types specified by CalEEMod were used.

EMFAC2017 Adjustment

As previously described, the vehicle emission factors and fleet mix used in CalEEMod are based on EMFAC2014, which is an older CARB emission model for on-road and off-road mobile sources. Since the release of CalEEMod Version 2016.3.2, a new emission model has been produced by CARB. EMFAC2017 became available for use in March 2018 and approved by the EPA in August 2019. It includes the latest data on California's car and truck fleets and travel activity. Additionally, CARB has recently released EMFAC off-model adjustment factors to account for the Safer Affordable Efficient (SAFE) Vehicle Rule Part One.[8,9] The SAFE vehicle Rule Part One revoked California's authority to set its own GHG emission standards and set zero emission vehicle mandates in California. As a result of this ruling, mobile criteria pollutant emissions and GHG emissions (i.e., CO_2) would increase for light-duty vehicles. Therefore, the CalEEMod vehicle emission factors and fleet mix were updated with the emission rates and fleet mix from EMFAC2017, which were adjusted with the CARB EMFAC off-model adjustment factors. On-road emission rates for Santa Clara County, calendar year 2023 were used. More details about the updates in emissions calculation methodologies and data are available in the EMFAC2017 Technical Support documents.[10]

Energy

CalEEMod defaults for energy use were used, which include the 2016 Title 24 Building Standards. GHG emissions modeling includes those indirect emissions from electricity consumption. The electricity produced emission rate was modified in CalEEMod. CalEEMod has a default emission factor of 641.3 pounds of CO_2 per megawatt of electricity produced, which is based on Pacific Gas

[7] Hexagon Transportation Consultants, Inc., *Oakland Road Office Development Draft Transportation Anal*ysis, October 1, 2020.
[8] California Air Resource Board, 2019. *EMFAC Off-Model Adjustment Factors to Account for the SAFE Vehicle Rule Part One.* November. Web: https://ww3.arb.ca.gov/msei/emfac_off_model_adjustment_factors_final_draft.pdf
[9] California Air Resource Board, 2020. *EMFAC Off-Model Adjustment Factors for Carbon Dioxide ($CO_2$0 Emissions to Accounts for the SAFE Vehicles Rule Part One and the Final SAFE Rule*. June. Web: https://ww3.arb.ca.gov/msei/emfac_off_model_co2_adjustment_factors_06262020-final.pdf?utm_medium=email&utm_source=govdelivery
[10] See CARB 2018: https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-modeling-tools-emfac

and Electric's (PG&E) 2008 emissions rate. However, PG&E published in 2019 emissions rates for 2010 through 2017, which showed the emission rate for delivered electricity had been reduced to 210 pounds CO_2 per megawatt of electricity delivered in the year 2017.[11] This intensity factor was used in the model and it was assumed that all powered was supplied by PG&E. However, the project could use electricity supplied by San Jose Clean Energy (SJCE) that will be 100-percent carbon free by 2021 before the project becomes operational.[12]

Other Inputs

Default model assumptions for emissions associated with solid waste generation and water/wastewater use were applied to the project. Water/wastewater use was changed to 100% aerobic conditions to represent wastewater treatment plant conditions.

Existing Uses

A CalEEMod model run was not developed to estimate emissions from the existing land uses as the property is currently vacant. Therefore, existing operational emissions for the parcel would not exist, nor used to offset proposed project conditions .

Summary of Computed Operational Period Emissions

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

Table 4. Operational Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
2023 Project Operational Emissions (*tons/year*)	0.31 tons	0.22 tons	0.28 tons	0.08 tons
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Threshold?	No	No	No	No
2023 Project Operational Emissions (*lbs./day*)[1]	1.7 lbs.	1.2 lbs.	1.6 lbs.	0.4 lbs.
BAAQMD Thresholds (lbs./day)	*54 lbs.*	*54 lbs.*	*82 lbs.*	*54 lbs.*
Exceed Threshold?	No	No	No	No

Notes: [1] Assumes 365-day operation.

[11] PG&E, 2019. *Corporate Responsibility and Sustainability Report*. Web: http://www.pgecorp.com/corp_responsibility/reports/2019/assets/PGE_CRSR_2019.pdf

[12] Kerrie Romanow and Rosalynn Hughey, 2019. *Building reach Code for New Construction Memorandum*. August. Web: https://sanjose.legistar.com/LegislationDetail.aspx?ID=4090015&GUID=278596A7-1A2B-4248-B794-7A34E2279E85

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 during construction and operation with the potential to adversely affect existing sensitive receptors in the project vicinity or by introducing a new sensitive receptor, such as residents, in proximity to an existing source of TACs.

Project construction activity would generate dust and equipment exhaust on a temporary basis that could affect nearby sensitive receptors. A construction community health risk assessment was prepared to address project construction impacts on the surrounding off-site sensitive receptors. Operation of the project is not expected to be a source of TAC or localized air pollutant emissions, as the project would not generate substantial truck traffic (only 365 new net trips[13]) or include stationary sources of emissions, such as generators powered by diesel engines. Emissions from automobile traffic generated by the project would be spread out over a broad geographical area and not localized.

The project is adjacent to the Southern Pacific railroad tracks on the western property edge and Oakland Road on the eastern edge. Oakland Road in the vicinity of the project has an average daily traffic (ADT) volume in excess of 10,000 vehicles and is considered an existing source of TACs, as are the railroad tracks. East Brokaw Road is within 1,000 feet of the project site and has an ADT in excess of 10,000 vehicles. Therefore, it is also considered an existing source of TACs for this analysis. No other stationary sources of TAC emissions are located within 1,000 feet of the project site. Thus, a cumulative risk assessment including these two high-volume roadways and the railroad upon existing nearby sensitive receptors was assessed with the impacts associated with project construction.

Community risk impacts are addressed by predicting increased lifetime cancer risk, the increase in annual $PM_{2.5}$ concentrations, and computing the Hazard Index (HI) for non-cancer health risks. This requires modeling of TAC and $PM_{2.5}$ emissions, dispersion modeling and cancer risk computations. The methodology for computing community risks impacts is contained in *Attachment 1.*

Project Construction Activity

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. Although it was concluded in the previous sections (see Table 3) that construction exhaust air pollutant emissions would not 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 concerns associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. A health risk assessment of the project construction activities was conducted that evaluated potential health effects to nearby sensitive receptors from construction emissions of DPM and $PM_{2.5}$.[14]

[13] Hexagon Transportation Consultants, Inc., *Oakland Road Office Development Draft Transportation Anal*ysis, October 1, 2020.
[14] DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.

Construction Period Emissions

The CalEEMod model provided total annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment and EMFAC2017 was used to estimate exhaust emissions from on-road vehicles. Total DPM emissions from the construction site was estimated to be 0.03 tons (59 pounds). The on-road emissions are a result of haul truck travel during grading activities, worker travel, and vendor deliveries during construction. A trip length of a half mile was used to represent vehicle travel while at or near the construction site. It was assumed emissions from on-road vehicles traveling at or near the site would occur at the construction site. Fugitive $PM_{2.5}$ dust emissions were estimated to be less than 0.0004 tons (0.8 pounds) using the same methods and assumptions used to estimate site DPM emissions.

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict DPM and $PM_{2.5}$ concentrations at sensitive receptors (i.e., residents, school children, elderly) in the vicinity of the project construction area. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling ambient impacts of these types of emission activities for CEQA projects.[15] The modeling utilized two area sources to represent the on-site construction emissions, one for DPM exhaust emissions and one for fugitive dust ($PM_{2.5}$) emissions. To represent construction equipment exhaust, an emission release height of 19.7 feet (6 meters) was used for DPM. The elevated source height reflects the height of the equipment exhaust pipes plus an additional distance for the height of the exhaust plume above the exhaust pipes to account for plume rise of the exhaust gases. For modeling fugitive $PM_{2.5}$ emissions, a near-ground level release height of 6.6 feet (2 meters) was used. Emissions from the construction equipment and on-site vehicle travel were distributed throughout the modeled area sources. Construction emissions were modeled as occurring daily between 7:00 a.m. to 4:00 p.m. when most of the site activity would occur.

The modeling used a five-year data set (2013-2017) of hourly meteorological data from San José Airport that was prepared for use with the AERMOD model by BAAQMD. Annual DPM and $PM_{2.5}$ concentrations from construction activities during the construction period (May 2021 through April 2022) were calculated using the model. DPM and $PM_{2.5}$ concentrations were calculated at nearby sensitive receptors. Receptor heights of 5 feet (1.5 meters) first floor, 14.9 feet (4.5 meters) second floor, and 24.9 feet (7.6 meter) third floor were used to represent the breathing heights at the nearby single-family and multi-family residences, as appropriate. These heights represent the floor height plus the breathing height of the receptor (1.5 meters).

Project Construction Community Risk Impacts

The maximum modeled annual DPM and fugitive $PM_{2.5}$ concentrations were identified at nearby sensitive receptors (as shown in Figure 1) to find the maximally exposed individuals (MEIs). Using the maximum annual modeled DPM concentrations, the maximum increased cancer risks were calculated using BAAQMD recommended methods and exposure parameters described in *Attachment 1*. Non-cancer health hazards and maximum annual $PM_{2.5}$ concentrations were also

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

calculated and identified. *Attachment 4* to this report includes the emission calculations used for the construction area source modeling and the cancer risk calculations.

Results of this assessment indicated that the construction MEI was located on the first floor of a multi-family residence across and adjacent to Oakland Road, southeast of the project site (seen in Figure 1). The unmitigated maximum increased cancer risks and maximum $PM_{2.5}$ concentration from construction do not exceed the BAAQMD single-source thresholds of greater than 10.0 per million for cancer risk and greater than 0.3 $\mu g/m^3$ for annual $PM_{2.5}$ concentration. Additionally, the unmitigated non-cancer hazards (HI) from construction activities would be below the single-source significance threshold of 1.0. Table 5 summarizes the maximum cancer risks, $PM_{2.5}$ concentrations, and health hazard indexes for project related construction activities affecting the off-site residential MEI.

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

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

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Construction	Unmitigated	7.8 (infant)	0.04	<0.01
BAAQMD Single-Source Threshold		***>10.0***	***>0.3***	***>1.0***
Exceed Threshold?	Unmitigated	*No*	*No*	*No*

After the dispersion modeling analysis was conducted, a single-family home was discovered north of the project site (see Figure 1). This receptor may be the actual MEI, given its proximity to the project site. However, the applicant has elected to voluntarily mitigate emissions from construction equipment, reducing DPM impacts to all nearby receptors, including the nearby single-family residence (see Mitigation Measure AQ-2).

The annual DPM and $PM_{2.5}$ concentrations at the Headstart school and special education building at the Santa Clara County Office of Education were evaluated as part of the analysis. The maximum unmitigated cancer risk at the school would be 0.2 in a million, the maximum $PM_{2.5}$ concentration would be less than 0.01 $\mu g/m^3$, and the HI would be less than 0.01. These values are below the BAAQMD single-source thresholds.

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

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

- All diesel-powered off-road equipment, larger than 25 horsepower, operating on the site for more than two days continuously shall, at a minimum, meet the interim U.S. EPA particulate matter emissions standards for Tier 4 engines or equivalent. Equipment that is electrically powered or uses non-diesel fuels would also meet this requirement.

Effectiveness of Mitigation Measure AQ-2

CalEEMod was used to compute emissions assuming that all equipment met interim U.S. EPA Tier 4 engines standards. With the implementation of *Mitigation Measure AQ-2*, the project cancer risk levels and annual $PM_{2.5}$ concentrations would be substantially reduced such that they would not exceed the BAAQMD single-source significance thresholds at the single-family home north of the project site.

Combined Impact of All TAC Sources on the Off-Site Construction MEI

Community health risk assessments typically look at all substantial sources of TACs that can affect sensitive receptors that are located within 1,000 feet of the project site (i.e. influence area). These

sources include railroads, freeways or highways, busy surface streets, and stationary sources identified by BAAQMD. A review of the project area indicates that traffic on Oakland Road and East Brokaw Road exceeds 10,000 ADT. All other roadways within the area are below 10,000 ADT. Additionally, the Southern Pacific railroad tracks are adjacent to the western edge of the project. No other stationary sources of TACs are located within the 1,000-foot influence area according to BAAQMD's stationary source website map. Figure 2 shows the existing TAC sources affecting the project site. Community risk impacts from these sources upon the MEI are reported in Table 6. Details of the modeling and community risk calculations are included in *Attachment 5.*

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

Local Roadways – Oakland Road and East Brokaw Road

The project site and construction MEI are adjacent to Oakland Road and the intersection of Oakland Road with East Brokaw Road is 900 feet to the southeast of the project site, with the construction MEI located approximately 750 feet northwest of the intersection. A refined analysis of the impacts of TACs and $PM_{2.5}$ from these local roadways on the construction MEI is necessary to evaluate potential cancer risks and $PM_{2.5}$ concentrations associated with them. A review of the a.m. and p.m. traffic information provided by the project's traffic consultant[16] indicates that Oakland Road has an estimated weekday traffic volume of almost 18,800 vehicles per day north

[16] Hexagon Transportation Consultants, Inc., Oakland Road Office Development Draft Transportation Analysis, October 1, 2020.

of East Brokaw Road and approximately 17,300 vehicles per day north of McKay Drive. East Brokaw Road has an estimated volume of approximately 33,400 vehicle per day between Ridder Park Drive and Oakland Road. These traffic volume estimates were increased one percent to obtain 2021 traffic volumes. Traffic volume estimates in 2022 were assumed to be the same as 2021 given the project will be complete by early to mid-2022. California Department of Transportation (Caltrans) data for Interstate 880 (I-880) closest to the project site were used to obtain hourly traffic volume distributions and truck percentages. Truck percentages used are 5.7 percent, of which 2.4 percent are considered medium duty trucks and 3.3 percent are diesel heavy duty trucks.

Modeling Local Roadway Emissions

Analysis of the nearby roadways involved developing emissions estimates of DPM, organic TACs (as TOG), and $PM_{2.5}$ emissions for 2021 traffic volume estimates using the Caltrans version of the CARB's EMFAC2017 emissions model, known as CT-EMFAC2017. CT-EMFAC2017 provides emission factors for mobile source criteria pollutants and TACs, including DPM. Emission processes modeled include running exhaust for DPM, $PM_{2.5}$ and total organic compounds (e.g., TOG), running evaporative losses for TOG, and fugitive road dust for $PM_{2.5}$ that includes tire and brake wear emissions. In general, vehicle fleet emissions are projected to decrease in the future as reflected in the CT-EMFAC2017 emissions estimates. Inputs to the emissions model include region (i.e., Santa Clara County), type of road (i.e., major/collector), traffic mix assigned by CT-EMFAC2017 for the county, year of analysis (i.e., 2021), and season (i.e., annual).

The first full year of operations is estimated to be 2023. 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 produced by CT-EMFAC2017. Year 2021 emissions were conservatively assumed as being representative of future conditions over the time period that cancer risks are evaluated (30 years), since, as discussed above, overall vehicle emissions, in particular diesel truck emissions will decrease in the future. Traffic volumes were grown from 2020 estimates to 2021 assuming an increase of one percent per year. Hourly traffic distributions specific for each roadway were obtained by averaging 2019 hourly traffic volumes from I-880 using Caltrans Performance Measurement System (PeMS). PeMS data is collected in real-time from nearly 40,000 individual detectors spanning the freeway system across all major metropolitan areas of California.[17] The fraction of traffic volume each hour was calculated and applied to the traffic estimates for each roadway to obtain hourly traffic emission rates.

For all hours of the day, other than during peak a.m. and p.m. periods, an average speed of 40 mph was assumed for Oakland Road and East Brokaw Road. Traffic speeds during the peak a.m. and p.m. periods were assumed to be 10 miles per hour slower on East Brokaw Road and Oakland Road south of McKay Drive (i.e., 30 mph) and 35 mph for Oakland Road north of McKay Drive. The differences in peak period speeds are attributed to the amount of commercial access along East Brokaw Road and Oakland Road south of McKay Drive.

Hourly emissions rates were developed for DPM, organic TACs, and $PM_{2.5}$ emissions for 2021 traffic along the applicable segments of each roadway within approximately 1,000 feet of the

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

project site. TAC and $PM_{2.5}$ concentrations at the construction MEI location were developed using these emissions rates with an air quality dispersion model (AERMOD). Maximum increased lifetime cancer risks and maximum annual $PM_{2.5}$ concentrations for the receptors were then computed using modeled TAC and $PM_{2.5}$ concentrations and BAAQMD methods and exposure parameters described in *Attachment 1*.

Dispersion Modeling

Dispersion modeling of TAC and $PM_{2.5}$ emissions was conducted using the U.S. EPA AERMOD dispersion model, which is recommended by the BAAQMD for this type of analysis. Roadway traffic within approximately 1,000 feet of the project site was evaluated with the model. Emissions from vehicle traffic were modeled using a series of area sources along a line (line area sources), with segments used to represent travel lanes. The modeling used a five-year data set (2013-2017) of hourly meteorological data from the San José Airport prepared by the BAAQMD for use with the AERMOD model. Other inputs to the model included road geometry and elevations, hourly traffic emissions, and receptor locations and heights. Figure 2 shows the roadway links used for the modeling and receptor locations where concentrations were calculated.

Computed Cancer and Non-Cancer Health Impacts of Local Roadways

The maximum increased cancer risk associated with Oakland Road at the construction MEI would be 7.4 in one million, the maximum $PM_{2.5}$ concentration at the construction MEI receptor would be 0.38 $\mu g/m^3$, and the HI at the construction MEI location would be less than 0.01. Likewise, the maximum increased cancer risk associated with East Brokaw Road at the construction MEI receptor would be 1.2 in one million, the maximum $PM_{2.5}$ concentration at the construction MEI receptor would be 0.03 $\mu g/m^3$, and the HI at the construction MEI location would be less than 0.01. The risk impacts from these roadways on the construction MEI are shown in Table 6. Details of the emission calculations, dispersion modeling and cancer risk calculations for the receptor with the maximum cancer risk from local roadway traffic are provided in *Attachment 5.*

<u>Southern Pacific Railroad</u>

Railroad tracks owned by the Southern Pacific railroad are adjacent to the western edge of the project sit and are a source of TAC to nearby sensitive receptors. Cancer risk and $PM_{2.5}$ concentrations associated with the use of the railroad track by diesel-powered locomotives was estimated using BAAQMD raster files. BAAQMD provided raster files with cancer risk and $PM_{2.5}$ concentrations for rail lines within the Bay Area. The values provided by the raster files were produced using AERMOD and 20x20-meter grid cells. Figure 3 shows the applicable areas of BAAQMD's raster files.

The BAAQMD raster files were used to screen the cancer and $PM_{2.5}$ risks at the project's construction MEI and the screening levels are listed in Table 6. At the construction MEI, the increased cancer risk from the railroad would be 1.9 per million and the $PM_{2.5}$ concentration from rail emissions would be less than 0.01 $\mu g/m^3$. Note that these values are not adjusted for age sensitivity or exposure duration and are conservatively higher than values that would be obtained

with refined modeling methods. Additionally, BAAQMD has found HI values to be minimal, and therefore not provided by their reginal modeling.

Figure 3. Project Site and BAAQMD Rail Line Screening Values

Stationary Sources

Permitted stationary sources of air pollution near the project site are identified using BAAQMD's *Permitted Stationary Sources 2018* GIS website,[18] which provides the location of nearby stationary sources and their estimated risk and hazard impacts, including emissions and adjustments to account for new OEHHA guidance. No stationary sources are within the 1,000-foot influence area of the project site according to website. Therefore, no stationary sources of TACs were included in the analysis.

Combined Community Health Risk at Off-Site Construction MEI

Table 6 reports both the project and cumulative community risk impacts at the construction MEI identified in the analysis. The project does not exceed single-source thresholds and the cumulative

[18] BAAQMD, Permitted Stationary Sources 2018 GIS website
https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65

source impacts would not exceed BAAQMD significance threshold. Cumulative cancer risks are below 100 in a million, annual $PM_{2.5}$ concentration would not exceed 0.8 $\mu g/m^3$, and hazard risk would not exceed their thresholds. No additional mitigation is needed to meet the single source or cumulative source thresholds for this MEI.

Table 6. Impacts from Combined Sources at Off-Site Construction MEI

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Construction Impacts				
Project Construction	Unmitigated	7.8 (infant)	0.04	<0.01
BAAQMD Single-Source Threshold		***>10.0***	***>0.3***	***>1.0***
Exceed Single Source Threshold?	Unmitigated	*No*	*No*	*No*
Cumulative Impacts				
Oakland Road		7.4	0.38	<0.01
E. Brokaw Road		1.2	0.03	<0.01
Southern Pacific Railroad Tracks		1.9	<0.01	NA
Cumulative Total	Unmitigated	18.3	0.46	<0.02
BAAQMD Cumulative Source Threshold		***>100***	***>0.8***	***>10.0***
Exceed Cumulative Source Threshold?	Unmitigated	*No*	*No*	*No*

After the dispersion modeling analysis was conducted, a single-family home was discovered north of the project site (see Figure 1). This receptor may be the actual MEI, given its proximity to the project site. However, the applicant has elected to voluntarily mitigate emissions from construction equipment, reducing DPM impacts to all nearby receptors, including the identified MEI and the likely MEI (i.e., nearby single-family residence). Given Mitigation Measure AQ-2, cumulative cancer risks would be below 100 in a million, annual $PM_{2.5}$ concentration would not exceed 0.8 $\mu g/m^3$, and hazard risk would not exceed its thresholds.

GREENHOUSE GAS EMISSIONS

Setting

Gases that trap heat in the atmosphere, GHGs, regulate the earth's temperature. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate. The most common GHGs are carbon dioxide (CO_2) and water vapor but there are also several others, most importantly methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These are released into the earth's atmosphere through a variety of natural processes and human activities. Sources of GHGs are generally as follows:

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

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

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

Recent Regulatory Actions for GHG Emissions

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

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

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

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

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

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

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

In April 2015, Governor Brown signed EO B-30-15, which extended the goals of AB 32, setting a greenhouse gas emissions target at 40 percent of 1990 levels by 2030. On September 8, 2016, Governor Brown signed Senate Bill (SB) 32, which codified a 2030 GHG emissions reduction target of 40 percent below 1990 levels.

In November 2017, CARB issued *California's 2017 Climate Change Scoping Plan* [19] to reflect the enacted SB 32 reduction target (note that the AB 32 Scoping Plan only addressed 2020 targets and a long-term goal). The 2017 Scoping Plan was published on January 20, 2017 as directed by SB 32 companion legislation AB 197, to reflect the 2030 target set by Executive Order B-30-15 and codified by SB 32. The 2017 Scoping Plan outlines the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure, providing a blueprint to continue driving down GHG emissions and obtain the statewide goals. Key features of this plan are:

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

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

The 2030 target established in the 2017 Scoping Plan is considered critical by CARB on the path to obtaining an even deeper GHG emissions target of 80 percent below 1990 levels by 2050, as directed in Executive Order S-3-05. In the 2017 Scoping Plan, CARB recommends statewide targets of no more than 6 metric tons CO_2e per capita (statewide) by 2030 and no more than 2 metric tons CO_2e per capita by 2050. The statewide per capita targets account for all emissions sectors in the State, statewide population forecasts, and the statewide reductions necessary to achieve the 2030 statewide target under SB 32 and the longer-term State emissions reduction goal of 80 percent below 1990 levels by 2050.

Executive Order B-55-18 – Carbon Neutrality

In 2018, a new statewide goal was established to achieve carbon neutrality as soon as possible, but no later than 2045, and to maintain net negative emissions thereafter. CARB and other relevant state agencies are tasked with establishing sequestration targets and create policies/programs that would meet this goal.

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

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

reduction targets. A similar process is used to reduce transportation emissions of ozone precursor pollutants in the Bay Area.

Senate Bill 350 - Renewable Portfolio Standards

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

Senate Bill 100 – Current Renewable Portfolio Standards

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

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

The California Green Building Standards Code (CALGreen Code) is part of the California Building Standards Code under Title 24, Part 11.[20] The CALGreen Code encourages sustainable construction standards that involve planning/design, energy efficiency, water efficiency resource efficiency, and environmental quality. These green building standard codes are mandatory statewide and are applicable to residential and non-residential developments. The most recent CALGreen Code (2019 California Building Standard Code) was effective as of January 1, 2020.

The California Building Energy Efficiency Standards (California Energy Code) is under Title 24, Part 6 and is overseen by the California Energy Commission (CEC). This code includes design requirements to conserve energy in new residential and non-residential developments, while being cost effective for homeowners. This Energy Code is enforced and verified by cities during the planning and building permit process. The current energy efficiency standards (2019 Energy Code) replaced the 2016 Energy Code as of January 1, 2020. Under the 2019 standards, single-family homes are predicted to be 53 percent more efficient than homes built under the 2016 standard due more stringent energy-efficiency standards and mandatory installation of solar photovoltaic systems. For nonresidential developments, it is predicted that these buildings will use 30 percent less energy due to lightening upgrades.[21]

[20] See: https://www.dgs.ca.gov/BSC/Resources/Page-Content/Building-Standards-Commission-Resources-List-Folder/CALGreen#:~:text=CALGreen%20is%20the%20first%2Din,to%201990%20levels%20by%202020.
[21] See: https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf

Federal and Statewide GHG Emissions

The U.S. EPA reported that in 2018, total gross nationwide GHG emissions were 6,676.6 million metric tons (MMT) carbon dioxide equivalent (CO_2e).[22] These emissions were lower than peak levels of 7,416 MMT that were emitted in 2007. CARB updates the statewide GHG emission inventory on an annual basis where the latest inventory includes 2000 through 2017 emissions.[23] In 2017, GHG emissions from statewide emitting activities were 424 MMT. The 2017 emissions have decreased by 14 percent since peak levels in 2004 and are 7 MMT below the 1990 emissions level and the State's 2020 GHG limit. Per capita GHG emissions in California have dropped from a 2001 peak of 14.1 MT per person to 10.7 MT per person in 2017. The most recent Bay Area emission inventory was computed for the year 2011.[24] The Bay Area GHG emission were 87 MMT. As a point of comparison, statewide emissions were about 444 MMT in 2011.

Climate Smart San José

Climate Smart San José is a plan to reduce air pollution, save water, and create a stronger and healthier community. The City approved goals and milestones in February 2018 to ensure the City can substantially reduce GHG emissions through reaching the following goals and milestones:

- All new residential buildings will be Zero Net Carbon Emissions (ZNE) by 2020 and all new commercial buildings will be ZNE by 2030 (Note that ZNE buildings would be all electric with a carbon-free electricity source).
- San Jose Clean Energy (SJCE) will provide 100-percent carbon-free base power by 2021.
- One gigawatt of solar power will be installed in San Jose by 2040.
- 61 percent of passenger vehicles will be powered by electricity by 2030.

The CEC updates the California Building Energy Efficiency Standards every three years, in alignment with the California Code of regulations. Title 24 Parts 6 and 11 of the California Building Energy Efficiency Standards and the California Green Building Standards Code (CALGreen) address the need for regulations to improve energy efficiency and combat climate change. The 2019 CAL Green standards include substantial changes intended to increase the energy efficiency of buildings. For example, the code encourages the installation of solar and heat pump water heaters in low-rise residential buildings. The 2019 California Code went before City Council in October 2019 for approval, with an effective date of January 1, 2020. As part of this action, the City adopted a "reach code" that requires development projects to exceed the minimum Building Energy Efficiency requirements.[25] The City's reach code applies only to new residential

[22] United States Environmental Protection Agency, 2020. *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2018*. April. Web: https://www.epa.gov/sites/production/files/2020-04/documents/us-ghg-inventory-2020-main-text.pdf

[23] CARB. 2019. *2019 Edition, California Greenhouse Gas Emission Inventory: 2000 – 2017*. Web: https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2017/ghg_inventory_trends_00-17.pdf

[24] BAAQMD. 2015. *Bay Area Emissions Inventory Summary Report: Greenhouse Gases Base Year 2011*. January. Web: http://www.baaqmd.gov/~/media/files/planning-and-research/emission-inventory/by2011_ghgsummary.pdf accessed Nov. 26, 2019.

[25] City of San Jose Transportation and Environmental Committee, *Building Reach Code for New Construction Memorandum,* August 2019.

and non-residential construction in San José. It incentivizes all-electric construction, requires increased energy efficiency and electrification-readiness for those choosing to maintain the presence of natural gas. The code requires that non-residential construction include solar readiness. It also requires additional EV charging readiness and/or electric vehicle service equipment (EVSE) installation for all development types.

BAAQMD Significance Thresholds

For quantified emissions, the BAAQMD's CEQA Air Quality Guidelines recommended a GHG threshold of 1,100 metric tons or 4.6 metric tons (MT) per capita. These thresholds were developed based on meeting the 2020 GHG targets set in the scoping plan that addressed AB 32. Development of the project would occur beyond 2020, so a threshold that addresses a future target is appropriate. Although BAAQMD has not published a quantified threshold for 2030 yet, this assessment uses a "Substantial Progress" efficiency metric of 2.6 MT CO_2e/year/service population and a bright-line threshold of 660 MT CO_2e/year based on the GHG reduction goals of EO B-30-15. The service population metric of 2.6 is calculated for 2030 based on the 1990 inventory and the projected 2030 statewide population and employment levels.[26] The 2030 bright-line threshold is a 40 percent reduction of the 2020 1,100 MT CO_2e/year threshold.

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

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

CalEEMod Modeling

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

Service Population Emissions

The project service population efficiency rate is based on the number of future full-time employees. The number of future employees was estimated by the applicant to be approximately 82 (37 in Building A and 45 in Building B).[27]

[26] Association of Environmental Professionals, 2016. *Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California*. April.
[27] Email Correspondence from Kirk S. McKim to Robert Hencken and Mike Campbell. Subject: *MDE-OOL – Old Oakland Rd – Noise*; October 6, 2020.

Construction Emissions

GHG emissions associated with construction were computed to be 113 MT of CO_2e for the 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 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 7, the net annual emissions resulting from operation of the proposed project are predicted to be 339 MT of CO_{2e} in 2030 (373 MT of CO_2e in 2023). The service population emission for 2030 is predicted to be 4.1 MT/CO_{2e}/year/service population (4.5 in 2023).

To be considered an exceedance, the project must exceed both the GHG significance threshold in metric tons per year and the service population significance threshold. As shown in Table 7, the project would not exceed the 660 MT CO_2e/year bright-line threshold in 2030 but would exceed the per capita threshold of 2.6 MT of CO_2e/year/service population in 2030. As a result, the project is not considered to be a significant source of GHG emissions.

Table 7. Annual Project GHG Emissions (CO_2e) in Metric Tons

Source Category	Proposed Project
	2030
Area	0
Energy Consumption	90
Mobile	224
Solid Waste Generation	9
Water Usage	16
Total Net Emissions (MT CO_2e/yr)	339
Bright-Line Significance Threshold	***660 MT CO_2e/year***
Service Population Emissions (MT CO2e/year/service population)	**4.1**
Per Capita Significance Threshold	***2.6 MT of CO2e/year/service population***
Exceed both thresholds?	*NO*

It is noted the impact of new development on GHG emissions was addressed in the *Envisions San José 2040 General Plan* Draft Program EIR. The City of San José concluded that the build-out of the 2040 General Plan would have significant and unavoidable GHG emissions beyond 2020.[28]

[28] City of San Jose, 2011. "3.15.6 Mitigation and Avoidance Measures for Greenhouse Gas Emission Impacts", *Draft Program Environmental Impact Report for the Envisions San José 2040 General Plan*. June. Web: https://www.sanjoseca.gov/home/showdocument?id=22041

Therefore, this project would not contribute or result in a new GHG impact that has not already been identified.

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

The proposed project would not conflict or otherwise interfere with the statewide GHG reduction measures identified in CARB's Scoping Plan. For example, proposed buildings would be constructed in conformance with CALGreen and the Title 24 Building Code, which requires high-efficiency water fixtures and water-efficient irrigation systems. The project would also be subject to local policies that may affect GHG emissions.

Supporting Documentation

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

Attachment 2 includes the CalEEMod modeling assumptions and output for project construction and operational criteria air pollutant and GHG emissions. The operational outputs for 2030 uses are also included in this attachment.

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

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

Attachment 1: Health Risk Calculation Methodology

A health risk assessment (HRA) for exposure to Toxic Air Contaminates (TACs) requires the application of a risk characterization model to the results from the air dispersion model to estimate potential health risk at each sensitive receptor location. The State of California Office of Environmental Health Hazard Assessment (OEHHA) and California Air Resources Board (CARB) develop recommended methods for conducting health risk assessments. The most recent OEHHA risk assessment guidelines were published in February of 2015.[29] 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.[30] 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.[31] Exposure parameters from the OEHHA guidelines and the recent BAAQMD HRA Guidelines were used in this evaluation.

Cancer Risk

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

The current OEHHA guidance recommends that cancer risk be calculated by age groups to account for different breathing rates and sensitivity to TACs. Specifically, they recommend evaluating risks for the third trimester of pregnancy to age zero, ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), and ages 16 to 70 (adult exposure). Age sensitivity factors (ASFs) associated with the different types of exposure are an ASF of 10 for the third trimester and infant exposures, an ASF of 3 for a child exposure, and an ASF of 1 for an adult exposure. Also associated with each exposure type are different breathing rates, expressed as liters per kilogram of body weight per day (L/kg-day) or liters per kilogram of body weight per 8-hour period for the case of worker or school child exposures. As recommended by the BAAQMD for residential exposures, 95th percentile breathing rates are used for the third trimester and infant exposures, and 80th percentile breathing rates for child and adult exposures. For children at schools and daycare facilities, BAAQMD recommends using the 95th percentile 8-hour breathing rates. Additionally, CARB and the BAAQMD recommend the use of a residential exposure duration of 30 years for sources with long-term emissions (e.g., roadways). For workers, assumed to be adults,

[29] 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.
[30] CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.
[31] BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

a 25-year exposure period is recommended by the BAAQMD. For school children a 9-year exposure period is recommended by the BAAQMD.

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

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

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

Where:

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

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

Where:

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

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

Non-Cancer Hazards

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

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

Annual $PM_{2.5}$ Concentrations

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

Attachment 2: CalEEMod Modeling Output

Old Oakland Road Comercial-Industrial Devel

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	15.00	1000sqft	0.00	15,000.00	0
Unrefrigerated Warehouse-No Rail	2.18	1000sqft	0.00	2,180.00	0
Research & Development	21.86	1000sqft	2.00	21,860.00	0
Parking Lot	128.00	Space	0.00	38,511.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	210	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on 2017 PG&E Report

Land Use - Based on construction data sheet and plan sheets

Construction Phase - Based on Construction Data Sheet

Off-road Equipment - Per Construction Data Sheet

Off-road Equipment - Per Construction Data Sheet

Off-road Equipment - Per Construction Data Sheet

Off-road Equipment - Per Construction Data Sheet

Off-road Equipment - Per Construction Data Sheet

Off-road Equipment - Per Construction Data Sheet

Off-road Equipment - Per Construction Data Sheet

Grading - Per Construction data sheet

Trips and VMT - 111 RT for concrete based on 1,000 CY and 9 CY per delivery per construction data sheet. Asphalt based on 475 CY measured from plans (not what was provided)

Architectural Coating - Parking area estimated at 38511

Vehicle Trips - Per Table 1 Project Trip Gen Rates (OaklandRdOfficeTripGen_NEW.pdf)

Vehicle Emission Factors - 2023 EFs from EMFAC2017

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating - Estimated from plans provided

Energy Use -

Water And Wastewater - Assume WWTP, city services

Construction Off-road Equipment Mitigation - Assume T4 Interim and basic BAAQMD dust controls

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tblVehicleEF	LDA	55.12	52.02
tblVehicleEF	LDA	0.04	0.03
tblVehicleEF	LDA	0.06	0.18
tblVehicleEF	LDA	1.6260e-003	1.3560e-003
tblVehicleEF	LDA	2.2310e-003	1.7440e-003
tblVehicleEF	LDA	1.4980e-003	1.2490e-003
tblVehicleEF	LDA	2.0520e-003	1.6040e-003
tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	0.09	0.09
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	8.4470e-003	7.4590e-003
tblVehicleEF	LDA	0.04	0.20
tblVehicleEF	LDA	0.06	0.21
tblVehicleEF	LDA	2.3450e-003	9.3000e-005
tblVehicleEF	LDA	5.6900e-004	0.00
tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	0.09	0.09
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	0.01	0.01
tblVehicleEF	LDA	0.04	0.20
tblVehicleEF	LDA	0.07	0.23
tblVehicleEF	LDT1	7.8390e-003	4.1630e-003
tblVehicleEF	LDT1	0.01	0.06
tblVehicleEF	LDT1	1.00	0.95
tblVehicleEF	LDT1	2.29	2.35
tblVehicleEF	LDT1	292.52	292.91
tblVehicleEF	LDT1	68.20	62.87

tblVehicleEF	LDT1	0.10	0.08
tblVehicleEF	LDT1	0.13	0.23
tblVehicleEF	LDT1	2.1830e-003	1.7660e-003
tblVehicleEF	LDT1	2.9190e-003	2.2440e-003
tblVehicleEF	LDT1	2.0100e-003	1.6250e-003
tblVehicleEF	LDT1	2.6840e-003	2.0630e-003
tblVehicleEF	LDT1	0.08	0.08
tblVehicleEF	LDT1	0.21	0.16
tblVehicleEF	LDT1	0.06	0.07
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.15	0.58
tblVehicleEF	LDT1	0.15	0.31
tblVehicleEF	LDT1	2.9360e-003	2.6160e-003
tblVehicleEF	LDT1	7.2200e-004	0.00
tblVehicleEF	LDT1	0.08	0.08
tblVehicleEF	LDT1	0.21	0.16
tblVehicleEF	LDT1	0.06	0.07
tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	0.15	0.58
tblVehicleEF	LDT1	0.16	0.34
tblVehicleEF	LDT2	4.9930e-003	3.2450e-003
tblVehicleEF	LDT2	6.4640e-003	0.07
tblVehicleEF	LDT2	0.68	0.79
tblVehicleEF	LDT2	1.42	2.79
tblVehicleEF	LDT2	332.30	316.76
tblVehicleEF	LDT2	77.35	68.58
tblVehicleEF	LDT2	0.07	0.07
tblVehicleEF	LDT2	0.11	0.27
tblVehicleEF	LDT2	1.6420e-003	1.3890e-003
tblVehicleEF	LDT2	2.2820e-003	1.7450e-003

tblVehicleEF	LDT2	1.5110e-003	1.2790e-003
tblVehicleEF	LDT2	2.0990e-003	1.6050e-003
tblVehicleEF	LDT2	0.04	0.06
tblVehicleEF	LDT2	0.10	0.12
tblVehicleEF	LDT2	0.04	0.06
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.07	0.42
tblVehicleEF	LDT2	0.09	0.31
tblVehicleEF	LDT2	3.3280e-003	0.01
tblVehicleEF	LDT2	7.9700e-004	9.3000e-005
tblVehicleEF	LDT2	0.04	0.06
tblVehicleEF	LDT2	0.10	0.12
tblVehicleEF	LDT2	0.04	0.06
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.07	0.42
tblVehicleEF	LDT2	0.10	0.34
tblVehicleEF	LHD1	5.3570e-003	5.1620e-003
tblVehicleEF	LHD1	0.02	8.5450e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.19
tblVehicleEF	LHD1	1.02	0.77
tblVehicleEF	LHD1	2.58	1.08
tblVehicleEF	LHD1	8.98	8.94
tblVehicleEF	LHD1	687.79	794.16
tblVehicleEF	LHD1	32.26	11.83
tblVehicleEF	LHD1	0.07	0.06
tblVehicleEF	LHD1	1.10	0.73
tblVehicleEF	LHD1	0.99	0.32
tblVehicleEF	LHD1	8.6000e-004	8.2500e-004
tblVehicleEF	LHD1	0.01	9.7470e-003

tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	9.5500e-004	2.5800e-004
tblVehicleEF	LHD1	8.2300e-004	7.9000e-004
tblVehicleEF	LHD1	2.5220e-003	2.4370e-003
tblVehicleEF	LHD1	0.01	9.7200e-003
tblVehicleEF	LHD1	8.7800e-004	2.3700e-004
tblVehicleEF	LHD1	2.6370e-003	2.0240e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.3460e-003	1.0320e-003
tblVehicleEF	LHD1	0.12	0.09
tblVehicleEF	LHD1	0.32	0.52
tblVehicleEF	LHD1	0.26	0.08
tblVehicleEF	LHD1	9.0000e-005	8.7000e-005
tblVehicleEF	LHD1	6.7510e-003	7.7550e-003
tblVehicleEF	LHD1	3.7100e-004	1.1700e-004
tblVehicleEF	LHD1	2.6370e-003	2.0240e-003
tblVehicleEF	LHD1	0.10	0.08
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.3460e-003	1.0320e-003
tblVehicleEF	LHD1	0.15	0.11
tblVehicleEF	LHD1	0.32	0.52
tblVehicleEF	LHD1	0.29	0.08
tblVehicleEF	LHD2	3.3720e-003	3.1550e-003
tblVehicleEF	LHD2	7.5730e-003	7.0600e-003
tblVehicleEF	LHD2	6.7190e-003	8.4310e-003
tblVehicleEF	LHD2	0.12	0.14
tblVehicleEF	LHD2	0.55	0.62
tblVehicleEF	LHD2	1.16	0.63
tblVehicleEF	LHD2	13.98	14.00

tblVehicleEF	LHD2	705.76	768.73
tblVehicleEF	LHD2	24.06	7.83
tblVehicleEF	LHD2	0.10	0.10
tblVehicleEF	LHD2	0.69	0.88
tblVehicleEF	LHD2	0.44	0.18
tblVehicleEF	LHD2	1.2420e-003	1.4230e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	4.1600e-004	1.3300e-004
tblVehicleEF	LHD2	1.1880e-003	1.3610e-003
tblVehicleEF	LHD2	2.6910e-003	2.6880e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.8300e-004	1.2300e-004
tblVehicleEF	LHD2	8.1500e-004	1.0700e-003
tblVehicleEF	LHD2	0.03	0.04
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	4.3700e-004	5.4700e-004
tblVehicleEF	LHD2	0.10	0.11
tblVehicleEF	LHD2	0.07	0.28
tblVehicleEF	LHD2	0.09	0.04
tblVehicleEF	LHD2	1.3600e-004	1.3400e-004
tblVehicleEF	LHD2	6.8630e-003	7.4240e-003
tblVehicleEF	LHD2	2.6100e-004	7.8000e-005
tblVehicleEF	LHD2	8.1500e-004	1.0700e-003
tblVehicleEF	LHD2	0.03	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	4.3700e-004	5.4700e-004
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.07	0.28
tblVehicleEF	LHD2	0.10	0.05

tblVehicleEF	MCY	0.45	0.33
tblVehicleEF	MCY	0.16	0.26
tblVehicleEF	MCY	18.74	18.87
tblVehicleEF	MCY	10.18	9.03
tblVehicleEF	MCY	169.68	210.17
tblVehicleEF	MCY	45.14	61.04
tblVehicleEF	MCY	1.15	1.15
tblVehicleEF	MCY	0.32	0.27
tblVehicleEF	MCY	2.0080e-003	1.9690e-003
tblVehicleEF	MCY	3.7340e-003	3.0390e-003
tblVehicleEF	MCY	1.8770e-003	1.8400e-003
tblVehicleEF	MCY	3.5160e-003	2.8590e-003
tblVehicleEF	MCY	0.90	1.81
tblVehicleEF	MCY	0.70	0.69
tblVehicleEF	MCY	0.49	0.99
tblVehicleEF	MCY	2.20	2.21
tblVehicleEF	MCY	0.60	1.97
tblVehicleEF	MCY	2.20	1.94
tblVehicleEF	MCY	2.0680e-003	2.0800e-003
tblVehicleEF	MCY	6.8300e-004	6.0400e-004
tblVehicleEF	MCY	0.90	1.81
tblVehicleEF	MCY	0.70	0.69
tblVehicleEF	MCY	0.49	0.99
tblVehicleEF	MCY	2.73	2.74
tblVehicleEF	MCY	0.60	1.97
tblVehicleEF	MCY	2.39	2.11
tblVehicleEF	MDV	9.4310e-003	3.9100e-003
tblVehicleEF	MDV	0.02	0.08
tblVehicleEF	MDV	1.06	0.87
tblVehicleEF	MDV	2.68	3.13

tblVehicleEF	MDV	444.47	383.41
tblVehicleEF	MDV	101.69	82.02
tblVehicleEF	MDV	0.13	0.08
tblVehicleEF	MDV	0.23	0.32
tblVehicleEF	MDV	1.8000e-003	1.5110e-003
tblVehicleEF	MDV	2.4830e-003	1.9090e-003
tblVehicleEF	MDV	1.6590e-003	1.3930e-003
tblVehicleEF	MDV	2.2840e-003	1.7560e-003
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	0.16	0.14
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.11	0.44
tblVehicleEF	MDV	0.20	0.38
tblVehicleEF	MDV	4.4500e-003	3.7430e-003
tblVehicleEF	MDV	1.0640e-003	8.0200e-004
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	0.16	0.14
tblVehicleEF	MDV	0.06	0.07
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.11	0.44
tblVehicleEF	MDV	0.22	0.42
tblVehicleEF	MH	0.03	0.01
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.96	1.11
tblVehicleEF	MH	5.58	2.13
tblVehicleEF	MH	1,212.08	1,532.75
tblVehicleEF	MH	58.85	18.68
tblVehicleEF	MH	1.29	1.36
tblVehicleEF	MH	0.81	0.25

tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.1290e-003	2.7400e-004
tblVehicleEF	MH	3.2190e-003	3.2750e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.0380e-003	2.5200e-004
tblVehicleEF	MH	0.81	0.71
tblVehicleEF	MH	0.07	0.06
tblVehicleEF	MH	0.28	0.25
tblVehicleEF	MH	0.09	0.07
tblVehicleEF	MH	0.02	1.44
tblVehicleEF	MH	0.32	0.10
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	6.8600e-004	1.8500e-004
tblVehicleEF	MH	0.81	0.71
tblVehicleEF	MH	0.07	0.06
tblVehicleEF	MH	0.28	0.25
tblVehicleEF	MH	0.12	0.09
tblVehicleEF	MH	0.02	1.44
tblVehicleEF	MH	0.35	0.11
tblVehicleEF	MHD	0.02	3.5450e-003
tblVehicleEF	MHD	4.5180e-003	1.9320e-003
tblVehicleEF	MHD	0.05	9.4870e-003
tblVehicleEF	MHD	0.38	0.39
tblVehicleEF	MHD	0.36	0.26
tblVehicleEF	MHD	5.92	1.14
tblVehicleEF	MHD	132.71	73.35
tblVehicleEF	MHD	1,189.79	1,095.06
tblVehicleEF	MHD	61.47	9.38
tblVehicleEF	MHD	0.36	0.43

tblVehicleEF	MHD	1.11	1.44
tblVehicleEF	MHD	10.17	1.70
tblVehicleEF	MHD	1.2300e-004	4.2700e-004
tblVehicleEF	MHD	3.1090e-003	6.9550e-003
tblVehicleEF	MHD	9.0500e-004	1.1900e-004
tblVehicleEF	MHD	1.1800e-004	4.0900e-004
tblVehicleEF	MHD	2.9680e-003	6.6480e-003
tblVehicleEF	MHD	8.3200e-004	1.1000e-004
tblVehicleEF	MHD	8.9400e-004	4.1700e-004
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	4.6300e-004	2.1100e-004
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.02	0.11
tblVehicleEF	MHD	0.35	0.05
tblVehicleEF	MHD	1.2790e-003	6.9600e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	7.1800e-004	9.3000e-005
tblVehicleEF	MHD	8.9400e-004	4.1700e-004
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	4.6300e-004	2.1100e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.02	0.11
tblVehicleEF	MHD	0.38	0.06
tblVehicleEF	OBUS	0.01	7.0630e-003
tblVehicleEF	OBUS	6.3660e-003	4.0130e-003
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.24	0.57
tblVehicleEF	OBUS	0.44	0.47

tblVehicleEF	OBUS	5.01	1.90
tblVehicleEF	OBUS	99.56	91.93
tblVehicleEF	OBUS	1,293.67	1,341.74
tblVehicleEF	OBUS	66.88	15.48
tblVehicleEF	OBUS	0.21	0.37
tblVehicleEF	OBUS	0.88	1.44
tblVehicleEF	OBUS	2.72	1.09
tblVehicleEF	OBUS	1.9000e-005	1.2000e-004
tblVehicleEF	OBUS	2.6550e-003	7.0290e-003
tblVehicleEF	OBUS	8.0900e-004	1.4200e-004
tblVehicleEF	OBUS	1.8000e-005	1.1500e-004
tblVehicleEF	OBUS	2.5210e-003	6.7120e-003
tblVehicleEF	OBUS	7.4400e-004	1.3000e-004
tblVehicleEF	OBUS	1.1720e-003	1.0840e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	5.1500e-004	4.8000e-004
tblVehicleEF	OBUS	0.04	0.03
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.31	0.09
tblVehicleEF	OBUS	9.6200e-004	8.7300e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.5700e-004	1.5300e-004
tblVehicleEF	OBUS	1.1720e-003	1.0840e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	5.1500e-004	4.8000e-004
tblVehicleEF	OBUS	0.05	0.03
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.34	0.10

tblVehicleEF	SBUS	0.83	0.05
tblVehicleEF	SBUS	0.02	6.3560e-003
tblVehicleEF	SBUS	0.08	4.7830e-003
tblVehicleEF	SBUS	8.17	2.18
tblVehicleEF	SBUS	1.05	0.52
tblVehicleEF	SBUS	9.75	0.70
tblVehicleEF	SBUS	1,109.35	347.39
tblVehicleEF	SBUS	1,051.90	1,060.99
tblVehicleEF	SBUS	56.07	3.98
tblVehicleEF	SBUS	8.47	3.53
tblVehicleEF	SBUS	3.71	4.87
tblVehicleEF	SBUS	12.10	0.81
tblVehicleEF	SBUS	8.0590e-003	3.9050e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	9.0100e-004	4.6000e-005
tblVehicleEF	SBUS	7.7100e-003	3.7360e-003
tblVehicleEF	SBUS	2.6280e-003	2.7270e-003
tblVehicleEF	SBUS	0.02	0.03
tblVehicleEF	SBUS	8.2900e-004	4.2000e-005
tblVehicleEF	SBUS	3.4510e-003	5.3700e-004
tblVehicleEF	SBUS	0.04	5.2210e-003
tblVehicleEF	SBUS	0.97	0.24
tblVehicleEF	SBUS	1.4880e-003	2.2700e-004
tblVehicleEF	SBUS	0.11	0.09
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	0.48	0.03
tblVehicleEF	SBUS	0.01	3.3060e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	7.2900e-004	3.9000e-005

tblVehicleEF	SBUS	3.4510e-003	5.3700e-004
tblVehicleEF	SBUS	0.04	5.2210e-003
tblVehicleEF	SBUS	1.40	0.35
tblVehicleEF	SBUS	1.4880e-003	2.2700e-004
tblVehicleEF	SBUS	0.14	0.10
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	0.53	0.03
tblVehicleEF	UBUS	0.27	1.35
tblVehicleEF	UBUS	0.04	1.4170e-003
tblVehicleEF	UBUS	4.81	10.12
tblVehicleEF	UBUS	7.98	0.14
tblVehicleEF	UBUS	2,067.88	1,597.13
tblVehicleEF	UBUS	103.85	1.39
tblVehicleEF	UBUS	9.47	0.73
tblVehicleEF	UBUS	14.57	0.01
tblVehicleEF	UBUS	0.59	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.21	5.3280e-003
tblVehicleEF	UBUS	1.1460e-003	1.5000e-005
tblVehicleEF	UBUS	0.25	0.03
tblVehicleEF	UBUS	3.0000e-003	8.3320e-003
tblVehicleEF	UBUS	0.20	5.0960e-003
tblVehicleEF	UBUS	1.0540e-003	1.4000e-005
tblVehicleEF	UBUS	2.2820e-003	1.9000e-005
tblVehicleEF	UBUS	0.04	1.3300e-004
tblVehicleEF	UBUS	1.1230e-003	8.0000e-006
tblVehicleEF	UBUS	0.58	0.02
tblVehicleEF	UBUS	8.3050e-003	5.9200e-004
tblVehicleEF	UBUS	0.58	5.8830e-003
tblVehicleEF	UBUS	0.02	0.01

tblVehicleEF	UBUS	1.1810e-003	1.4000e-005
tblVehicleEF	UBUS	2.2820e-003	1.9000e-005
tblVehicleEF	UBUS	0.04	1.3300e-004
tblVehicleEF	UBUS	1.1230e-003	8.0000e-006
tblVehicleEF	UBUS	0.90	1.38
tblVehicleEF	UBUS	8.3050e-003	5.9200e-004
tblVehicleEF	UBUS	0.63	6.4410e-003
tblVehicleTrips	ST_TR	2.46	2.17
tblVehicleTrips	ST_TR	1.90	2.64
tblVehicleTrips	ST_TR	1.68	1.74
tblVehicleTrips	SU_TR	1.05	0.93
tblVehicleTrips	SU_TR	1.11	1.54
tblVehicleTrips	SU_TR	1.68	1.74
tblVehicleTrips	WD_TR	11.03	9.74
tblVehicleTrips	WD_TR	8.11	11.26
tblVehicleTrips	WD_TR	1.68	1.74
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction

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					
2021	0.0533	0.5508	0.4245	8.1000e-004	2.7000e-003	0.0245	0.0272	2.9000e-004	0.0227	0.0230	0.0000	70.3780	70.3780	0.0219	0.0000	70.9248
2022	0.3479	0.1030	0.1198	2.0000e-004	0.0000	4.6700e-003	4.6700e-003	0.0000	4.3400e-003	4.3400e-003	0.0000	17.1382	17.1382	5.2600e-003	0.0000	17.2698
Maximum	**0.3479**	**0.5508**	**0.4245**	**8.1000e-004**	**2.7000e-003**	**0.0245**	**0.0272**	**2.9000e-004**	**0.0227**	**0.0230**	**0.0000**	**70.3780**	**70.3780**	**0.0219**	**0.0000**	**70.9248**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0140	0.3094	0.5263	8.1000e-004	1.2100e-003	2.3700e-003	3.5800e-003	1.3000e-004	2.3700e-003	2.5000e-003	0.0000	70.3779	70.3779	0.0219	0.0000	70.9247
2022	0.3410	0.0866	0.1372	2.0000e-004	0.0000	1.2700e-003	1.2700e-003	0.0000	1.2700e-003	1.2700e-003	0.0000	17.1382	17.1382	5.2600e-003	0.0000	17.2698
Maximum	**0.3410**	**0.3094**	**0.5263**	**8.1000e-004**	**1.2100e-003**	**2.3700e-003**	**3.5800e-003**	**1.3000e-004**	**2.3700e-003**	**2.5000e-003**	**0.0000**	**70.3779**	**70.3779**	**0.0219**	**0.0000**	**70.9247**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**11.54**	**39.44**	**-21.88**	**0.00**	**55.19**	**87.51**	**84.76**	**55.17**	**86.52**	**86.19**	**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	5-25-2021	8-24-2021	0.3223	0.1594
2	8-25-2021	11-24-2021	0.1609	0.1035

3	**11-25-2021**	**2-24-2022**	0.4003	0.3270
4	**2-25-2022**	**5-24-2022**	0.1662	0.1573
		Highest	0.4003	0.3270

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	0.1889	1.0000e-005	1.5300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.9800e-003	2.9800e-003	1.0000e-005	0.0000	3.1800e-003
Energy	4.4700e-003	0.0407	0.0342	2.4000e-004		3.0900e-003	3.0900e-003		3.0900e-003	3.0900e-003	0.0000	88.9725	88.9725	7.0200e-003	2.0900e-003	89.7705
Mobile	0.1129	0.1809	0.9273	2.6400e-003	0.2786	2.1300e-003	0.2807	0.0745	1.9900e-003	0.0765	0.0000	257.8079	257.8079	0.0113	0.0000	258.0908
Waste						0.0000	0.0000		0.0000	0.0000	3.5848	0.0000	3.5848	0.2119	0.0000	8.8812
Water						0.0000	0.0000		0.0000	0.0000	4.9244	7.7187	12.6431	0.0180	0.0109	16.3505
Total	**0.3063**	**0.2216**	**0.9630**	**2.8800e-003**	**0.2786**	**5.2300e-003**	**0.2838**	**0.0745**	**5.0900e-003**	**0.0796**	**8.5092**	**354.5021**	**363.0113**	**0.2482**	**0.0130**	**373.0962**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1889	1.0000e-005	1.5300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.9800e-003	2.9800e-003	1.0000e-005	0.0000	3.1800e-003
Energy	4.4700e-003	0.0407	0.0342	2.4000e-004		3.0900e-003	3.0900e-003		3.0900e-003	3.0900e-003	0.0000	88.9725	88.9725	7.0200e-003	2.0900e-003	89.7705
Mobile	0.1129	0.1809	0.9273	2.6400e-003	0.2786	2.1300e-003	0.2807	0.0745	1.9900e-003	0.0765	0.0000	257.8079	257.8079	0.0113	0.0000	258.0908

Waste						0.0000	0.0000		0.0000	0.0000	3.5848	0.0000	3.5848	0.2119	0.0000	8.8812
Water						0.0000	0.0000		0.0000	0.0000	4.9244	7.7187	12.6431	0.0180	0.0109	16.3505
Total	**0.3063**	**0.2216**	**0.9630**	**2.8800e-003**	**0.2786**	**5.2300e-003**	**0.2838**	**0.0745**	**5.0900e-003**	**0.0796**	**8.5092**	**354.5021**	**363.0113**	**0.2482**	**0.0130**	**373.0962**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/25/2021	6/21/2021	5	20	
2	Site Preparation	Site Preparation	6/22/2021	8/16/2021	5	40	
3	Grading	Grading	6/25/2021	7/22/2021	5	20	
4	Trenching/Foundation	Trenching	9/14/2021	10/25/2021	5	30	
5	Building Construction	Building Construction	10/26/2021	1/17/2022	5	60	
6	Architectural Coating	Architectural Coating	1/18/2022	3/14/2022	5	40	
7	Paving	Paving	3/15/2022	4/1/2022	5	14	

Acres of Grading (Site Preparation Phase): 3

Acres of Grading (Grading Phase): 2

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 58,560; Non-Residential Outdoor: 19,520; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	0.00	81	0.73
Demolition	Excavators	1	8.00	158	0.38

Demolition	Rubber Tired Dozers	0	0.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	0	0.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	0	0.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	1	4.00	89	0.20
Building Construction	Generator Sets	0	0.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Aerial Lifts	1	8.00	63	0.31
Architectural Coating	Air Compressors	0	0.00	78	0.48
Trenching/Foundation	Excavators	1	8.00	158	0.38
Trenching/Foundation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	2	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	4	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	7.30	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/Foundation	2	0.00	0.00	0.00	10.80	7.30	7.30	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 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.1600e-003	0.0405	0.0553	8.0000e-005		2.1600e-003	2.1600e-003		1.9900e-003	1.9900e-003	0.0000	7.2674	7.2674	2.3500e-003	0.0000	7.3262
Total	**4.1600e-003**	**0.0405**	**0.0553**	**8.0000e-005**		**2.1600e-003**	**2.1600e-003**		**1.9900e-003**	**1.9900e-003**	**0.0000**	**7.2674**	**7.2674**	**2.3500e-003**	**0.0000**	**7.3262**

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	1.3300e-003	0.0363	0.0626	8.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	7.2674	7.2674	2.3500e-003	0.0000	7.3261
Total	**1.3300e-003**	**0.0363**	**0.0626**	**8.0000e-005**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**	**0.0000**	**7.2674**	**7.2674**	**2.3500e-003**	**0.0000**	**7.3261**

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 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5900e-003	0.0000	1.5900e-003	1.7000e-004	0.0000	1.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0128	0.1564	0.0806	1.9000e-004		5.9900e-003	5.9900e-003		5.5100e-003	5.5100e-003	0.0000	17.1020	17.1020	5.5300e-003	0.0000	17.2402
Total	**0.0128**	**0.1564**	**0.0806**	**1.9000e-004**	**1.5900e-003**	**5.9900e-003**	**7.5800e-003**	**1.7000e-004**	**5.5100e-003**	**5.6800e-003**	**0.0000**	**17.1020**	**17.1020**	**5.5300e-003**	**0.0000**	**17.2402**

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					
Fugitive Dust					7.2000e-004	0.0000	7.2000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.5600e-003	0.0620	0.1172	1.9000e-004		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	17.1019	17.1019	5.5300e-003	0.0000	17.2402
Total	**3.5600e-003**	**0.0620**	**0.1172**	**1.9000e-004**	**7.2000e-004**	**3.2000e-004**	**1.0400e-003**	**8.0000e-005**	**3.2000e-004**	**4.0000e-004**	**0.0000**	**17.1019**	**17.1019**	**5.5300e-003**	**0.0000**	**17.2402**

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 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.1100e-003	0.0000	1.1100e-003	1.2000e-004	0.0000	1.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	8.6900e-003	0.0997	0.0730	1.5000e-004		4.0400e-003	4.0400e-003		3.7200e-003	3.7200e-003	0.0000	13.0887	13.0887	4.2300e-003	0.0000	13.1945
Total	**8.6900e-003**	**0.0997**	**0.0730**	**1.5000e-004**	**1.1100e-003**	**4.0400e-003**	**5.1500e-003**	**1.2000e-004**	**3.7200e-003**	**3.8400e-003**	**0.0000**	**13.0887**	**13.0887**	**4.2300e-003**	**0.0000**	**13.1945**

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					
Fugitive Dust					5.0000e-004	0.0000	5.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4100e-003	0.0538	0.0978	1.5000e-004		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	13.0886	13.0886	4.2300e-003	0.0000	13.1945
Total	**2.4100e-003**	**0.0538**	**0.0978**	**1.5000e-004**	**5.0000e-004**	**2.4000e-004**	**7.4000e-004**	**5.0000e-005**	**2.4000e-004**	**2.9000e-004**	**0.0000**	**13.0886**	**13.0886**	**4.2300e-003**	**0.0000**	**13.1945**

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/Foundation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.2500e-003	0.0607	0.0830	1.2000e-004		3.2400e-003	3.2400e-003		2.9800e-003	2.9800e-003	0.0000	10.9011	10.9011	3.5300e-003	0.0000	10.9892
Total	**6.2500e-003**	**0.0607**	**0.0830**	**1.2000e-004**		**3.2400e-003**	**3.2400e-003**		**2.9800e-003**	**2.9800e-003**	**0.0000**	**10.9011**	**10.9011**	**3.5300e-003**	**0.0000**	**10.9892**

Unmitigated Construction Off-Site

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

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0000e-003	0.0545	0.0939	1.2000e-004		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	10.9011	10.9011	3.5300e-003	0.0000	10.9892
Total	**2.0000e-003**	**0.0545**	**0.0939**	**1.2000e-004**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**	**0.0000**	**10.9011**	**10.9011**	**3.5300e-003**	**0.0000**	**10.9892**

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 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0214	0.1934	0.1327	2.6000e-004		9.0300e-003	9.0300e-003		8.4600e-003	8.4600e-003	0.0000	22.0189	22.0189	6.2300e-003	0.0000	22.1747
Total	**0.0214**	**0.1934**	**0.1327**	**2.6000e-004**		**9.0300e-003**	**9.0300e-003**		**8.4600e-003**	**8.4600e-003**	**0.0000**	**22.0189**	**22.0189**	**6.2300e-003**	**0.0000**	**22.1747**

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	4.6700e-003	0.1029	0.1549	2.6000e-004		1.4700e-003	1.4700e-003		1.4700e-003	1.4700e-003	0.0000	22.0189	22.0189	6.2300e-003	0.0000	22.1747
Total	**4.6700e-003**	**0.1029**	**0.1549**	**2.6000e-004**		**1.4700e-003**	**1.4700e-003**		**1.4700e-003**	**1.4700e-003**	**0.0000**	**22.0189**	**22.0189**	**6.2300e-003**	**0.0000**	**22.1747**

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 - 2022

Unmitigated Construction On-Site

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

Category	tons/yr										MT/yr					
Off-Road	4.3400e-003	0.0386	0.0291	6.0000e-005		1.7500e-003	1.7500e-003		1.6400e-003	1.6400e-003	0.0000	4.9443	4.9443	1.3900e-003	0.0000	4.9790
Total	**4.3400e-003**	**0.0386**	**0.0291**	**6.0000e-005**		**1.7500e-003**	**1.7500e-003**		**1.6400e-003**	**1.6400e-003**	**0.0000**	**4.9443**	**4.9443**	**1.3900e-003**	**0.0000**	**4.9790**

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	1.0500e-003	0.0231	0.0348	6.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004	0.0000	4.9443	4.9443	1.3900e-003	0.0000	4.9790
Total	**1.0500e-003**	**0.0231**	**0.0348**	**6.0000e-005**		**3.3000e-004**	**3.3000e-004**		**3.3000e-004**	**3.3000e-004**	**0.0000**	**4.9443**	**4.9443**	**1.3900e-003**	**0.0000**	**4.9790**

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 - 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					
Archit. Coating	0.3374					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.2000e-004	0.0112	0.0219	3.0000e-005		2.1000e-004	2.1000e-004		1.9000e-004	1.9000e-004	0.0000	2.9505	2.9505	9.5000e-004	0.0000	2.9744
Total	**0.3382**	**0.0112**	**0.0219**	**3.0000e-005**		**2.1000e-004**	**2.1000e-004**		**1.9000e-004**	**1.9000e-004**	**0.0000**	**2.9505**	**2.9505**	**9.5000e-004**	**0.0000**	**2.9744**

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3374					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.3000e-004	0.0189	0.0255	3.0000e-005		7.7000e-004	7.7000e-004		7.7000e-004	7.7000e-004	0.0000	2.9505	2.9505	9.5000e-004	0.0000	2.9744
Total	**0.3383**	**0.0189**	**0.0255**	**3.0000e-005**		**7.7000e-004**	**7.7000e-004**		**7.7000e-004**	**7.7000e-004**	**0.0000**	**2.9505**	**2.9505**	**9.5000e-004**	**0.0000**	**2.9744**

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 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.4200e-003	0.0532	0.0689	1.1000e-004		2.7200e-003	2.7200e-003		2.5100e-003	2.5100e-003	0.0000	9.2434	9.2434	2.9200e-003	0.0000	9.3164
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.4200e-003**	**0.0532**	**0.0689**	**1.1000e-004**		**2.7200e-003**	**2.7200e-003**		**2.5100e-003**	**2.5100e-003**	**0.0000**	**9.2434**	**9.2434**	**2.9200e-003**	**0.0000**	**9.3164**

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	1.6600e-003	0.0446	0.0769	1.1000e-004		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	9.2434	9.2434	2.9200e-003	0.0000	9.3164
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.6600e-003**	**0.0446**	**0.0769**	**1.1000e-004**		**1.7000e-004**	**1.7000e-004**		**1.7000e-004**	**1.7000e-004**	**0.0000**	**9.2434**	**9.2434**	**2.9200e-003**	**0.0000**	**9.3164**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
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	0.1129	0.1809	0.9273	2.6400e-003	0.2786	2.1300e-003	0.2807	0.0745	1.9900e-003	0.0765	0.0000	257.8079	257.8079	0.0113	0.0000	258.0908
Unmitigated	0.1129	0.1809	0.9273	2.6400e-003	0.2786	2.1300e-003	0.2807	0.0745	1.9900e-003	0.0765	0.0000	257.8079	257.8079	0.0113	0.0000	258.0908

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	146.10	32.55	13.95	265,263	265,263
Parking Lot	0.00	0.00	0.00		
Research & Development	246.14	57.71	33.66	473,356	473,356
Unrefrigerated Warehouse-No Rail	3.79	3.79	3.79	11,074	11,074
Total	396.04	94.05	51.41	749,693	749,693

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3
Unrefrigerated Warehouse-No Rail	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.590598	0.052780	0.178080	0.107080	0.021013	0.005252	0.013411	0.022089	0.001622	0.001261	0.005132	0.000923	0.000759

Parking Lot	0.590598	0.052780	0.178080	0.107080	0.021013	0.005252	0.013411	0.022089	0.001622	0.001261	0.005132	0.000923	0.000759
Research & Development	0.590598	0.052780	0.178080	0.107080	0.021013	0.005252	0.013411	0.022089	0.001622	0.001261	0.005132	0.000923	0.000759
Unrefrigerated Warehouse-No Rail	0.590598	0.052780	0.178080	0.107080	0.021013	0.005252	0.013411	0.022089	0.001622	0.001261	0.005132	0.000923	0.000759

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	44.6922	44.6922	6.1700e-003	1.2800e-003	45.2270
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	44.6922	44.6922	6.1700e-003	1.2800e-003	45.2270
NaturalGas Mitigated	4.4700e-003	0.0407	0.0342	2.4000e-004		3.0900e-003	3.0900e-003		3.0900e-003	3.0900e-003	0.0000	44.2803	44.2803	8.5000e-004	8.1000e-004	44.5434
NaturalGas Unmitigated	4.4700e-003	0.0407	0.0342	2.4000e-004		3.0900e-003	3.0900e-003		3.0900e-003	3.0900e-003	0.0000	44.2803	44.2803	8.5000e-004	8.1000e-004	44.5434

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					
General Office Building	245550	1.3200e-003	0.0120	0.0101	7.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004	0.0000	13.1035	13.1035	2.5000e-004	2.4000e-004	13.1814

Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	576667	3.1100e-003	0.0283	0.0238	1.7000e-004		2.1500e-003	2.1500e-003		2.1500e-003	2.1500e-003	0.0000	30.7731	30.7731	5.9000e-004	5.6000e-004	30.9560
Unrefrigerated Warehouse-No Rail	7564.6	4.0000e-005	3.7000e-004	3.1000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.4037	0.4037	1.0000e-005	1.0000e-005	0.4061
Total		**4.4700e-003**	**0.0407**	**0.0342**	**2.4000e-004**		**3.0900e-003**	**3.0900e-003**		**3.0900e-003**	**3.0900e-003**	**0.0000**	**44.2803**	**44.2803**	**8.5000e-004**	**8.1000e-004**	**44.5434**

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					
General Office Building	245550	1.3200e-003	0.0120	0.0101	7.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004	0.0000	13.1035	13.1035	2.5000e-004	2.4000e-004	13.1814
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	576667	3.1100e-003	0.0283	0.0238	1.7000e-004		2.1500e-003	2.1500e-003		2.1500e-003	2.1500e-003	0.0000	30.7731	30.7731	5.9000e-004	5.6000e-004	30.9560
Unrefrigerated Warehouse-No Rail	7564.6	4.0000e-005	3.7000e-004	3.1000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.4037	0.4037	1.0000e-005	1.0000e-005	0.4061
Total		**4.4700e-003**	**0.0407**	**0.0342**	**2.4000e-004**		**3.0900e-003**	**3.0900e-003**		**3.0900e-003**	**3.0900e-003**	**0.0000**	**44.2803**	**44.2803**	**8.5000e-004**	**8.1000e-004**	**44.5434**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	267450	25.4758	3.5200e-003	7.3000e-004	25.7807
Parking Lot	13478.8	1.2839	1.8000e-004	4.0000e-005	1.2993

Research & Development	180564	17.1995	2.3800e-003	4.9000e-004	17.4053
Unrefrigerated Warehouse-No Rail	7695.4	0.7330	1.0000e-004	2.0000e-005	0.7418
Total		**44.6922**	**6.1800e-003**	**1.2800e-003**	**45.2270**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	267450	25.4758	3.5200e-003	7.3000e-004	25.7807
Parking Lot	13478.8	1.2839	1.8000e-004	4.0000e-005	1.2993
Research & Development	180564	17.1995	2.3800e-003	4.9000e-004	17.4053
Unrefrigerated Warehouse-No Rail	7695.4	0.7330	1.0000e-004	2.0000e-005	0.7418
Total		**44.6922**	**6.1800e-003**	**1.2800e-003**	**45.2270**

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	0.1889	1.0000e-005	1.5300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.9800e-003	2.9800e-003	1.0000e-005	0.0000	3.1800e-003
Unmitigated	0.1889	1.0000e-005	1.5300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.9800e-003	2.9800e-003	1.0000e-005	0.0000	3.1800e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0337					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1550					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.4000e-004	1.0000e-005	1.5300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.9800e-003	2.9800e-003	1.0000e-005	0.0000	3.1800e-003
Total	**0.1888**	**1.0000e-005**	**1.5300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**2.9800e-003**	**2.9800e-003**	**1.0000e-005**	**0.0000**	**3.1800e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0337					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1550					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.4000e-004	1.0000e-005	1.5300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.9800e-003	2.9800e-003	1.0000e-005	0.0000	3.1800e-003
Total	**0.1888**	**1.0000e-005**	**1.5300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**2.9800e-003**	**2.9800e-003**	**1.0000e-005**	**0.0000**	**3.1800e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	12.6431	0.0180	0.0109	16.3505
Unmitigated	12.6431	0.0180	0.0109	16.3505

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	2.66601 / 1.634	2.8621	3.5100e-003	2.1100e-003	3.5775
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	10.7484 / 0	9.3428	0.0139	8.4300e-003	12.2007
Unrefrigerated Warehouse-No Rail	0.504125 / 0	0.4382	6.5000e-004	4.0000e-004	0.5722
Total		**12.6431**	**0.0180**	**0.0109**	**16.3505**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	2.66601 / 1.634	2.8621	3.5100e-003	2.1100e-003	3.5775
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	10.7484 / 0	9.3428	0.0139	8.4300e-003	12.2007
Unrefrigerated Warehouse-No Rail	0.504125 / 0	0.4382	6.5000e-004	4.0000e-004	0.5722
Total		**12.6431**	**0.0180**	**0.0109**	**16.3505**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.5848	0.2119	0.0000	8.8812
Unmitigated	3.5848	0.2119	0.0000	8.8812

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	13.95	2.8317	0.1674	0.0000	7.0155
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Research & Development	1.66	0.3370	0.0199	0.0000	0.8348
Unrefrigerated Warehouse-No Rail	2.05	0.4161	0.0246	0.0000	1.0310
Total		**3.5848**	**0.2119**	**0.0000**	**8.8813**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	13.95	2.8317	0.1674	0.0000	7.0155
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Research & Development	1.66	0.3370	0.0199	0.0000	0.8348
Unrefrigerated Warehouse-No Rail	2.05	0.4161	0.0246	0.0000	1.0310
Total		**3.5848**	**0.2119**	**0.0000**	**8.8813**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Old Oakland Road Comercial-Industrial Devel - Santa Clara County, Annual

Old Oakland Road Comercial-Industrial Devel

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	15.00	1000sqft	0.00	15,000.00	0
Unrefrigerated Warehouse-No Rail	2.18	1000sqft	0.00	2,180.00	0
Research & Development	21.86	1000sqft	2.00	21,860.00	0
Parking Lot	128.00	Space	0.00	38,511.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	210	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on 2017 PG&E Report

Land Use - Based on construction data sheet and plan sheets

Construction Phase - Based on Construction Data Sheet

Off-road Equipment - Per Construction Data Sheet

Off-road Equipment - Per Construction Data Sheet

Off-road Equipment - Per Construction Data Sheet

Off-road Equipment - Per Construction Data Sheet

Off-road Equipment - Per Construction Data Sheet

Off-road Equipment - Per Construction Data Sheet

Off-road Equipment - Per Construction Data Sheet

Grading - Per Construction data sheet

Trips and VMT - 111 RT for concrete based on 1,000 CY and 9 CY per delivery per construction data sheet. Asphalt based on 475 CY measured from plans (not what was provided)

Architectural Coating - Parking area estimated at 38511

Vehicle Trips - Per Table 1 Project Trip Gen Rates (OaklandRdOfficeTripGen_NEW.pdf)

Vehicle Emission Factors - 2030 EFs from EMFAC2017

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating - Estimated from plans provided

Energy Use -

Water And Wastewater - Assume WWTP, city services

Construction Off-road Equipment Mitigation - Assume T4 Interim and basic BAAQMD dust controls

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	2,311.00	0.00
tblAreaCoating	Area_Parking	2311	38511
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

tblConstructionPhase	NumDays	10.00	40.00
tblConstructionPhase	NumDays	200.00	60.00
tblConstructionPhase	NumDays	4.00	20.00
tblConstructionPhase	NumDays	10.00	14.00
tblConstructionPhase	NumDays	2.00	40.00
tblFleetMix	HHD	0.02	0.02
tblFleetMix	HHD	0.02	0.02
tblFleetMix	HHD	0.02	0.02
tblFleetMix	HHD	0.02	0.02
tblFleetMix	LDA	0.62	0.60
tblFleetMix	LDA	0.62	0.60
tblFleetMix	LDA	0.62	0.60
tblFleetMix	LDA	0.62	0.60
tblFleetMix	LDT1	0.03	0.05
tblFleetMix	LDT1	0.03	0.05
tblFleetMix	LDT1	0.03	0.05
tblFleetMix	LDT1	0.03	0.05
tblFleetMix	LDT2	0.18	0.17
tblFleetMix	LDT2	0.18	0.17
tblFleetMix	LDT2	0.18	0.17
tblFleetMix	LDT2	0.18	0.17
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD2	5.0600e-003	5.5563e-003
tblFleetMix	LHD2	5.0600e-003	5.5563e-003
tblFleetMix	LHD2	5.0600e-003	5.5563e-003
tblFleetMix	LHD2	5.0600e-003	5.5563e-003
tblFleetMix	MCY	5.1220e-003	4.7803e-003

tblFleetMix	MCY	5.1220e-003	4.7803e-003
tblFleetMix	MCY	5.1220e-003	4.7803e-003
tblFleetMix	MCY	5.1220e-003	4.7803e-003
tblFleetMix	MDV	0.10	0.11
tblFleetMix	MDV	0.10	0.11
tblFleetMix	MDV	0.10	0.11
tblFleetMix	MDV	0.10	0.11
tblFleetMix	MH	6.5100e-004	7.2763e-004
tblFleetMix	MH	6.5100e-004	7.2763e-004
tblFleetMix	MH	6.5100e-004	7.2763e-004
tblFleetMix	MH	6.5100e-004	7.2763e-004
tblFleetMix	MHD	0.01	0.01
tblFleetMix	MHD	0.01	0.01
tblFleetMix	MHD	0.01	0.01
tblFleetMix	MHD	0.01	0.01
tblFleetMix	OBUS	2.2210e-003	1.4429e-003
tblFleetMix	OBUS	2.2210e-003	1.4429e-003
tblFleetMix	OBUS	2.2210e-003	1.4429e-003
tblFleetMix	OBUS	2.2210e-003	1.4429e-003
tblFleetMix	SBUS	6.4600e-004	9.0041e-004
tblFleetMix	SBUS	6.4600e-004	9.0041e-004
tblFleetMix	SBUS	6.4600e-004	9.0041e-004
tblFleetMix	SBUS	6.4600e-004	9.0041e-004
tblFleetMix	UBUS	1.4700e-003	1.1782e-003
tblFleetMix	UBUS	1.4700e-003	1.1782e-003
tblFleetMix	UBUS	1.4700e-003	1.1782e-003
tblFleetMix	UBUS	1.4700e-003	1.1782e-003
tblLandUse	LandUseSquareFeet	51,200.00	38,511.00
tblLandUse	LotAcreage	0.34	0.00
tblLandUse	LotAcreage	0.05	0.00

tblLandUse	LotAcreage	0.50	2.00
tblLandUse	LotAcreage	1.15	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	6.00	4.00

tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	210
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	VendorTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	29.00	0.00
tblTripsAndVMT	WorkerTripNumber	6.00	0.00
tblVehicleEF	HHD	0.27	0.02
tblVehicleEF	HHD	0.06	0.05
tblVehicleEF	HHD	0.06	0.00
tblVehicleEF	HHD	1.43	6.28
tblVehicleEF	HHD	0.94	0.41
tblVehicleEF	HHD	4.01	6.6850e-003
tblVehicleEF	HHD	4,037.05	930.05
tblVehicleEF	HHD	1,498.85	1,226.35
tblVehicleEF	HHD	12.27	0.05
tblVehicleEF	HHD	12.16	5.20
tblVehicleEF	HHD	1.59	2.52
tblVehicleEF	HHD	19.20	2.31
tblVehicleEF	HHD	3.6830e-003	2.1460e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	5.6600e-003	0.02
tblVehicleEF	HHD	1.3500e-004	1.0000e-006
tblVehicleEF	HHD	3.5230e-003	2.0530e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8550e-003	8.9050e-003
tblVehicleEF	HHD	5.4140e-003	0.02
tblVehicleEF	HHD	1.2400e-004	1.0000e-006

tblVehicleEF	HHD	1.0100e-004	1.0000e-006
tblVehicleEF	HHD	4.6010e-003	5.8000e-005
tblVehicleEF	HHD	0.37	0.42
tblVehicleEF	HHD	6.4000e-005	1.0000e-006
tblVehicleEF	HHD	0.08	0.02
tblVehicleEF	HHD	4.1900e-004	2.8400e-004
tblVehicleEF	HHD	0.07	2.0000e-006
tblVehicleEF	HHD	0.04	8.6530e-003
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	1.8800e-004	1.0000e-006
tblVehicleEF	HHD	1.0100e-004	1.0000e-006
tblVehicleEF	HHD	4.6010e-003	5.8000e-005
tblVehicleEF	HHD	0.43	0.49
tblVehicleEF	HHD	6.4000e-005	1.0000e-006
tblVehicleEF	HHD	0.15	0.07
tblVehicleEF	HHD	4.1900e-004	2.8400e-004
tblVehicleEF	HHD	0.08	2.0000e-006
tblVehicleEF	LDA	1.8990e-003	9.5900e-004
tblVehicleEF	LDA	2.1050e-003	0.03
tblVehicleEF	LDA	0.33	0.41
tblVehicleEF	LDA	0.63	1.72
tblVehicleEF	LDA	181.37	213.89
tblVehicleEF	LDA	42.51	45.13
tblVehicleEF	LDA	0.03	0.02
tblVehicleEF	LDA	0.03	0.13
tblVehicleEF	LDA	1.1470e-003	9.2900e-004
tblVehicleEF	LDA	1.8260e-003	1.2750e-003
tblVehicleEF	LDA	1.0560e-003	8.5500e-004
tblVehicleEF	LDA	1.6790e-003	1.1720e-003
tblVehicleEF	LDA	0.02	0.02

tblVehicleEF	LDA	0.06	0.06
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	4.7560e-003	3.2470e-003
tblVehicleEF	LDA	0.03	0.17
tblVehicleEF	LDA	0.03	0.12
tblVehicleEF	LDA	1.8150e-003	9.0000e-005
tblVehicleEF	LDA	4.3500e-004	0.00
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.06	0.06
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	6.9190e-003	4.7160e-003
tblVehicleEF	LDA	0.03	0.17
tblVehicleEF	LDA	0.03	0.13
tblVehicleEF	LDT1	3.6800e-003	1.6710e-003
tblVehicleEF	LDT1	4.5270e-003	0.04
tblVehicleEF	LDT1	0.55	0.54
tblVehicleEF	LDT1	1.12	1.85
tblVehicleEF	LDT1	233.07	258.41
tblVehicleEF	LDT1	54.62	55.17
tblVehicleEF	LDT1	0.05	0.03
tblVehicleEF	LDT1	0.06	0.15
tblVehicleEF	LDT1	1.4520e-003	1.0700e-003
tblVehicleEF	LDT1	2.1870e-003	1.4610e-003
tblVehicleEF	LDT1	1.3350e-003	9.8400e-004
tblVehicleEF	LDT1	2.0110e-003	1.3440e-003
tblVehicleEF	LDT1	0.05	0.05
tblVehicleEF	LDT1	0.12	0.09
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	9.1170e-003	6.5000e-003
tblVehicleEF	LDT1	0.09	0.36

tblVehicleEF	LDT1	0.06	0.15
tblVehicleEF	LDT1	2.3350e-003	2.5670e-003
tblVehicleEF	LDT1	5.6500e-004	0.00
tblVehicleEF	LDT1	0.05	0.05
tblVehicleEF	LDT1	0.12	0.09
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.01	9.4830e-003
tblVehicleEF	LDT1	0.09	0.36
tblVehicleEF	LDT1	0.07	0.17
tblVehicleEF	LDT2	2.9960e-003	1.7260e-003
tblVehicleEF	LDT2	3.1970e-003	0.04
tblVehicleEF	LDT2	0.49	0.56
tblVehicleEF	LDT2	0.89	2.29
tblVehicleEF	LDT2	264.16	267.33
tblVehicleEF	LDT2	61.38	57.57
tblVehicleEF	LDT2	0.04	0.03
tblVehicleEF	LDT2	0.05	0.17
tblVehicleEF	LDT2	1.3060e-003	1.0250e-003
tblVehicleEF	LDT2	2.0190e-003	1.3400e-003
tblVehicleEF	LDT2	1.2010e-003	9.4400e-004
tblVehicleEF	LDT2	1.8570e-003	1.2320e-003
tblVehicleEF	LDT2	0.03	0.05
tblVehicleEF	LDT2	0.07	0.09
tblVehicleEF	LDT2	0.03	0.05
tblVehicleEF	LDT2	7.4390e-003	6.5530e-003
tblVehicleEF	LDT2	0.06	0.34
tblVehicleEF	LDT2	0.04	0.18
tblVehicleEF	LDT2	2.6450e-003	9.4800e-003
tblVehicleEF	LDT2	6.2800e-004	8.5000e-005
tblVehicleEF	LDT2	0.03	0.05

tblVehicleEF	LDT2	0.07	0.09
tblVehicleEF	LDT2	0.03	0.05
tblVehicleEF	LDT2	0.01	9.5240e-003
tblVehicleEF	LDT2	0.06	0.34
tblVehicleEF	LDT2	0.05	0.20
tblVehicleEF	LHD1	3.9820e-003	4.1480e-003
tblVehicleEF	LHD1	8.6490e-003	5.1950e-003
tblVehicleEF	LHD1	0.01	9.0230e-003
tblVehicleEF	LHD1	0.14	0.18
tblVehicleEF	LHD1	0.61	0.47
tblVehicleEF	LHD1	1.67	0.89
tblVehicleEF	LHD1	8.93	8.25
tblVehicleEF	LHD1	641.43	698.55
tblVehicleEF	LHD1	26.94	10.09
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.53	0.30
tblVehicleEF	LHD1	0.67	0.23
tblVehicleEF	LHD1	7.8900e-004	9.1500e-004
tblVehicleEF	LHD1	0.01	9.9010e-003
tblVehicleEF	LHD1	0.01	7.0190e-003
tblVehicleEF	LHD1	6.6500e-004	2.1000e-004
tblVehicleEF	LHD1	7.5500e-004	8.7500e-004
tblVehicleEF	LHD1	2.6030e-003	2.4750e-003
tblVehicleEF	LHD1	9.7020e-003	6.6710e-003
tblVehicleEF	LHD1	6.1100e-004	1.9300e-004
tblVehicleEF	LHD1	1.8620e-003	1.4030e-003
tblVehicleEF	LHD1	0.08	0.05
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	1.0210e-003	7.7200e-004
tblVehicleEF	LHD1	0.10	0.07

tblVehicleEF	LHD1	0.26	0.43
tblVehicleEF	LHD1	0.15	0.04
tblVehicleEF	LHD1	8.9000e-005	8.0000e-005
tblVehicleEF	LHD1	6.2670e-003	6.8120e-003
tblVehicleEF	LHD1	3.0000e-004	1.0000e-004
tblVehicleEF	LHD1	1.8620e-003	1.4030e-003
tblVehicleEF	LHD1	0.08	0.05
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.0210e-003	7.7200e-004
tblVehicleEF	LHD1	0.11	0.09
tblVehicleEF	LHD1	0.26	0.43
tblVehicleEF	LHD1	0.16	0.05
tblVehicleEF	LHD2	2.5430e-003	2.5050e-003
tblVehicleEF	LHD2	5.3180e-003	5.3390e-003
tblVehicleEF	LHD2	3.2330e-003	4.8110e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.45	0.49
tblVehicleEF	LHD2	0.88	0.48
tblVehicleEF	LHD2	13.62	13.00
tblVehicleEF	LHD2	675.95	679.81
tblVehicleEF	LHD2	21.83	6.44
tblVehicleEF	LHD2	0.07	0.07
tblVehicleEF	LHD2	0.22	0.38
tblVehicleEF	LHD2	0.26	0.12
tblVehicleEF	LHD2	1.0460e-003	1.5020e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	9.3120e-003	0.01
tblVehicleEF	LHD2	3.7400e-004	1.0600e-004
tblVehicleEF	LHD2	1.0000e-003	1.4370e-003
tblVehicleEF	LHD2	2.7080e-003	2.7110e-003

tblVehicleEF	LHD2	8.8860e-003	0.01
tblVehicleEF	LHD2	3.4400e-004	9.8000e-005
tblVehicleEF	LHD2	5.1500e-004	6.4200e-004
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.0800e-004	3.7400e-004
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.04	0.14
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	1.3300e-004	1.2400e-004
tblVehicleEF	LHD2	6.5670e-003	6.5570e-003
tblVehicleEF	LHD2	2.3300e-004	6.4000e-005
tblVehicleEF	LHD2	5.1500e-004	6.4200e-004
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	3.0800e-004	3.7400e-004
tblVehicleEF	LHD2	0.11	0.11
tblVehicleEF	LHD2	0.04	0.14
tblVehicleEF	LHD2	0.05	0.02
tblVehicleEF	MCY	0.46	0.32
tblVehicleEF	MCY	0.16	0.25
tblVehicleEF	MCY	17.52	17.61
tblVehicleEF	MCY	10.34	9.20
tblVehicleEF	MCY	171.38	209.76
tblVehicleEF	MCY	42.85	59.23
tblVehicleEF	MCY	1.14	1.14
tblVehicleEF	MCY	0.32	0.27
tblVehicleEF	MCY	2.1570e-003	2.1380e-003
tblVehicleEF	MCY	3.3210e-003	2.8620e-003
tblVehicleEF	MCY	2.0120e-003	1.9940e-003

tblVehicleEF	MCY	3.1070e-003	2.6760e-003
tblVehicleEF	MCY	0.88	1.79
tblVehicleEF	MCY	0.61	0.63
tblVehicleEF	MCY	0.46	0.95
tblVehicleEF	MCY	2.12	2.13
tblVehicleEF	MCY	0.46	1.49
tblVehicleEF	MCY	2.11	1.88
tblVehicleEF	MCY	2.0640e-003	2.0760e-003
tblVehicleEF	MCY	6.5900e-004	5.8600e-004
tblVehicleEF	MCY	0.88	1.79
tblVehicleEF	MCY	0.61	0.63
tblVehicleEF	MCY	0.46	0.95
tblVehicleEF	MCY	2.66	2.67
tblVehicleEF	MCY	0.46	1.49
tblVehicleEF	MCY	2.30	2.04
tblVehicleEF	MDV	5.1180e-003	1.7720e-003
tblVehicleEF	MDV	7.2260e-003	0.04
tblVehicleEF	MDV	0.68	0.55
tblVehicleEF	MDV	1.51	2.32
tblVehicleEF	MDV	358.67	322.27
tblVehicleEF	MDV	82.28	67.92
tblVehicleEF	MDV	0.07	0.04
tblVehicleEF	MDV	0.11	0.18
tblVehicleEF	MDV	1.3880e-003	1.0340e-003
tblVehicleEF	MDV	2.0820e-003	1.3440e-003
tblVehicleEF	MDV	1.2780e-003	9.5400e-004
tblVehicleEF	MDV	1.9150e-003	1.2360e-003
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.13	0.10
tblVehicleEF	MDV	0.05	0.06

tblVehicleEF	MDV	0.01	6.8870e-003
tblVehicleEF	MDV	0.09	0.34
tblVehicleEF	MDV	0.10	0.20
tblVehicleEF	MDV	3.5870e-003	2.9760e-003
tblVehicleEF	MDV	8.4800e-004	6.2800e-004
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.13	0.10
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.02	9.9830e-003
tblVehicleEF	MDV	0.09	0.34
tblVehicleEF	MDV	0.11	0.22
tblVehicleEF	MH	8.2310e-003	5.0270e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.45	0.31
tblVehicleEF	MH	3.72	1.64
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tblVehicleEF	MH	56.79	15.54
tblVehicleEF	MH	0.84	1.06
tblVehicleEF	MH	0.62	0.24
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	8.8300e-004	2.1200e-004
tblVehicleEF	MH	3.2210e-003	3.2970e-003
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	8.1200e-004	1.9500e-004
tblVehicleEF	MH	0.46	0.35
tblVehicleEF	MH	0.04	0.03
tblVehicleEF	MH	0.18	0.14
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	0.01	0.54

tblVehicleEF	MH	0.22	0.07
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.3200e-004	1.5400e-004
tblVehicleEF	MH	0.46	0.35
tblVehicleEF	MH	0.04	0.03
tblVehicleEF	MH	0.18	0.14
tblVehicleEF	MH	0.05	0.05
tblVehicleEF	MH	0.01	0.54
tblVehicleEF	MH	0.24	0.08
tblVehicleEF	MHD	0.02	3.8320e-003
tblVehicleEF	MHD	2.7470e-003	1.0340e-003
tblVehicleEF	MHD	0.03	8.3830e-003
tblVehicleEF	MHD	0.37	0.41
tblVehicleEF	MHD	0.25	0.15
tblVehicleEF	MHD	3.74	0.87
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tblVehicleEF	MHD	1,167.79	993.45
tblVehicleEF	MHD	59.45	8.55
tblVehicleEF	MHD	0.34	0.34
tblVehicleEF	MHD	1.04	1.43
tblVehicleEF	MHD	9.99	1.69
tblVehicleEF	MHD	5.2000e-005	1.6200e-004
tblVehicleEF	MHD	3.0080e-003	7.0060e-003
tblVehicleEF	MHD	8.2100e-004	1.1200e-004
tblVehicleEF	MHD	5.0000e-005	1.5500e-004
tblVehicleEF	MHD	2.8710e-003	6.6960e-003
tblVehicleEF	MHD	7.5400e-004	1.0300e-004
tblVehicleEF	MHD	6.4300e-004	2.8900e-004
tblVehicleEF	MHD	0.03	0.01
tblVehicleEF	MHD	0.02	0.02

tblVehicleEF	MHD	3.8200e-004	1.6800e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.02	0.07
tblVehicleEF	MHD	0.23	0.04
tblVehicleEF	MHD	1.2710e-003	6.1800e-004
tblVehicleEF	MHD	0.01	9.4800e-003
tblVehicleEF	MHD	6.6000e-004	8.5000e-005
tblVehicleEF	MHD	6.4300e-004	2.8900e-004
tblVehicleEF	MHD	0.03	0.01
tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	3.8200e-004	1.6800e-004
tblVehicleEF	MHD	0.05	0.01
tblVehicleEF	MHD	0.02	0.07
tblVehicleEF	MHD	0.25	0.05
tblVehicleEF	OBUS	0.01	7.0980e-003
tblVehicleEF	OBUS	4.0840e-003	2.1970e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.24	0.64
tblVehicleEF	OBUS	0.30	0.26
tblVehicleEF	OBUS	4.08	1.58
tblVehicleEF	OBUS	110.55	97.36
tblVehicleEF	OBUS	1,272.30	1,210.85
tblVehicleEF	OBUS	64.94	13.46
tblVehicleEF	OBUS	0.24	0.43
tblVehicleEF	OBUS	0.85	1.45
tblVehicleEF	OBUS	2.74	1.13
tblVehicleEF	OBUS	2.2000e-005	1.4200e-004
tblVehicleEF	OBUS	2.8340e-003	7.8820e-003
tblVehicleEF	OBUS	9.3800e-004	1.5600e-004
tblVehicleEF	OBUS	2.1000e-005	1.3600e-004

tblVehicleEF	OBUS	2.6900e-003	7.5260e-003
tblVehicleEF	OBUS	8.6200e-004	1.4400e-004
tblVehicleEF	OBUS	1.1660e-003	1.0620e-003
tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	5.3200e-004	4.8700e-004
tblVehicleEF	OBUS	0.04	0.02
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.26	0.08
tblVehicleEF	OBUS	1.0660e-003	9.2400e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.2100e-004	1.3300e-004
tblVehicleEF	OBUS	1.1660e-003	1.0620e-003
tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	5.3200e-004	4.8700e-004
tblVehicleEF	OBUS	0.05	0.02
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.28	0.08
tblVehicleEF	SBUS	0.81	0.07
tblVehicleEF	SBUS	7.6490e-003	4.4040e-003
tblVehicleEF	SBUS	0.06	6.3380e-003
tblVehicleEF	SBUS	8.87	2.93
tblVehicleEF	SBUS	0.48	0.37
tblVehicleEF	SBUS	7.57	0.86
tblVehicleEF	SBUS	1,023.58	337.48
tblVehicleEF	SBUS	1,008.60	970.50
tblVehicleEF	SBUS	61.81	5.06
tblVehicleEF	SBUS	4.35	2.71
tblVehicleEF	SBUS	1.72	3.09

tblVehicleEF	SBUS	10.76	1.18
tblVehicleEF	SBUS	2.1870e-003	2.0480e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	8.4940e-003	0.02
tblVehicleEF	SBUS	1.1020e-003	6.8000e-005
tblVehicleEF	SBUS	2.0920e-003	1.9600e-003
tblVehicleEF	SBUS	2.5880e-003	2.6690e-003
tblVehicleEF	SBUS	8.1060e-003	0.02
tblVehicleEF	SBUS	1.0130e-003	6.2000e-005
tblVehicleEF	SBUS	3.7080e-003	8.7000e-004
tblVehicleEF	SBUS	0.03	8.3040e-003
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tblVehicleEF	SBUS	1.7580e-003	4.1400e-004
tblVehicleEF	SBUS	0.07	0.06
tblVehicleEF	SBUS	0.02	0.05
tblVehicleEF	SBUS	0.40	0.04
tblVehicleEF	SBUS	0.01	3.2190e-003
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tblVehicleEF	SBUS	7.4900e-004	5.0000e-005
tblVehicleEF	SBUS	3.7080e-003	8.7000e-004
tblVehicleEF	SBUS	0.03	8.3040e-003
tblVehicleEF	SBUS	1.53	0.46
tblVehicleEF	SBUS	1.7580e-003	4.1400e-004
tblVehicleEF	SBUS	0.08	0.07
tblVehicleEF	SBUS	0.02	0.05
tblVehicleEF	SBUS	0.43	0.04
tblVehicleEF	UBUS	0.23	1.86
tblVehicleEF	UBUS	0.05	2.1860e-003
tblVehicleEF	UBUS	3.04	14.11
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tblVehicleEF	UBUS	1,937.16	1,668.67
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tblVehicleEF	UBUS	13.02	0.02
tblVehicleEF	UBUS	0.54	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.10	5.1160e-003
tblVehicleEF	UBUS	1.3960e-003	1.5000e-005
tblVehicleEF	UBUS	0.23	0.03
tblVehicleEF	UBUS	3.0000e-003	8.3320e-003
tblVehicleEF	UBUS	0.10	4.8930e-003
tblVehicleEF	UBUS	1.2840e-003	1.4000e-005
tblVehicleEF	UBUS	2.5990e-003	6.1000e-005
tblVehicleEF	UBUS	0.04	8.1400e-004
tblVehicleEF	UBUS	1.5170e-003	3.6000e-005
tblVehicleEF	UBUS	0.23	0.03
tblVehicleEF	UBUS	9.4350e-003	4.9280e-003
tblVehicleEF	UBUS	0.65	9.2610e-003
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	1.4020e-003	1.4000e-005
tblVehicleEF	UBUS	2.5990e-003	6.1000e-005
tblVehicleEF	UBUS	0.04	8.1400e-004
tblVehicleEF	UBUS	1.5170e-003	3.6000e-005
tblVehicleEF	UBUS	0.48	1.90
tblVehicleEF	UBUS	9.4350e-003	4.9280e-003
tblVehicleEF	UBUS	0.71	0.01
tblVehicleTrips	ST_TR	2.46	2.17
tblVehicleTrips	ST_TR	1.90	2.64
tblVehicleTrips	ST_TR	1.68	1.74
tblVehicleTrips	SU_TR	1.05	0.93

tblVehicleTrips	SU_TR	1.11	1.54
tblVehicleTrips	SU_TR	1.68	1.74
tblVehicleTrips	WD_TR	11.03	9.74
tblVehicleTrips	WD_TR	8.11	11.26
tblVehicleTrips	WD_TR	1.68	1.74
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction

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					
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2022	0.2036	0.0000	0.0000	0.0000	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	**0.2036**	**0.0000**	**0.0000**	**0.0000**	**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					
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2022	0.2036	0.0000	0.0000	0.0000	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	**0.2036**	**0.0000**	**0.0000**	**0.0000**	**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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
3	**11-25-2021**	**2-24-2022**	0.1381	0.1381
4	**2-25-2022**	**5-24-2022**	0.0654	0.0654
		Highest	0.1381	0.1381

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	0.1888	1.0000e-005	1.5300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.9800e-003	2.9800e-003	1.0000e-005	0.0000	3.1800e-003

Energy	4.4700e-003	0.0407	0.0342	2.4000e-004		3.0900e-003	3.0900e-003		3.0900e-003	3.0900e-003	0.0000	88.9725	88.9725	7.0200e-003	2.0900e-003	89.7705
Mobile	0.0794	0.1430	0.7016	2.3200e-003	0.2787	1.6700e-003	0.2803	0.0746	1.5700e-003	0.0761	0.0000	224.0722	224.0722	8.2400e-003	0.0000	224.2781
Waste						0.0000	0.0000		0.0000	0.0000	3.5848	0.0000	3.5848	0.2119	0.0000	8.8812
Water						0.0000	0.0000		0.0000	0.0000	4.9244	7.7187	12.6431	0.0180	0.0109	16.3505
Total	**0.2727**	**0.1837**	**0.7373**	**2.5600e-003**	**0.2787**	**4.7700e-003**	**0.2834**	**0.0746**	**4.6700e-003**	**0.0792**	**8.5092**	**320.7664**	**329.2756**	**0.2452**	**0.0130**	**339.2835**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1888	1.0000e-005	1.5300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.9800e-003	2.9800e-003	1.0000e-005	0.0000	3.1800e-003
Energy	4.4700e-003	0.0407	0.0342	2.4000e-004		3.0900e-003	3.0900e-003		3.0900e-003	3.0900e-003	0.0000	88.9725	88.9725	7.0200e-003	2.0900e-003	89.7705
Mobile	0.0794	0.1430	0.7016	2.3200e-003	0.2787	1.6700e-003	0.2803	0.0746	1.5700e-003	0.0761	0.0000	224.0722	224.0722	8.2400e-003	0.0000	224.2781
Waste						0.0000	0.0000		0.0000	0.0000	3.5848	0.0000	3.5848	0.2119	0.0000	8.8812
Water						0.0000	0.0000		0.0000	0.0000	4.9244	7.7187	12.6431	0.0180	0.0109	16.3505
Total	**0.2727**	**0.1837**	**0.7373**	**2.5600e-003**	**0.2787**	**4.7700e-003**	**0.2834**	**0.0746**	**4.6700e-003**	**0.0792**	**8.5092**	**320.7664**	**329.2756**	**0.2452**	**0.0130**	**339.2835**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/25/2021	6/21/2021	5	20	
2	Site Preparation	Site Preparation	6/22/2021	8/16/2021	5	40	
3	Grading	Grading	6/25/2021	7/22/2021	5	20	
4	Trenching/Foundation	Trenching	9/14/2021	10/25/2021	5	30	
5	Building Construction	Building Construction	10/26/2021	1/17/2022	5	60	
6	Architectural Coating	Architectural Coating	1/18/2022	3/14/2022	5	40	
7	Paving	Paving	3/15/2022	4/1/2022	5	14	

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: 58,560; Non-Residential Outdoor: 19,520; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	0.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	0.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation	Graders	0	8.00	187	0.41
Site Preparation	Scrapers	0	0.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Excavators	0	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	0	0.00	247	0.40
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Cranes	0	8.00	231	0.29
Building Construction	Forklifts	0	4.00	89	0.20

Building Construction	Generator Sets	0	0.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	4.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving	Cement and Mortar Mixers	0	8.00	9	0.56
Paving	Pavers	0	8.00	130	0.42
Paving	Paving Equipment	0	8.00	132	0.36
Paving	Rollers	0	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Architectural Coating	Aerial Lifts	0	8.00	63	0.31
Architectural Coating	Air Compressors	0	0.00	78	0.48
Trenching/Foundation	Excavators	0	8.00	158	0.38
Trenching/Foundation	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	0	0.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching/Foundation	0	0.00	0.00	0.00	10.80	7.30	7.30	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 - 2021

Unmitigated Construction On-Site

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

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	0.0000	0.0000	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**

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 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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
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	0.0000	0.0000	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					
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 - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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
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	0.0000	0.0000	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					
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/Foundation - 2021

Unmitigated Construction On-Site

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

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	0.0000	0.0000	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**

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 - 2021

Unmitigated Construction On-Site

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

Off-Road	0.0000	0.0000	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**

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	0.0000	0.0000	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**

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 - 2022

Unmitigated Construction On-Site

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

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	0.0000	0.0000	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**

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 - 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					
Archit. Coating	0.2036					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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	**0.2036**	**0.0000**	**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
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	0.2036					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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	**0.2036**	**0.0000**	**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					
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 Paving - 2022

Unmitigated Construction On-Site

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

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Paving	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**

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					
Mitigated	0.0794	0.1430	0.7016	2.3200e-003	0.2787	1.6700e-003	0.2803	0.0746	1.5700e-003	0.0761	0.0000	224.0722	224.0722	8.2400e-003	0.0000	224.2781

Unmitigated	0.0794	0.1430	0.7016	2.3200e-003	0.2787	1.6700e-003	0.2803	0.0746	1.5700e-003	0.0761	0.0000	224.0722	224.0722	8.2400e-003	0.0000	224.2781

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	146.10	32.55	13.95	265,263	265,263
Parking Lot	0.00	0.00	0.00		
Research & Development	246.14	57.71	33.66	473,356	473,356
Unrefrigerated Warehouse-No Rail	3.79	3.79	3.79	11,074	11,074
Total	396.04	94.05	51.41	749,693	749,693

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Research & Development	9.50	7.30	7.30	33.00	48.00	19.00	82	15	3
Unrefrigerated Warehouse-No Rail	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.595423	0.053963	0.171400	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.004780	0.000900	0.000728
Parking Lot	0.595423	0.053963	0.171400	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.004780	0.000900	0.000728
Research & Development	0.595423	0.053963	0.171400	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.004780	0.000900	0.000728
Unrefrigerated Warehouse-No Rail	0.595423	0.053963	0.171400	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.004780	0.000900	0.000728

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	44.6922	44.6922	6.1700e-003	1.2800e-003	45.2270
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	44.6922	44.6922	6.1700e-003	1.2800e-003	45.2270
NaturalGas Mitigated	4.4700e-003	0.0407	0.0342	2.4000e-004		3.0900e-003	3.0900e-003		3.0900e-003	3.0900e-003	0.0000	44.2803	44.2803	8.5000e-004	8.1000e-004	44.5434
NaturalGas Unmitigated	4.4700e-003	0.0407	0.0342	2.4000e-004		3.0900e-003	3.0900e-003		3.0900e-003	3.0900e-003	0.0000	44.2803	44.2803	8.5000e-004	8.1000e-004	44.5434

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					
General Office Building	245550	1.3200e-003	0.0120	0.0101	7.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004	0.0000	13.1035	13.1035	2.5000e-004	2.4000e-004	13.1814
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	576667	3.1100e-003	0.0283	0.0238	1.7000e-004		2.1500e-003	2.1500e-003		2.1500e-003	2.1500e-003	0.0000	30.7731	30.7731	5.9000e-004	5.6000e-004	30.9560
Unrefrigerated Warehouse-No Rail	7564.6	4.0000e-005	3.7000e-004	3.1000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.4037	0.4037	1.0000e-005	1.0000e-005	0.4061
Total		**4.4700e-003**	**0.0407**	**0.0342**	**2.4000e-004**		**3.0900e-003**	**3.0900e-003**		**3.0900e-003**	**3.0900e-003**	**0.0000**	**44.2803**	**44.2803**	**8.5000e-004**	**8.1000e-004**	**44.5434**

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					
General Office Building	245550	1.3200e-003	0.0120	0.0101	7.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004	0.0000	13.1035	13.1035	2.5000e-004	2.4000e-004	13.1814
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Research & Development	576667	3.1100e-003	0.0283	0.0238	1.7000e-004		2.1500e-003	2.1500e-003		2.1500e-003	2.1500e-003	0.0000	30.7731	30.7731	5.9000e-004	5.6000e-004	30.9560
Unrefrigerated Warehouse-No Rail	7564.6	4.0000e-005	3.7000e-004	3.1000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.4037	0.4037	1.0000e-005	1.0000e-005	0.4061
Total		**4.4700e-003**	**0.0407**	**0.0342**	**2.4000e-004**		**3.0900e-003**	**3.0900e-003**		**3.0900e-003**	**3.0900e-003**	**0.0000**	**44.2803**	**44.2803**	**8.5000e-004**	**8.1000e-004**	**44.5434**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	267450	25.4758	3.5200e-003	7.3000e-004	25.7807
Parking Lot	13478.8	1.2839	1.8000e-004	4.0000e-005	1.2993
Research & Development	180564	17.1995	2.3800e-003	4.9000e-004	17.4053
Unrefrigerated Warehouse-No Rail	7695.4	0.7330	1.0000e-004	2.0000e-005	0.7418
Total		**44.6922**	**6.1800e-003**	**1.2800e-003**	**45.2270**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	267450	25.4758	3.5200e-003	7.3000e-004	25.7807
Parking Lot	13478.8	1.2839	1.8000e-004	4.0000e-005	1.2993
Research & Development	180564	17.1995	2.3800e-003	4.9000e-004	17.4053
Unrefrigerated Warehouse-No Rail	7695.4	0.7330	1.0000e-004	2.0000e-005	0.7418
Total		**44.6922**	**6.1800e-003**	**1.2800e-003**	**45.2270**

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	0.1888	1.0000e-005	1.5300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.9800e-003	2.9800e-003	1.0000e-005	0.0000	3.1800e-003
Unmitigated	0.1888	1.0000e-005	1.5300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.9800e-003	2.9800e-003	1.0000e-005	0.0000	3.1800e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0337					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1550					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.4000e-004	1.0000e-005	1.5300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.9800e-003	2.9800e-003	1.0000e-005	0.0000	3.1800e-003
Total	**0.1888**	**1.0000e-005**	**1.5300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**2.9800e-003**	**2.9800e-003**	**1.0000e-005**	**0.0000**	**3.1800e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0337					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1550					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.4000e-004	1.0000e-005	1.5300e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.9800e-003	2.9800e-003	1.0000e-005	0.0000	3.1800e-003
Total	**0.1888**	**1.0000e-005**	**1.5300e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**2.9800e-003**	**2.9800e-003**	**1.0000e-005**	**0.0000**	**3.1800e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	12.6431	0.0180	0.0109	16.3505
Unmitigated	12.6431	0.0180	0.0109	16.3505

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	2.66601 / 1.634	2.8621	3.5100e-003	2.1100e-003	3.5775
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	10.7484 / 0	9.3428	0.0139	8.4300e-003	12.2007
Unrefrigerated Warehouse-No Rail	0.504125 / 0	0.4382	6.5000e-004	4.0000e-004	0.5722
Total		**12.6431**	**0.0180**	**0.0109**	**16.3505**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	2.66601 / 1.634	2.8621	3.5100e-003	2.1100e-003	3.5775
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Research & Development	10.7484 / 0	9.3428	0.0139	8.4300e-003	12.2007
Unrefrigerated Warehouse-No Rail	0.504125 / 0	0.4382	6.5000e-004	4.0000e-004	0.5722
Total		**12.6431**	**0.0180**	**0.0109**	**16.3505**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.5848	0.2119	0.0000	8.8812
Unmitigated	3.5848	0.2119	0.0000	8.8812

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	13.95	2.8317	0.1674	0.0000	7.0155
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Research & Development	1.66	0.3370	0.0199	0.0000	0.8348
Unrefrigerated Warehouse-No Rail	2.05	0.4161	0.0246	0.0000	1.0310
Total		**3.5848**	**0.2119**	**0.0000**	**8.8813**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	13.95	2.8317	0.1674	0.0000	7.0155
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Research & Development	1.66	0.3370	0.0199	0.0000	0.8348
Unrefrigerated Warehouse-No Rail	2.05	0.4161	0.0246	0.0000	1.0310
Total		**3.5848**	**0.2119**	**0.0000**	**8.8813**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Attachment 3: EMFAC2017 Calculations

CalEEMod EMFAC2017 Fleet Mix Input - 2021

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
	0.58738	0.052309	0.181462	0.107871	0.021097	0.005111	0.013283	0.021557	0.001702	0.001287	0.005243	0.000926	0.000772

CalEEMod EMFAC2017 Emission Factors Input - 2021

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.005524	0.003418	0.003371	0.025006868	0.007456	0	0	0.04658	0
A	CH4_RUNEX	0.002606	0.005621	0.004015	0.005342	0.01023	0.008122	0.010515	0.055229878	0.008276	1.38043	0.33122	0.006825	0.014283
A	CH4_STREX	0.056352	0.076285	0.076252	0.093048	0.017619	0.0101	0.009554	4.87953E-07	0.018189	0.002665	0.25818	0.004389	0.024795
A	CO_IDLEX	0	0	0	0	0.188633	0.141247	0.370014	5.63023888	0.566001	0	0	1.985496	0
A	CO_RUNEX	0.663915	1.191968	0.917992	1.098725	0.919664	0.710707	0.758144	0.676437328	0.765418	10.36298	19.56337	0.559511	1.624735
A	CO_STREX	2.291562	2.519228	2.968595	3.49272	1.175307	0.706579	1.203259	0.005916179	1.969399	0.139137	8.976601	0.656121	2.369845
A	CO2_NBIO_IDLEX	0	0	0	0	9.076836	14.19094	77.12898	1088.786144	98.57106	0	0	347.4308	0
A	CO2_NBIO_RUNEX	257.8613	306.5726	336.1902	407.5275	823.3117	796.106	1160.405	1552.030837	1386.545	1606.736	210.3906	1081.244	1583.822
A	CO2_NBIO_STREX	54.62846	65.84771	72.71964	87.46048	12.41848	8.353413	9.108976	0.055723126	15.71543	1.641923	61.75755	3.66946	19.77033
A	NOX_IDLEX	0	0	0	0	0.061824	0.106702	0.668719	5.966077574	0.614224	0	0	3.690076	0
A	NOX_RUNEX	0.043596	0.105385	0.086774	0.11598	0.929977	1.130638	2.890357	4.11760691	2.068826	0.732642	1.15497	5.298321	1.509217
A	NOX_STREX	0.202639	0.270109	0.321727	0.398458	0.356269	0.205746	1.169875	1.857963365	0.952266	0.018447	0.270443	0.728237	0.248775
A	PM10_IDLEX	0	0	0	0	0.000789	0.001393	0.002134	0.008566391	0.002149	0	0	0.004504	0
A	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034	0.060849587	0.13034	0.069383	0.01176	0.7448	0.13034
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009669	0.010704	0.012	0.035473073	0.012	0.033326	0.004	0.010974	0.01306
A	PM10_RUNEX	0.001492	0.002063	0.00149	0.001681	0.01155	0.016958	0.074904	0.060618813	0.032499	0.005278	0.001893	0.034029	0.027049
A	PM10_STREX	0.001897	0.002574	0.00186	0.002132	0.000283	0.000151	0.000123	1.05485E-06	0.000135	1.65E-06	0.003213	4E-05	0.00031
A	PM25_IDLEX	0	0	0	0	0.000755	0.001333	0.002041	0.008195813	0.002056	0	0	0.004309	0
A	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586	0.026078394	0.05586	0.029736	0.00504	0.3192	0.05586
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002417	0.002676	0.003	0.008868268	0.003	0.008332	0.001	0.002744	0.003265
A	PM25_RUNEX	0.001375	0.001899	0.001372	0.001551	0.010999	0.016197	0.071658	0.057996444	0.031082	0.005049	0.001772	0.032545	0.025828
A	PM25_STREX	0.001744	0.002367	0.00171	0.001961	0.00026	0.000138	0.000113	9.69899E-07	0.000124	1.52E-06	0.00303	3.68E-05	0.000285
A	ROG_DIURN	0.045235	0.099095	0.065066	0.076124	0.002274	0.001262	0.000488	4.16173E-06	0.001087	0.000175	1.822873	0.000466	0.867943
A	ROG_HTSK	0.104203	0.18781	0.131305	0.150451	0.084499	0.049022	0.021813	0.000184922	0.015779	0.002693	0.716612	0.00449	0.072064
A	ROG_IDLEX	0	0	0	0	0.022758	0.016904	0.021035	0.434467644	0.055863	0	0	0.220514	0
A	ROG_RESTL	0.039039	0.076992	0.060343	0.071587	0.001132	0.000619	0.000237	2.29522E-06	0.000472	0.00011	1.002545	0.000186	0.29353
A	ROG_RUNEX	0.010367	0.024789	0.016591	0.024181	0.102748	0.119666	0.190153	0.139003529	0.100767	0.020124	2.253066	0.092414	0.087528
A	ROG_RUNLS	0.220694	0.676526	0.439793	0.476426	0.582266	0.339878	0.127797	0.001141817	0.172828	0.018688	2.132348	0.031591	1.757553
A	ROG_STREX	0.257971	0.382078	0.361335	0.470245	0.089513	0.051131	0.052961	2.55505E-06	0.093878	0.01143	1.967635	0.025041	0.107136
A	SO2_IDLEX	0	0	0	0	8.82E-05	0.000136	0.000731	0.010137722	0.000936	0	0	0.003304	0
A	SO2_RUNEX	8.95E-05	0.002582	0.011055	0.004019	0.008045	0.007692	0.011055	0.014245597	0.01335	0.011284	0.002082	0.010315	0.015552
A	SO2_STREX	0	0	9.01E-05	0.000864	0.000123	8.27E-05	9.01E-05	5.51426E-07	0.000156	1.62E-05	0.000611	3.63E-05	0.000196
A	TOG_DIURN	0.045235	0.099095	0.065066	0.076124	0.002274	0.001262	0.000488	4.16173E-06	0.001087	0.000175	1.822873	0.000466	0.867943
A	TOG_HTSK	0.104203	0.18781	0.131305	0.150451	0.084499	0.049022	0.021813	0.000184922	0.015779	0.002693	0.716612	0.00449	0.072064
A	TOG_IDLEX	0	0	0	0	0.032226	0.022942	0.027614	0.499465093	0.070633	0	0	0.314403	0
A	TOG_RESTL	0.039039	0.076992	0.060343	0.071587	0.001132	0.000619	0.000237	2.29522E-06	0.000472	0.00011	1.002545	0.000186	0.29353
A	TOG_RUNEX	0.015076	0.036112	0.024165	0.034227	0.12807	0.140988	0.219957	0.207392348	0.121759	1.409294	2.774349	0.11039	0.118213
A	TOG_RUNLS	0.220694	0.676526	0.439793	0.476426	0.582266	0.339878	0.127797	0.001141817	0.172828	0.018688	2.132348	0.031591	1.757553
A	TOG_STREX	0.282444	0.418324	0.395615	0.514815	0.098006	0.055982	0.057985	2.79746E-06	0.102785	0.012515	2.14098	0.027416	0.1173

CalEEMod Construction Inputs

Phase	CalEEMod WORKER TRIPS	CalEEMod VENDOR TRIPS	Total Worker Trips	Total Vendor Trips	CalEEMod HAULING TRIPS	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class	*Worker VMT*	*Vendor VMT*	*Hauling VMT*
Demolition	13	0	260	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2808	0	0
Site Preparation	8	0	320	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	3456	0	0
Grading	10	0	200	0	100	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2160	0	2000
Trenching/Foundation	5	0	150	0	222	10.8	7.3	7.3	LD_Mix	HDT_Mix	HHDT	1620	0	1620.6
Building Construction	29	13	1740	780	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	18792	5694	0
Architectural Coating	6	0	240	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2592	0	0
Paving	15	0	210	0	95	10.8	7.3	7.3	LD_Mix	HDT_Mix	HHDT	2268	0	693.5

Number of Days Per Year				
2021	5/25/2021	12/31/2021	221	
2022	1/1/22	4/1/22	91	
			312	**224** ***Total Workdays***

Phase	Start Date	End Date	Days/Week	NumDays
Demolition	5/25/2021	6/21/2021	5	20
Site Preparation	6/22/2021	8/16/2021	5	40
Grading	6/25/2021	7/22/2021	5	20
Trenching/Foundation	9/14/2021	10/25/2021	5	30
Building Construction	10/26/2021	1/17/2022	5	60
Architectural Coating	1/18/2022	3/14/2022	5	40
Paving	3/15/2022	4/1/2022	5	14

Summary of Construction Traffic Emissions (EMFAC2017)

CATEGORY	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2
						Grams					
Hauling	781.41	21026.39	5268.4949	65.685	1289.92	680.63	1970.5	194.09	404.38	598.48	7149663.294
Vendor	1179.56	25104.20	7217.0	79.325	1702.51	1029.34	2731.8	256.17	615.38	871.56	8538223.729
Worker	2927.62	2650.89	33058.4	90.080	10075.10	1565.41	11640.5	1515.98	651.07	2167.05	9561856.911
Total (g)	4888.59	48781.48577	45543.88	235.0895033	13067.5259	3275.386453	16342.912	1966.247459	1670.837883	3637.085342	25249743.93
Total (lbs)	10.78	107.54	100.41	0.52	28.81	7.2	36.03	4.33	3.68	8.02	55666.15667
Total (tons)	0.0054	0.054	0.050	0.000	0.014	0.0036	0.0180	0.0022	0.002	0.004	27.83
Total (MT)											25.25

YEAR										
					Tons					
2021 - 2022	0.0038	0.0381	0.0356	0.0002	0.0102	0.0026	0.0128	0.0015	0.0013	0.0028	17.8852
2022 -2023	0.0016	0.0157	0.0146	0.0001	0.0042	0.0011	0.0053	0.0006	0.0005	0.0012	7.3645

Summary of Construction Traffic Emissions (EMFAC2017) - On-site Half Mile Trip Length

CATEGORY	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2
						Grams					
Hauling	210.71	4121.15	2491.3138	7.198	62.34	36.29	98.6	9.38	22.80	32.18	777645.4882
Vendor	338.85	5746.17	3463.9	10.219	116.61	74.98	191.6	17.55	46.43	63.98	1098199.717
Worker	2520.74	816.78	8837.5	4.230	466.44	78.22	544.7	70.18	35.43	105.61	619251.0583
Total (g)	3070.30	10684.09674	14792.733	21.64607561	645.3915	189.4955868	834.88709	97.110915	104.6558554	201.7667704	2495096.263
Total (lbs)	6.77	23.55	32.61	0.05	1.42	0.4	1.84	0.21	0.23	0.44	5500.745666
Total (tons)	0.0034	0.012	0.016	0.000	0.001	0.0002	0.0009	0.0001	0.000	0.000	2.75
Total (MT)											2.50

YEAR										
					Tons					
2021 - 2022	0.0024	0.0083	0.0116	0.0000	0.0005	0.0001	0.0007	0.0001	0.0001	0.0002	1.7674
2022 -2023	0.0010	0.0034	0.0048	0.0000	0.0002	0.0001	0.0003	0.0000	0.0000	0.0001	0.7277

CalEEMod EMFAC2017 Fleet Mix Input - 2023

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
	0.590598	0.05278	0.17808	0.10708	0.021013	0.005252	0.013411	0.022089	0.001622	0.001261	0.005132	0.000923	0.000759

CalEEMod EMFAC2017 Emission Factors Input - 2023

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.005162	0.003155	0.003545	0.024833819	0.007063	0	0	0.051479	0
A	CH4_RUNEX	0.001958	0.004163	0.003245	0.00391	0.008545	0.00706	0.001932	0.049536467	0.004013	1.348781	0.326994	0.006356	0.0108
A	CH4_STREX	0.047744	0.063181	0.066279	0.077681	0.015	0.008431	0.009487	4.90854E-07	0.017607	0.001417	0.255241	0.004783	0.023194
A	CO_IDLEX	0	0	0	0	0.185249	0.138442	0.388783	6.342287544	0.573374	0	0	2.176398	0
A	CO_RUNEX	0.56207	0.946438	0.787567	0.865358	0.768919	0.621061	0.261063	0.395696608	0.470154	10.11652	18.86893	0.51865	1.109312
A	CO_STREX	2.160562	2.346256	2.785419	3.129575	1.083381	0.63132	1.136225	0.005919328	1.895072	0.139137	9.034026	0.699825	2.132057
A	CO2_NBIO_IDLEX	0	0	0	0	8.942095	14.00074	73.35401	1065.376459	91.92835	0	0	347.3949	0
A	CO2_NBIO_RUNEX	245.2799	292.9084	316.762	383.4057	794.1566	768.7296	1095.065	1436.676046	1341.742	1597.13	210.1672	1060.994	1532.749
A	CO2_NBIO_STREX	52.01687	62.87067	68.57931	82.01676	11.82811	7.832833	9.380273	0.049284883	15.47806	1.390925	61.03922	3.981795	18.67936
A	NOX_IDLEX	0	0	0	0	0.058295	0.098034	0.431519	5.438234036	0.369473	0	0	3.527869	0
A	NOX_RUNEX	0.033072	0.078073	0.067378	0.083492	0.730308	0.876464	1.444056	2.680938629	1.441249	0.728908	1.148719	4.873886	1.363761
A	NOX_STREX	0.176158	0.230265	0.270417	0.324369	0.321259	0.182356	1.696526	2.321334599	1.089647	0.010032	0.270672	0.811844	0.245583
A	PM10_IDLEX	0	0	0	0	0.000825	0.001423	0.000427	0.00267045	0.00012	0	0	0.003905	0
A	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034	0.060919337	0.13034	0.069383	0.01176	0.7448	0.13034
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009747	0.01075	0.012	0.03551304	0.012	0.033326	0.004	0.010909	0.013099
A	PM10_RUNEX	0.001356	0.001766	0.001389	0.001511	0.01021	0.015665	0.006955	0.024670765	0.007029	0.005328	0.001969	0.031247	0.023972
A	PM10_STREX	0.001744	0.002244	0.001745	0.001909	0.000258	0.000133	0.000119	7.19411E-07	0.000142	1.52E-05	0.003039	4.55E-05	0.000274
A	PM25_IDLEX	0	0	0	0	0.00079	0.001361	0.000409	0.002554927	0.000115	0	0	0.003736	0
A	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586	0.026108287	0.05586	0.029736	0.00504	0.3192	0.05586
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002437	0.002688	0.003	0.00887826	0.003	0.008332	0.001	0.002727	0.003275
A	PM25_RUNEX	0.001249	0.001625	0.001279	0.001393	0.00972	0.014962	0.006648	0.023603494	0.006712	0.005096	0.00184	0.029882	0.022889
A	PM25_STREX	0.001604	0.002063	0.001605	0.001756	0.000237	0.000123	0.00011	6.61472E-07	0.00013	1.4E-05	0.002859	4.18E-05	0.000252
A	ROG_DIURN	0.038084	0.081984	0.061288	0.070174	0.002024	0.00107	0.000417	2.53874E-06	0.001084	1.94E-05	1.809555	0.000537	0.707189
A	ROG_HTSK	0.09006	0.15803	0.120816	0.135544	0.075635	0.041911	0.019674	0.00011586	0.016051	0.000133	0.689105	0.005221	0.05968
A	ROG_IDLEX	0	0	0	0	0.021316	0.015901	0.018316	0.428946297	0.045786	0	0	0.241386	0
A	ROG_RESTL	0.033665	0.06596	0.058242	0.067485	0.001032	0.000547	0.000211	1.40536E-06	0.00048	7.82E-06	0.985054	0.000227	0.247171
A	ROG_RUNEX	0.007459	0.017917	0.013146	0.016466	0.092959	0.111603	0.017071	0.025760254	0.025484	0.019672	2.208057	0.086453	0.06941
A	ROG_RUNLS	0.202838	0.577726	0.418479	0.440788	0.521043	0.276429	0.112019	0.000593596	0.177971	0.000592	1.969445	0.035286	1.439379
A	ROG_STREX	0.211356	0.306088	0.307495	0.382282	0.075776	0.042231	0.050853	2.56712E-06	0.090401	0.005883	1.941958	0.027318	0.096685
A	SO2_IDLEX	0	0	0	0	8.68E-05	0.000134	0.000696	0.009914298	0.000873	0	0	0.003306	0
A	SO2_RUNEX	9.26E-05	0.002616	0.010439	0.003743	0.007755	0.007424	0.010439	0.013153522	0.012917	0.011293	0.00208	0.010129	0.015045
A	SO2_STREX	0	0	9.28E-05	0.000802	0.000117	7.75E-05	9.28E-05	4.87714E-07	0.000153	1.38E-05	0.000604	3.94E-05	0.000185
A	TOG_DIURN	0.038084	0.081984	0.061288	0.070174	0.002024	0.00107	0.000417	2.53874E-06	0.001084	1.94E-05	1.809555	0.000537	0.707189
A	TOG_HTSK	0.09006	0.15803	0.120816	0.135544	0.075635	0.041911	0.019674	0.00011586	0.016051	0.000133	0.689105	0.005221	0.05968
A	TOG_IDLEX	0	0	0	0	0.030064	0.021432	0.02485	0.493262188	0.059237	0	0	0.345172	0
A	TOG_RESTL	0.033665	0.06596	0.058242	0.067485	0.001032	0.000547	0.000211	1.40536E-06	0.00048	7.82E-06	0.985054	0.000227	0.247171
A	TOG_RUNEX	0.010845	0.026122	0.019145	0.023909	0.114266	0.130419	0.021706	0.078007034	0.034475	1.37699	2.736079	0.103211	0.092037
A	TOG_RUNLS	0.202838	0.577726	0.418479	0.440788	0.521043	0.276429	0.112019	0.000593596	0.177971	0.000592	1.969445	0.035286	1.439379
A	TOG_STREX	0.231408	0.335127	0.336668	0.418547	0.082966	0.046238	0.055677	2.81067E-06	0.098977	0.006441	2.11358	0.02991	0.105858

CalEEMod EMFAC2017 Fleet Mix Input 2030

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
	0.595423	0.053963	0.1714	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.00478	0.0009	0.000728

CalEEMod EMFAC2017 Emission Factors Input 2030

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.004148	0.002505	0.003832	0.024231453	0.007098	0	0	0.070082	0
A	CH4_RUNEX	0.000959	0.001671	0.001726	0.001772	0.005195	0.005339	0.001034	0.04518098	0.002197	1.859484	0.319087	0.004404	0.005027
A	CH4_STREX	0.028931	0.035248	0.041821	0.043924	0.009023	0.004811	0.008383	4.34672E-07	0.015222	0.002186	0.24786	0.006338	0.019545
A	CO_IDLEX	0	0	0	0	0.17731	0.131894	0.405402	6.28489984	0.644155	0	0	2.927328	0
A	CO_RUNEX	0.411156	0.540474	0.559142	0.551517	0.468742	0.489111	0.152189	0.405949458	0.262856	14.11073	17.60732	0.374881	0.311691
A	CO_STREX	1.716961	1.849789	2.287973	2.324828	0.890393	0.484256	0.872515	0.006685308	1.577018	0.139137	9.199577	0.858725	1.635194
A	CO2_NBIO_IDLEX	0	0	0	0	8.251826	13.00041	65.09769	930.0496847	97.36242	0	0	337.4754	0
A	CO2_NBIO_RUNEX	213.8884	258.4057	267.3331	322.2663	698.5465	679.813	993.4479	1226.348086	1210.85	1668.671	209.7572	970.5049	1350.267
A	CO2_NBIO_STREX	45.12682	55.17203	57.56738	67.91602	10.09364	6.438033	8.550649	0.051649278	13.46187	1.401901	59.22586	5.059627	15.54123
A	NOX_IDLEX	0	0	0	0	0.045908	0.074209	0.341766	5.199426871	0.431935	0	0	2.710433	0
A	NOX_RUNEX	0.019319	0.033468	0.034489	0.035665	0.299902	0.384329	1.428316	2.517362076	1.448391	0.706433	1.137409	3.086533	1.063099
A	NOX_STREX	0.125333	0.151052	0.168209	0.179169	0.225227	0.124883	1.689216	2.314548745	1.129093	0.015157	0.270173	1.184451	0.23668
A	PM10_IDLEX	0	0	0	0	0.000915	0.001502	0.000162	0.002145897	0.000142	0	0	0.002048	0
A	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034	0.061109857	0.13034	0.069383	0.01176	0.7448	0.13034
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009901	0.010844	0.012	0.035621239	0.012	0.033326	0.004	0.010676	0.013189
A	PM10_RUNEX	0.000929	0.00107	0.001025	0.001034	0.007019	0.013839	0.007006	0.023790073	0.007882	0.005116	0.002138	0.021245	0.016043
A	PM10_STREX	0.001275	0.001461	0.00134	0.001344	0.00021	0.000106	0.000112	5.80093E-07	0.000156	1.52E-05	0.002862	6.76E-05	0.000212
A	PM25_IDLEX	0	0	0	0	0.000875	0.001437	0.000155	0.002053066	0.000136	0	0	0.00196	0
A	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586	0.026189939	0.05586	0.029736	0.00504	0.3192	0.05586
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002475	0.002711	0.003	0.00890531	0.003	0.008332	0.001	0.002669	0.003297
A	PM25_RUNEX	0.000855	0.000984	0.000944	0.000954	0.006671	0.013218	0.006696	0.022760894	0.007526	0.004893	0.001994	0.02031	0.015312
A	PM25_STREX	0.001172	0.001344	0.001232	0.001236	0.000193	9.76E-05	0.000103	5.33374E-07	0.000144	1.4E-05	0.002676	6.22E-05	0.000195
A	ROG_DIURN	0.024903	0.046388	0.048996	0.057349	0.001403	0.000642	0.000289	1.32994E-06	0.001062	6.14E-05	1.786807	0.00087	0.347564
A	ROG_HTSK	0.061657	0.093564	0.089096	0.0981	0.054855	0.024352	0.013852	5.78076E-05	0.015622	0.000814	0.631299	0.008304	0.028392
A	ROG_IDLEX	0	0	0	0	0.01734	0.013466	0.01847	0.422100311	0.050126	0	0	0.322319	0
A	ROG_RESTL	0.022934	0.041206	0.048532	0.056738	0.000772	0.000374	0.000168	7.97633E-07	0.000487	3.58E-05	0.946881	0.000414	0.1401
A	ROG_RUNEX	0.003247	0.0065	0.006553	0.006887	0.072661	0.0982	0.011844	0.024014489	0.016744	0.026969	2.128511	0.060159	0.038911
A	ROG_RUNLS	0.170512	0.364405	0.336782	0.340289	0.429696	0.143744	0.071507	0.000284481	0.181965	0.004928	1.487321	0.053902	0.535482
A	ROG_STREX	0.118715	0.154126	0.182707	0.199251	0.043726	0.022756	0.041407	2.2699E-06	0.076636	0.009261	1.877593	0.036024	0.074231
A	SO2_IDLEX	0	0	0	0	7.99E-05	0.000124	0.000618	0.00865265	0.000924	0	0	0.003219	0
A	SO2_RUNEX	9E-05	0.002567	0.00948	0.002976	0.006812	0.006557	0.00948	0.011212041	0.011649	0.010417	0.002076	0.009288	0.013242
A	SO2_STREX	0	0	8.46E-05	0.000628	9.99E-05	6.37E-05	8.46E-05	5.11111E-07	0.000133	1.39E-05	0.000586	5.01E-05	0.000154
A	TOG_DIURN	0.024903	0.046388	0.048996	0.057349	0.001403	0.000642	0.000289	1.32994E-06	0.001062	6.14E-05	1.786807	0.00087	0.347564
A	TOG_HTSK	0.061657	0.093564	0.089096	0.0981	0.054855	0.024352	0.013852	5.78076E-05	0.015622	0.000814	0.631299	0.008304	0.028392
A	TOG_IDLEX	0	0	0	0	0.02413	0.017772	0.025282	0.485180108	0.063906	0	0	0.463821	0
A	TOG_RESTL	0.022934	0.041206	0.048532	0.056738	0.000772	0.000374	0.000168	7.97633E-07	0.000487	3.58E-05	0.946881	0.000414	0.1401
A	TOG_RUNEX	0.004716	0.009483	0.009524	0.009983	0.08579	0.112949	0.014288	0.071682245	0.021563	1.898202	2.666273	0.071678	0.048331
A	TOG_RUNLS	0.170512	0.364405	0.336782	0.340289	0.429696	0.143744	0.071507	0.000284481	0.181965	0.004928	1.487321	0.053902	0.535482
A	TOG_STREX	0.129977	0.168749	0.200041	0.218155	0.047875	0.024915	0.045336	2.48526E-06	0.083906	0.01014	2.04481	0.039442	0.081274

Attachment 4: Construction Health Risk Calculations

Oald Oakland Road San Jose

DPM Emissions and Modeling Emission Rates - Without Controls

Construction Year	Activity	Area Source	DPM Emissions (ton/year)	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)	
2021-2022	Construction	DPM_CONST	0.0246	49.3	0.02788	3.51E-03	8894.7	3.95E-07	0.003513
2022-2023	Construction	DPM_CONST	0.0047	9.5	0.0130	0.0016	8894.7	1.841E-07	0.001638
		Construction Hou	***0.0294***	***59***					
		hr/day =	8	(7am - 4pm)					
		days/yr =	221						
		hours/year =	1768						

Oald Oakland Road San Jose

PM2.5 Fugitive Dust Emissions for Modeling - Without Controls

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$	
2021-2022	Construction	FUG25_CONST	0.0004	0.7	0.00041	5.21E-05	8894.7	5.86E-09	5.214E-05
2022-2023	Construction	FUG25_CONST	0.0000	0.1	0.0001	0.000011	8894.7	1.22E-09	1.08E-05
		Construction Hours	***0.0004***	***0.8***					
		hr/day =	8		(7am - 4pm)				
		days/yr =	221						
		hours/year =	1768						

Old Oakland Road, San Jose - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction Impacts at Off-Site Homes - 1.5 meter receptor height

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

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

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

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

Values

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

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

		Infant/Child - Exposure Information					Adult - Exposure Information					Maximum	
			DPM Conc (ug/m3)		Age	Infant/Child	Modeled		Age	Adult			
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Sensitivity Factor**	**Cancer Risk (per million)**	**DPM Conc (ug/m3) Year**	**Annual**	**Sensitivity Factor**	**Cancer Risk (per million)**	**HI**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	2021-2022	0.0402	10	0.55							
1	0.75342466	0 - 1	2021-2022	0.0402	10	4.97	2021-2022	0.0402	1	0.12	0.008	0.0006	0.041
2	0.75342466	1 - 2	2022-2023	0.0187	10	2.32	2022-2023	0.0187	1	0.05	0.004	0.0001	0.019
3	1	2 - 3	2023	0.0000	3	0.00	2023	0.0000	1	0.00			
4	1	3 - 4	2024	0.0000	3	0.00	2024	0.0000	1	0.00			
5	1	4 - 5	2025	0.0000	3	0.00	2025	0.0000	1	0.00			
6	1	5 - 6	2026	0.0000	3	0.00	2026	0.0000	1	0.00			
7	1	6 - 7	2027	0.0000	3	0.00	2027	0.0000	1	0.00			
8	1	7 - 8	2028	0.0000	3	0.00	2028	0.0000	1	0.00			
9	1	8 - 9	2029	0.0000	3	0.00	2029	0.0000	1	0.00			
10	1	9 - 10	2030	0.0000	3	0.00	2030	0.0000	1	0.00			
11	1	10 - 11	2031	0.0000	3	0.00	2031	0.0000	1	0.00			
12	1	11 - 12	2032	0.0000	3	0.00	2032	0.0000	1	0.00			
13	1	12 - 13	2033	0.0000	3	0.00	2033	0.0000	1	0.00			
14	1	13 - 14	2034	0.0000	3	0.00	2034	0.0000	1	0.00			
15	1	14 - 15	2035	0.0000	3	0.00	2035	0.0000	1	0.00			
16	1	15 - 16	2036	0.0000	3	0.00	2036	0.0000	1	0.00			
17	1	16-17	2037	0.0000	1	0.00	2037	0.0000	1	0.00			
18	1	17-18	2038	0.0000	1	0.00	2038	0.0000	1	0.00			
19	1	18-19	2039	0.0000	1	0.00	2039	0.0000	1	0.00			
20	1	19-20	2040	0.0000	1	0.00	2040	0.0000	1	0.00			
21	1	20-21	2041	0.0000	1	0.00	2041	0.0000	1	0.00			
22	1	21-22	2042	0.0000	1	0.00	2042	0.0000	1	0.00			
23	1	22-23	2043	0.0000	1	0.00	2043	0.0000	1	0.00			
24	1	23-24	2044	0.0000	1	0.00	2044	0.0000	1	0.00			
25	1	24-25	2045	0.0000	1	0.00	2045	0.0000	1	0.00			
26	1	25-26	2046	0.0000	1	0.00	2046	0.0000	1	0.00			
27	1	26-27	2047	0.0000	1	0.00	2047	0.0000	1	0.00			
28	1	27-28	2048	0.0000	1	0.00	2048	0.0000	1	0.00			
29	1	28-29	2049	0.0000	1	0.00	2049	0.0000	1	0.00			
30	1	29-30	2050	0.0000	1	0.00	2050	0.0000	1	0.00			
Total Increased Cancer Risk						**7.8**				**0.17**			

* Third trimester of pregnancy

Old Oakland Road, San Jose - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction Impacts at Off-Site Homes - 4.55 meter receptor height (Second Floor)

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

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

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

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

Values

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

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

		Infant/Child - Exposure Information				Infant/Child Cancer Risk	Adult - Exposure Information			Adult Cancer Risk		Maximum	
	Exposure Duration		DPM Conc (ug/m3)		Age Sensitivity		Modeled DPM Conc (ug/m3)		Age Sensitivity				
Exposure Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)		Fugitive PM2.5	Total PM2.5
0	0.25	-0.25 - 0*	2021-2022	0.0361	10	0.49					HI		
1	0.75342466	0 - 1	2021-2022	0.0361	10	4.47	2021-2022	0.0361	1	0.10	0.007	0.0006	0.0367
2	0.75342466	1 - 2	2022-2023	0.0167	10	2.07	2022-2023	0.0167	1	0.05	0.003	0.0001	0.017
3	1	2 - 3	2023	0.0000	3	0.00	2023	0.0000	1	0.00			
4	1	3 - 4	2024	0.0000	3	0.00	2024	0.0000	1	0.00			
5	1	4 - 5	2025	0.0000	3	0.00	2025	0.0000	1	0.00			
6	1	5 - 6	2026	0.0000	3	0.00	2026	0.0000	1	0.00			
7	1	6 - 7	2027	0.0000	3	0.00	2027	0.0000	1	0.00			
8	1	7 - 8	2028	0.0000	3	0.00	2028	0.0000	1	0.00			
9	1	8 - 9	2029	0.0000	3	0.00	2029	0.0000	1	0.00			
10	1	9 - 10	2030	0.0000	3	0.00	2030	0.0000	1	0.00			
11	1	10 - 11	2031	0.0000	3	0.00	2031	0.0000	1	0.00			
12	1	11 - 12	2032	0.0000	3	0.00	2032	0.0000	1	0.00			
13	1	12 - 13	2033	0.0000	3	0.00	2033	0.0000	1	0.00			
14	1	13 - 14	2034	0.0000	3	0.00	2034	0.0000	1	0.00			
15	1	14 - 15	2035	0.0000	3	0.00	2035	0.0000	1	0.00			
16	1	15 - 16	2036	0.0000	3	0.00	2036	0.0000	1	0.00			
17	1	16-17	2037	0.0000	1	0.00	2037	0.0000	1	0.00			
18	1	17-18	2038	0.0000	1	0.00	2038	0.0000	1	0.00			
19	1	18-19	2039	0.0000	1	0.00	2039	0.0000	1	0.00			
20	1	19-20	2040	0.0000	1	0.00	2040	0.0000	1	0.00			
21	1	20-21	2041	0.0000	1	0.00	2041	0.0000	1	0.00			
22	1	21-22	2042	0.0000	1	0.00	2042	0.0000	1	0.00			
23	1	22-23	2043	0.0000	1	0.00	2043	0.0000	1	0.00			
24	1	23-24	2044	0.0000	1	0.00	2044	0.0000	1	0.00			
25	1	24-25	2045	0.0000	1	0.00	2045	0.0000	1	0.00			
26	1	25-26	2046	0.0000	1	0.00	2046	0.0000	1	0.00			
27	1	26-27	2047	0.0000	1	0.00	2047	0.0000	1	0.00			
28	1	27-28	2048	0.0000	1	0.00	2048	0.0000	1	0.00			
29	1	28-29	2049	0.0000	1	0.00	2049	0.0000	1	0.00			
30	1	29-30	2050	0.0000	1	0.00	2050	0.0000	1	0.00			
Total Increased Cancer Risk						**7.0**				**0.15**			

* Third trimester of pregnancy

Old Oakland Road, San Jose - Construction Impacts - Unmitigated
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction Impacts at Head Start/Special Ed - 1.5 meter receptor height

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

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

Inhalation Dose = C_{air} x SAF x 8-Hr BR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
SAF = Student Adjustment Factor (unitless)
= (24 hrs/9 hrs) x (7 days/5 days) = 3.73
8-Hr BR = Eight-hour breathing rate (L/kg body weight-per 8 hrs)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant	School Child	Adult
Age -->	**0 - <2**	**2 - <16**	**16 - 30**
Parameter			
ASF =	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00
8-Hr BR* =	1200	520	230
A =	1	1	1
EF =	350	180	250
AT =	70	70	70
SAF =	1.00	3.73	1.00

* 95th percentile 8-hr breathing rates for moderate intensity activities

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Child - Exposure Information: DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age* Sensitivity Factor	Child Cancer Risk (per million)
1	0.75	2021-2022	0.0037	3	0.13
2	0.75	2022-2023	0.00171	3	0.06
					0.2

Maximum Hazard Index	Maximum Fugitive PM2.5	Maximum Total PM2.5
0.001	0.0001	0.0038
0.000	1E-06	0.0017

* Children assumed to be K-6th Grade

Attachment 5: Risk from Existing TAC Sources

Road Link	Description	Direction	No. Lanes	Link Length (miles)	Link Width (ft)	Link Width (m)	Release Height (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
EB_Broka_DPM	Eastbound Brokaw RD.	E	3	0.26	45	13.716	11.15	3.4	40mph off peak, 30mph AM Peak, 30mph PM peak period	14,607
WB_Broka_DPM	Westbound Brokaw RD.	W	3	0.27	45	13.716	11.15	3.4	40mph off peak, 30mph AM Peak, 30mph PM peak period	19,122
EB_Broka_XXX	Eastbound Brokaw RD.	E	3	0.26	45	13.716	4.27	1.3	40mph off peak, 30mph AM Peak, 30mph PM peak period	14,607
WB_Broka_XXX	Westbound Brokaw RD.	W	3	0.27	45	13.716	4.27	1.3	40mph off peak, 30mph AM Peak, 30mph PM peak period	19,122
N_Oak_S_DPM	Northtbound Oakland Rd. South of Mck	NW	3	0.23	36	10.973	11.15	3.4	40mph off peak, 30mph AM Peak, 30mph PM peak period	6,747
S_Oak_S_DPM	Southbound Oakland Rd. South of McK	SE	3	0.23	36	10.973	11.15	3.4	40mph off peak, 30mph AM Peak, 30mph PM peak period	12,231
N_Oak_S_DPM	Northtbound Oakland Rd. South of Mck	NW	3	0.23	36	10.973	4.27	1.3	40mph off peak, 30mph AM Peak, 30mph PM peak period	6,747
S_Oak_S_DPM	Southbound Oakland Rd. South of McK	SE	3	0.23	36	10.973	4.27	1.3	40mph off peak, 30mph AM Peak, 30mph PM peak period	12,231
N_Oak_N_DPM	Northtbound Oakland Rd. North of Mck	NE	3	0.17	36	10.973	11.15	3.4	40mph off peak, 35mph AM Peak, 35mph PM peak period	8,220
S_Oak_N_DPM	Southbound Oakland Rd. North of McK	SW	3	0.16	36	10.973	11.15	3.4	40mph off peak, 35mph AM Peak, 35mph PM peak period	9,244
N_Oak_N_DPM	Northtbound Oakland Rd. North of Mck	NE	3	0.17	36	10.973	4.27	1.3	40mph off peak, 35mph AM Peak, 35mph PM peak period	8,220
S_Oak_N_DPM	Southbound Oakland Rd. North of McK	SW	3	0.16	36	10.973	4.27	1.3	40mph off peak, 35mph AM Peak, 35mph PM peak period	9,244

Emission Factors

	Speed Category	1	2	3
	Travel Speed (mph)	30	35	40
Emisions per vehicle (g/VMT)	DPM	0.00185	0.00177	0.00178
	PM2.5	0.003298	0.00294	0.00279
	TOG Exhaust	0.048686	0.04059	0.03542
	TOG Evap	0.049954	0.04282	0.03747
	Fugitive PM2.5	0.035912	0.03591	0.03591

		Brokaw (WB/EB)			Oakland Rd. South of McKay (NB/SB)		Oakland Rd. North of McKay (NB/SB)	
Vehicle Type	Truck 1 (MDT)	809			455		419	
	Truck 2 (HDT)	1,113			626		576	
	Non-Truck	31,806			17,894		16,468	
Total	2021 ADT			33,729	18,976		17,464	
	Directional Volume		**19,122**	**14,607**	**6,747**	**12,231**	**8220**	**9244**
	Average Veh/Hour/Dir		797	609	281	510	343	385

DPM

2021 Hourly Traffic Volumes and DPM Emisssions - Eastbound Brokaw RD.

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	222	0.000029	8	0.047798	698	9.38116E-05	16	0.05987927	875	0.000117523
1	0.0107423	157	2.025E-05	9	0.049818	728	9.3918E-05	17	0.0586696	857	0.000115149
2	0.00962415	141	1.814E-05	10	0.0550821	805	0.000103842	18	0.05681422	830	0.000107107
3	0.00989684	145	1.866E-05	11	0.0588533	860	0.000110952	19	0.05224669	763	9.84966E-05
4	0.01604012	234	3.024E-05	12	0.060517	884	0.000114088	20	0.04398386	642	8.29194E-05
5	0.02815215	411	5.307E-05	13	0.0621848	908	0.000117232	21	0.03897617	569	7.34788E-05
6	0.03957989	578	7.462E-05	14	0.0639788	935	0.000120614	22	0.03155132	461	5.94813E-05
7	0.04669109	682	9.164E-05	15	0.0609915	891	0.000114983	23	0.02276096	332	4.29095E-05
									TOTAL	14,607	

2021 Hourly Traffic Volumes and DPM Emisssions - Westbound Brokaw RD.

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	290	3.872E-05	8	0.047798	914	0.000127044	16	0.05987927	1145	0.000159155
1	0.0107423	205	2.743E-05	9	0.049818	953	0.000127188	17	0.0586696	1122	0.00015594
2	0.00962415	184	2.457E-05	10	0.0550821	1053	0.000140627	18	0.05681422	1086	0.00014505
3	0.00989684	189	2.527E-05	11	0.0588533	1125	0.000150256	19	0.05224669	999	0.000133389
4	0.01604012	307	4.095E-05	12	0.060517	1157	0.000154503	20	0.04398386	841	0.000112293
5	0.02815215	538	7.187E-05	13	0.0621848	1189	0.000158761	21	0.03897617	745	9.95083E-05
6	0.03957989	757	0.000101	14	0.0639788	1223	0.000163341	22	0.03155132	603	8.05522E-05
7	0.04669109	893	0.0001241	15	0.0609915	1166	0.000155715	23	0.02276096	435	5.81099E-05
									TOTAL	19,122	

2021 Hourly Traffic Volumes and DPM Emisssions - Northtbound Oakland Rd. South of McKay

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	102	0.000012	8	0.047798	322	3.83788E-05	16	0.05987927	404	4.80794E-05
1	0.0107423	72	8.285E-06	9	0.049818	336	3.84224E-05	17	0.0586696	396	4.71081E-05
2	0.00962415	65	7.423E-06	10	0.0550821	372	4.24823E-05	18	0.05681422	383	4.38182E-05
3	0.00989684	67	7.633E-06	11	0.0588533	397	4.53909E-05	19	0.05224669	353	4.02955E-05
4	0.01604012	108	1.237E-05	12	0.060517	408	4.6674E-05	20	0.04398386	297	3.39228E-05
5	0.02815215	190	2.171E-05	13	0.0621848	420	4.79603E-05	21	0.03897617	263	3.00606E-05
6	0.03957989	267	3.053E-05	14	0.0639788	432	4.9344E-05	22	0.03155132	213	2.43341E-05
7	0.04669109	315	3.749E-05	15	0.0609915	412	4.704E-05	23	0.02276096	154	1.75545E-05
									TOTAL	6,747	

DPM

2021 Hourly Traffic Volumes and DPM Emisssions - Southbound Oakland Rd. South of McKay

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	186	2.069E-05	8	0.047798	585	6.78731E-05	16	0.05987927	732	8.50285E-05
1	0.0107423	131	1.465E-05	9	0.049818	609	6.79501E-05	17	0.0586696	718	8.33108E-05
2	0.00962415	118	1.313E-05	10	0.0550821	674	7.51301E-05	18	0.05681422	695	7.74927E-05
3	0.00989684	121	1.35E-05	11	0.0588533	720	8.0274E-05	19	0.05224669	639	7.12628E-05
4	0.01604012	196	2.188E-05	12	0.060517	740	8.25432E-05	20	0.04398386	538	5.99925E-05
5	0.02815215	344	3.84E-05	13	0.0621848	761	8.4818E-05	21	0.03897617	477	5.31622E-05
6	0.03957989	484	5.399E-05	14	0.0639788	782	8.7265E-05	22	0.03155132	386	4.3035E-05
7	0.04669109	571	6.63E-05	15	0.0609915	746	8.31904E-05	23	0.02276096	278	3.10452E-05
									TOTAL	12,231	

2021 Hourly Traffic Volumes and DPM Emisssions - Northtbound Oakland Rd. North of McKay

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	125	0.000010	8	0.047798	393	3.37123E-05	16	0.05987927	492	4.22333E-05
1	0.0107423	88	7.229E-06	9	0.049818	410	3.35226E-05	17	0.0586696	482	4.13802E-05
2	0.00962415	79	6.476E-06	10	0.0550821	453	3.70648E-05	18	0.05681422	467	3.82304E-05
3	0.00989684	81	6.66E-06	11	0.0588533	484	3.96025E-05	19	0.05224669	429	3.51569E-05
4	0.01604012	132	1.079E-05	12	0.060517	497	4.0722E-05	20	0.04398386	362	2.95968E-05
5	0.02815215	231	1.894E-05	13	0.0621848	511	4.18443E-05	21	0.03897617	320	2.62272E-05
6	0.03957989	325	2.663E-05	14	0.0639788	526	4.30515E-05	22	0.03155132	259	2.1231E-05
7	0.04669109	384	3.293E-05	15	0.0609915	501	4.10413E-05	23	0.02276096	187	1.53159E-05
									TOTAL	8,220	

2021 Hourly Traffic Volumes and DPM Emisssions - Southbound Oakland Rd. North of McKay

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	140	1.133E-05	8	0.047798	442	3.54667E-05	16	0.05987927	553	4.44311E-05
1	0.0107423	99	8.025E-06	9	0.049818	460	3.72168E-05	17	0.0586696	542	4.35335E-05
2	0.00962415	89	7.19E-06	10	0.0550821	509	4.11494E-05	18	0.05681422	525	4.24434E-05
3	0.00989684	91	7.393E-06	11	0.0588533	544	4.39668E-05	19	0.05224669	483	3.90312E-05
4	0.01604012	148	1.198E-05	12	0.060517	559	4.52096E-05	20	0.04398386	407	3.28584E-05
5	0.02815215	260	2.103E-05	13	0.0621848	575	4.64555E-05	21	0.03897617	360	2.91174E-05
6	0.03957989	366	2.957E-05	14	0.0639788	591	4.77958E-05	22	0.03155132	292	2.35706E-05
7	0.04669109	432	3.465E-05	15	0.0609915	564	4.55641E-05	23	0.02276096	210	1.70037E-05
									TOTAL	9,244	

2021 Hourly Traffic Volumes and PM2.5 Emisssions - Eastbound Brokaw RD.

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	222	0.000045	8	0.047798	698	0.000167238	16	0.05987927	875	0.000209509
1	0.0107423	157	3.178E-05	9	0.049818	728	0.000147404	17	0.0586696	857	0.000205276
2	0.00962415	141	2.848E-05	10	0.0550821	805	0.00016298	18	0.05681422	830	0.000168105
3	0.00989684	145	2.928E-05	11	0.0588533	860	0.000174138	19	0.05224669	763	0.00015459
4	0.01604012	234	4.746E-05	12	0.060517	884	0.000179061	20	0.04398386	642	0.000130142
5	0.02815215	411	8.33E-05	13	0.0621848	908	0.000183996	21	0.03897617	569	0.000115325
6	0.03957989	578	0.0001171	14	0.0639788	935	0.000189304	22	0.03155132	461	9.33558E-05
7	0.04669109	682	0.0001634	15	0.0609915	891	0.000180465	23	0.02276096	332	6.73464E-05
								TOTAL		14,607	

2021 Hourly Traffic Volumes and PM2.5 Emisssions - Westbound Brokaw RD.

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	290	6.078E-05	8	0.047798	914	0.000226481	16	0.05987927	1145	0.000283726
1	0.0107423	205	4.304E-05	9	0.049818	953	0.000199621	17	0.0586696	1122	0.000277995
2	0.00962415	184	3.856E-05	10	0.0550821	1053	0.000220715	18	0.05681422	1086	0.000227655
3	0.00989684	189	3.966E-05	11	0.0588533	1125	0.000235826	19	0.05224669	999	0.000209353
4	0.01604012	307	6.427E-05	12	0.060517	1157	0.000242493	20	0.04398386	841	0.000176244
5	0.02815215	538	0.0001128	13	0.0621848	1189	0.000249175	21	0.03897617	745	0.000156178
6	0.03957989	757	0.0001586	14	0.0639788	1223	0.000256364	22	0.03155132	603	0.000126427
7	0.04669109	893	0.0002212	15	0.0609915	1166	0.000244394	23	0.02276096	435	9.12035E-05
								TOTAL		19,122	

2021 Hourly Traffic Volumes and PM2.5 Emisssions - Northtbound Oakland Rd. South of McKay

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	102	0.000018	8	0.047798	322	6.8418E-05	16	0.05987927	404	8.57112E-05
1	0.0107423	72	1.3E-05	9	0.049818	336	6.03039E-05	17	0.0586696	396	8.39797E-05
2	0.00962415	65	1.165E-05	10	0.0550821	372	6.66759E-05	18	0.05681422	383	6.87727E-05
3	0.00989684	67	1.198E-05	11	0.0588533	397	7.1241E-05	19	0.05224669	353	6.32438E-05
4	0.01604012	108	1.942E-05	12	0.060517	408	7.32549E-05	20	0.04398386	297	5.32418E-05
5	0.02815215	190	3.408E-05	13	0.0621848	420	7.52737E-05	21	0.03897617	263	4.718E-05
6	0.03957989	267	4.791E-05	14	0.0639788	432	7.74453E-05	22	0.03155132	213	3.81924E-05
7	0.04669109	315	6.683E-05	15	0.0609915	412	7.38293E-05	23	0.02276096	154	2.75518E-05
								TOTAL		6,747	

2021 Hourly Traffic Volumes and PM2.5 Emisssions - Southbound Oakland Rd. South of McKay

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	186	3.247E-05	8	0.047798	585	0.000120998	16	0.05987927	732	0.000151581
1	0.0107423	131	2.3E-05	9	0.049818	609	0.000106648	17	0.0586696	718	0.000148518
2	0.00962415	118	2.06E-05	10	0.0550821	674	0.000117917	18	0.05681422	695	0.000121625
3	0.00989684	121	2.119E-05	11	0.0588533	720	0.00012599	19	0.05224669	639	0.000111847
4	0.01604012	196	3.434E-05	12	0.060517	740	0.000129551	20	0.04398386	538	9.41582E-05
5	0.02815215	344	6.027E-05	13	0.0621848	761	0.000133122	21	0.03897617	477	8.34381E-05
6	0.03957989	484	8.473E-05	14	0.0639788	782	0.000136962	22	0.03155132	386	6.75433E-05
7	0.04669109	571	0.0001182	15	0.0609915	746	0.000130567	23	0.02276096	278	4.87254E-05
								TOTAL		12,231	

2021 Hourly Traffic Volumes and PM2.5 Emisssions - Northtbound Oakland Rd. North of McKay

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	125	0.000016	8	0.047798	393	5.36481E-05	16	0.05987927	492	6.72081E-05
1	0.0107423	88	1.142E-05	9	0.049818	410	5.29715E-05	17	0.0586696	482	6.58504E-05
2	0.00962415	79	1.023E-05	10	0.0550821	453	5.85687E-05	18	0.05681422	467	6.04106E-05
3	0.00989684	81	1.052E-05	11	0.0588533	484	6.25787E-05	19	0.05224669	429	5.55539E-05
4	0.01604012	132	1.706E-05	12	0.060517	497	6.43477E-05	20	0.04398386	362	4.6768E-05
5	0.02815215	231	2.993E-05	13	0.0621848	511	6.61211E-05	21	0.03897617	320	4.14434E-05
6	0.03957989	325	4.209E-05	14	0.0639788	526	6.80286E-05	22	0.03155132	259	3.35485E-05
7	0.04669109	384	5.241E-05	15	0.0609915	501	6.48523E-05	23	0.02276096	187	2.42017E-05
								TOTAL		8,220	

2021 Hourly Traffic Volumes and PM2.5 Emisssions - Southbound Oakland Rd. North of McKay

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	140	1.778E-05	8	0.047798	442	5.9158E-05	16	0.05987927	553	7.41106E-05
1	0.0107423	99	1.26E-05	9	0.049818	460	5.84118E-05	17	0.0586696	542	7.26134E-05
2	0.00962415	89	1.128E-05	10	0.0550821	509	6.4584E-05	18	0.05681422	525	6.66149E-05
3	0.00989684	91	1.16E-05	11	0.0588533	544	6.90058E-05	19	0.05224669	483	6.12595E-05
4	0.01604012	148	1.881E-05	12	0.060517	559	7.09565E-05	20	0.04398386	407	5.15713E-05
5	0.02815215	260	3.301E-05	13	0.0621848	575	7.29119E-05	21	0.03897617	360	4.56997E-05
6	0.03957989	366	4.641E-05	14	0.0639788	591	7.50154E-05	22	0.03155132	292	3.69941E-05
7	0.04669109	432	5.779E-05	15	0.0609915	564	7.15129E-05	23	0.02276096	210	2.66873E-05
								TOTAL		9,244	

2021 Hourly Traffic Volumes and TOG Exhaust Emisssi Eastbound Brokaw RD.

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	222	0.000570	8	0.047798	698	0.002468816	16	0.05987927	875	0.003092828
1	0.0107423	157	0.0004037	9	0.049818	728	0.001872176	17	0.0586696	857	0.003030348
2	0.00962415	141	0.0003617	10	0.0550821	805	0.002070002	18	0.05681422	830	0.002135097
3	0.00989684	145	0.0003719	11	0.0588533	860	0.002211727	19	0.05224669	763	0.001963448
4	0.01604012	234	0.0006028	12	0.060517	884	0.002274249	20	0.04398386	642	0.001652928
5	0.02815215	411	0.001058	13	0.0621848	908	0.002336924	21	0.03897617	569	0.001464737
6	0.03957989	578	0.0014874	14	0.0639788	935	0.002404344	22	0.03155132	461	0.001185709
7	0.04669109	682	0.0024116	15	0.0609915	891	0.002292082	23	0.02276096	332	0.000855364
									TOTAL	14,607	

2021 Hourly Traffic Volumes and TOG Exhaust Emisssi Westbound Brokaw RD.

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	290	0.0007719	8	0.047798	914	0.003343383	16	0.05987927	1145	0.004188448
1	0.0107423	205	0.0005467	9	0.049818	953	0.002535386	17	0.0586696	1122	0.004103834
2	0.00962415	184	0.0004898	10	0.0550821	1053	0.00280329	18	0.05681422	1086	0.002891445
3	0.00989684	189	0.0005037	11	0.0588533	1125	0.002995221	19	0.05224669	999	0.00265899
4	0.01604012	307	0.0008163	12	0.060517	1157	0.003079891	20	0.04398386	841	0.00223847
5	0.02815215	538	0.0014327	13	0.0621848	1189	0.003164768	21	0.03897617	745	0.001983614
6	0.03957989	757	0.0020143	14	0.0639788	1223	0.003256072	22	0.03155132	603	0.001605741
7	0.04669109	893	0.003266	15	0.0609915	1166	0.003104041	23	0.02276096	435	0.001158373
									TOTAL	19,122	

2021 Hourly Traffic Volumes and TOG Exhaust Emisssi Northtbound Oakland Rd. South of McKay

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	102	0.000233	8	0.047798	322	0.001010006	16	0.05987927	404	0.001265293
1	0.0107423	72	0.0001652	9	0.049818	336	0.000765917	17	0.0586696	396	0.001239732
2	0.00962415	65	0.000148	10	0.0550821	372	0.000846849	18	0.05681422	383	0.00087348
3	0.00989684	67	0.0001522	11	0.0588533	397	0.00090483	19	0.05224669	353	0.000803257
4	0.01604012	108	0.0002466	12	0.060517	408	0.000930408	20	0.04398386	297	0.000676222
5	0.02815215	190	0.0004328	13	0.0621848	420	0.000956048	21	0.03897617	263	0.000599232
6	0.03957989	267	0.0006085	14	0.0639788	432	0.00098363	22	0.03155132	213	0.00048508
7	0.04669109	315	0.0009866	15	0.0609915	412	0.000937703	23	0.02276096	154	0.000349934
									TOTAL	6,747	

2021 Hourly Traffic Volumes and TOG Exhaust Emisssi Southbound Oakland Rd. South of McKay

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	186	0.0004124	8	0.047798	585	0.0017862	16	0.05987927	732	0.002237675
1	0.0107423	131	0.0002921	9	0.049818	609	0.001354528	17	0.0586696	718	0.00219247
2	0.00962415	118	0.0002617	10	0.0550821	674	0.001497656	18	0.05681422	695	0.001544752
3	0.00989684	121	0.0002691	11	0.0588533	720	0.001600194	19	0.05224669	639	0.001420563
4	0.01604012	196	0.0004361	12	0.060517	740	0.001645429	20	0.04398386	538	0.001195901
5	0.02815215	344	0.0007654	13	0.0621848	761	0.001690775	21	0.03897617	477	0.001059744
6	0.03957989	484	0.0010762	14	0.0639788	782	0.001739554	22	0.03155132	386	0.000857866
7	0.04669109	571	0.0017448	15	0.0609915	746	0.001658331	23	0.02276096	278	0.00061886
									TOTAL	12,231	

2021 Hourly Traffic Volumes and TOG Exhaust Emisssi Northtbound Oakland Rd. North of McKay

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	125	0.000205	8	0.047798	393	0.00073963	16	0.05987927	492	0.000926577
1	0.0107423	88	0.0001451	9	0.049818	410	0.000672789	17	0.0586696	482	0.000907858
2	0.00962415	79	0.00013	10	0.0550821	453	0.00074388	18	0.05681422	467	0.000767273
3	0.00989684	81	0.0001337	11	0.0588533	484	0.00079481	19	0.05224669	429	0.000705588
4	0.01604012	132	0.0002166	12	0.060517	497	0.000817278	20	0.04398386	362	0.000593999
5	0.02815215	231	0.0003802	13	0.0621848	511	0.000839801	21	0.03897617	320	0.000526371
6	0.03957989	325	0.0005345	14	0.0639788	526	0.00086403	22	0.03155132	259	0.000426099
7	0.04669109	384	0.0007225	15	0.0609915	501	0.000823687	23	0.02276096	187	0.000307385
									TOTAL	8,220	

2021 Hourly Traffic Volumes and TOG Exhaust Emisssi Southbound Oakland Rd. North of McKay

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	140	1.133E-05	8	0.047798	442	3.54667E-05	16	0.05987927	553	4.44311E-05
1	0.0107423	99	8.025E-06	9	0.049818	460	3.72168E-05	17	0.0586696	542	4.35335E-05
2	0.00962415	89	7.19E-06	10	0.0550821	509	4.11494E-05	18	0.05681422	525	4.24434E-05
3	0.00989684	91	7.393E-06	11	0.0588533	544	4.39668E-05	19	0.05224669	483	3.90312E-05
4	0.01604012	148	1.198E-05	12	0.060517	559	4.52096E-05	20	0.04398386	407	3.28584E-05
5	0.02815215	260	2.103E-05	13	0.0621848	575	4.64555E-05	21	0.03897617	360	2.91174E-05
6	0.03957989	366	2.957E-05	14	0.0639788	591	4.77958E-05	22	0.03155132	292	2.35706E-05
7	0.04669109	432	3.465E-05	15	0.0609915	564	4.55641E-05	23	0.02276096	210	1.70037E-05
									TOTAL	9,244	

2021 Hourly Traffic Volumes and TOG Evaporative Emi Eastbound Brokaw RD.

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	222	0.000603	8	0.047798	698	0.002533092	16	0.05987927	875	0.00317335
1	0.0107423	157	0.000427	9	0.049818	728	0.001980108	17	0.0586696	857	0.003109242
2	0.00962415	141	0.0003825	10	0.0550821	805	0.002189338	18	0.05681422	830	0.002258186
3	0.00989684	145	0.0003934	11	0.0588533	860	0.002339234	19	0.05224669	763	0.002076641
4	0.01604012	234	0.0006375	12	0.060517	884	0.00240536	20	0.04398386	642	0.00174822
5	0.02815215	411	0.001119	13	0.0621848	908	0.002471649	21	0.03897617	569	0.00154918
6	0.03957989	578	0.0015732	14	0.0639788	935	0.002542956	22	0.03155132	461	0.001254066
7	0.04669109	682	0.0024744	15	0.0609915	891	0.002424221	23	0.02276096	332	0.000904676
									TOTAL	14,607	

2021 Hourly Traffic Volumes and TOG Evaporative Emi Westbound Brokaw RD.

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	290	0.0008164	8	0.047798	914	0.003430427	16	0.05987927	1145	0.004297494
1	0.0107423	205	0.0005782	9	0.049818	953	0.002681552	17	0.0586696	1122	0.004210677
2	0.00962415	184	0.000518	10	0.0550821	1053	0.002964901	18	0.05681422	1086	0.003058138
3	0.00989684	189	0.0005327	11	0.0588533	1125	0.003167896	19	0.05224669	999	0.002812282
4	0.01604012	307	0.0008634	12	0.060517	1157	0.003257448	20	0.04398386	841	0.002367518
5	0.02815215	538	0.0015153	13	0.0621848	1189	0.003347218	21	0.03897617	745	0.00209797
6	0.03957989	757	0.0021305	14	0.0639788	1223	0.003443786	22	0.03155132	603	0.001698312
7	0.04669109	893	0.003351	15	0.0609915	1166	0.00328299	23	0.02276096	435	0.001225154
									TOTAL	19,122	

2021 Hourly Traffic Volumes and TOG Evaporative Emi Northtbound Oakland Rd. South of McKay

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	102	0.000247	8	0.047798	322	0.001036302	16	0.05987927	404	0.001298235
1	0.0107423	72	0.0001747	9	0.049818	336	0.000810073	17	0.0586696	396	0.001272008
2	0.00962415	65	0.0001565	10	0.0550821	372	0.00089567	18	0.05681422	383	0.000923836
3	0.00989684	67	0.0001609	11	0.0588533	397	0.000956993	19	0.05224669	353	0.000849565
4	0.01604012	108	0.0002608	12	0.060517	408	0.000984046	20	0.04398386	297	0.000715206
5	0.02815215	190	0.0004578	13	0.0621848	420	0.001011165	21	0.03897617	263	0.000633778
6	0.03957989	267	0.0006436	14	0.0639788	432	0.001040337	22	0.03155132	213	0.000513045
7	0.04669109	315	0.0010123	15	0.0609915	412	0.000991762	23	0.02276096	154	0.000370108
									TOTAL	6,747	

2021 Hourly Traffic Volumes and TOG Evaporative Emi Southbound Oakland Rd. South of McKay

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	186	0.0004362	8	0.047798	585	0.001832703	16	0.05987927	732	0.002295933
1	0.0107423	131	0.0003089	9	0.049818	609	0.001432617	17	0.0586696	718	0.002249551
2	0.00962415	118	0.0002768	10	0.0550821	674	0.001583996	18	0.05681422	695	0.001633808
3	0.00989684	121	0.0002846	11	0.0588533	720	0.001692446	19	0.05224669	639	0.001502459
4	0.01604012	196	0.0004613	12	0.060517	740	0.001740289	20	0.04398386	538	0.001264845
5	0.02815215	344	0.0008096	13	0.0621848	761	0.001788249	21	0.03897617	477	0.001120839
6	0.03957989	484	0.0011382	14	0.0639788	782	0.00183984	22	0.03155132	386	0.000907322
7	0.04669109	571	0.0017903	15	0.0609915	746	0.001753935	23	0.02276096	278	0.000654537
									TOTAL	12,231	

2021 Hourly Traffic Volumes and TOG Evaporative Emi Northtbound Oakland Rd. North of McKay

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	125	0.000217	8	0.047798	393	0.000780254	16	0.05987927	492	0.000977469
1	0.0107423	88	0.0001534	9	0.049818	410	0.000711575	17	0.0586696	482	0.000957723
2	0.00962415	79	0.0001375	10	0.0550821	453	0.000786765	18	0.05681422	467	0.000811506
3	0.00989684	81	0.0001414	11	0.0588533	484	0.000840631	19	0.05224669	429	0.000746266
4	0.01604012	132	0.0002291	12	0.060517	497	0.000864395	20	0.04398386	362	0.000628244
5	0.02815215	231	0.0004021	13	0.0621848	511	0.000888216	21	0.03897617	320	0.000556716
6	0.03957989	325	0.0005653	14	0.0639788	526	0.000913841	22	0.03155132	259	0.000450663
7	0.04669109	384	0.0007622	15	0.0609915	501	0.000871173	23	0.02276096	187	0.000325106
									TOTAL	8,220	

2021 Hourly Traffic Volumes and TOG Evaporative Emi Southbound Oakland Rd. North of McKay

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	140	0.0002389	8	0.047798	442	0.000860389	16	0.05987927	553	0.001077859
1	0.0107423	99	0.0001692	9	0.049818	460	0.000784657	17	0.0586696	542	0.001056084
2	0.00962415	89	0.0001516	10	0.0550821	509	0.000867568	18	0.05681422	525	0.000894851
3	0.00989684	91	0.0001559	11	0.0588533	544	0.000926967	19	0.05224669	483	0.00082291
4	0.01604012	148	0.0002526	12	0.060517	559	0.000953171	20	0.04398386	407	0.000692766
5	0.02815215	260	0.0004434	13	0.0621848	575	0.000979439	21	0.03897617	360	0.000613893
6	0.03957989	366	0.0006234	14	0.0639788	591	0.001007696	22	0.03155132	292	0.000496948
7	0.04669109	432	0.0008405	15	0.0609915	564	0.000960645	23	0.02276096	210	0.000358496
									TOTAL	9,244	

2021 Hourly Traffic Volumes and Fugitive PM2.5 Emis Eastbound Brokaw RD.

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	222	0.000578	8	0.047798	698	0.00182106	16	0.05987927	875	0.002281347
1	0.0107423	157	0.0004093	9	0.049818	728	0.001898021	17	0.0586696	857	0.00223526
2	0.00962415	141	0.0003667	10	0.0550821	805	0.002098577	18	0.05681422	830	0.002164571
3	0.00989684	145	0.0003771	11	0.0588533	860	0.002242259	19	0.05224669	763	0.001990552
4	0.01604012	234	0.0006111	12	0.060517	884	0.002305644	20	0.04398386	642	0.001675746
5	0.02815215	411	0.0010726	13	0.0621848	908	0.002369184	21	0.03897617	569	0.001484957
6	0.03957989	578	0.001508	14	0.0639788	935	0.002437535	22	0.03155132	461	0.001202077
7	0.04669109	682	0.0017789	15	0.0609915	891	0.002323723	23	0.02276096	332	0.000867172
									TOTAL	14,607	

2021 Hourly Traffic Volumes and Fugitive PM2.5 Emis Westbound Brokaw RD.

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	290	0.0007826	8	0.047798	914	0.002466162	16	0.05987927	1145	0.003089503
1	0.0107423	205	0.0005543	9	0.049818	953	0.002570386	17	0.0586696	1122	0.00302709
2	0.00962415	184	0.0004966	10	0.0550821	1053	0.002841988	18	0.05681422	1086	0.00293136
3	0.00989684	189	0.0005106	11	0.0588533	1125	0.003036568	19	0.05224669	999	0.002695696
4	0.01604012	307	0.0008276	12	0.060517	1157	0.003122408	20	0.04398386	841	0.002269371
5	0.02815215	538	0.0014525	13	0.0621848	1189	0.003208457	21	0.03897617	745	0.002010997
6	0.03957989	757	0.0020421	14	0.0639788	1223	0.00330102	22	0.03155132	603	0.001627907
7	0.04669109	893	0.0024091	15	0.0609915	1166	0.003146891	23	0.02276096	435	0.001174364
									TOTAL	19,122	

2021 Hourly Traffic Volumes and Fugitive PM2.5 Emis Northtbound Oakland Rd. South of McKay

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	102	0.000236	8	0.047798	322	0.000745006	16	0.05987927	404	0.000933312
1	0.0107423	72	0.0001674	9	0.049818	336	0.000776491	17	0.0586696	396	0.000914457
2	0.00962415	65	0.00015	10	0.0550821	372	0.000858539	18	0.05681422	383	0.000885538
3	0.00989684	67	0.0001543	11	0.0588533	397	0.00091732	19	0.05224669	353	0.000814346
4	0.01604012	108	0.00025	12	0.060517	408	0.000943252	20	0.04398386	297	0.000685557
5	0.02815215	190	0.0004388	13	0.0621848	420	0.000969246	21	0.03897617	263	0.000607504
6	0.03957989	267	0.0006169	14	0.0639788	432	0.000997209	22	0.03155132	213	0.000491776
7	0.04669109	315	0.0007278	15	0.0609915	412	0.000950648	23	0.02276096	154	0.000354765
									TOTAL	6,747	

2021 Hourly Traffic Volumes and Fugitive PM2.5 Emis Southbound Oakland Rd. South of McKay

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	186	0.0004181	8	0.047798	585	0.001317545	16	0.05987927	732	0.001650565
1	0.0107423	131	0.0002961	9	0.049818	609	0.001373226	17	0.0586696	718	0.00161722
2	0.00962415	118	0.0002653	10	0.0550821	674	0.00151833	18	0.05681422	695	0.001566077
3	0.00989684	121	0.0002728	11	0.0588533	720	0.001622284	19	0.05224669	639	0.001440174
4	0.01604012	196	0.0004421	12	0.060517	740	0.001668144	20	0.04398386	538	0.00121241
5	0.02815215	344	0.000776	13	0.0621848	761	0.001714115	21	0.03897617	477	0.001074373
6	0.03957989	484	0.001091	14	0.0639788	782	0.001763568	22	0.03155132	386	0.000869708
7	0.04669109	571	0.001287	15	0.0609915	746	0.001681224	23	0.02276096	278	0.000627403
									TOTAL	12,231	

2021 Hourly Traffic Volumes and Fugitive PM2.5 Emis Northtbound Oakland Rd. North of McKay

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	125	0.000208	8	0.047798	393	0.00065442	16	0.05987927	492	0.000819829
1	0.0107423	88	0.0001471	9	0.049818	410	0.000682076	17	0.0586696	482	0.000803267
2	0.00962415	79	0.0001318	10	0.0550821	453	0.000754149	18	0.05681422	467	0.000777864
3	0.00989684	81	0.0001355	11	0.0588533	484	0.000805782	19	0.05224669	429	0.000715329
4	0.01604012	132	0.0002196	12	0.060517	497	0.000828561	20	0.04398386	362	0.000602199
5	0.02815215	231	0.0003854	13	0.0621848	511	0.000851395	21	0.03897617	320	0.000533637
6	0.03957989	325	0.0005419	14	0.0639788	526	0.000875957	22	0.03155132	259	0.000431981
7	0.04669109	384	0.0006393	15	0.0609915	501	0.000835058	23	0.02276096	187	0.000311629
									TOTAL	8,220	

2021 Hourly Traffic Volumes and Fugitive PM2.5 Emis Southbound Oakland Rd. North of McKay

Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s	Hour	Fraction Per Hour	VPH	g/s
0	0.01516797	140	0.000229	8	0.047798	442	0.000721631	16	0.05987927	553	0.000904029
1	0.0107423	99	0.0001622	9	0.049818	460	0.000752128	17	0.0586696	542	0.000885766
2	0.00962415	89	0.0001453	10	0.0550821	509	0.000831602	18	0.05681422	525	0.000857754
3	0.00989684	91	0.0001494	11	0.0588533	544	0.000888539	19	0.05224669	483	0.000788796
4	0.01604012	148	0.0002422	12	0.060517	559	0.000913657	20	0.04398386	407	0.000664047
5	0.02815215	260	0.000425	13	0.0621848	575	0.000938836	21	0.03897617	360	0.000588444
6	0.03957989	366	0.0005976	14	0.0639788	591	0.000965921	22	0.03155132	292	0.000476347
7	0.04669109	432	0.0007049	15	0.0609915	564	0.000920821	23	0.02276096	210	0.000343634
									TOTAL	9,244	

Old Oakland Road Comercial Development, San Jose, CA
AERMOD Risk Modeling Parameters and Maximum Concentrations at Construction MEI Receptor

Emissions Years	2021 and 2022
Receptor Information	
Number of Receptors	
Receptor Height (in m) =	1.5
Receptor Distances =	Construction MEI Location
Meteorological Conditions	
BAAQMD San Jose Airport Met Data	2013 - 2017
Land Use Classification	urban
Wind Speed =	variable
Wind Direction =	variable

Brokaw Rd. Construction MEI Maximum Concentrations 2021 - Floor 1

Meteorological Data Years	2021 Concentrations (µg/m^3)		
	DPM	Exhaust TOG	Evaporative TOG
2013 - 2017	0.00138	0.02858	0.03007

Meteorological Data Years	2021 PM2.5 Concentrations (µg/m^3)		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013 - 2017	0.02974	0.02755	0.00219

Brokaw Rd. Construction MEI Maximum Concentrations 2022 -Floor 1*

Meteorological Data Years	2022 Concentrations (µg/m^3)		
	DPM	Exhaust TOG	Evaporative TOG
2013 - 2017	0.0013938	0.0288658	0.0303707

Meteorological Data Years	2022 PM2.5 Concentrations (µg/m^3)		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013 - 2017	0.0300374	0.0278255	0.0022119

*2022 Concentrations estimated using 1% increase to account for increase in traffic volumes.
A 1% increase in traffic volume would result in less than a 1% increase in concentrations.

Old Oakland Road Comercial Development, San Jose, CA -Brokaw Road Impacts
Maximum DPM Cancer Risk and PM2.5 Calculations From Berryessa on Construction MEI
Impacts at Off-Site MF Home - 1.5 meter receptor height

Cancer Risk Calculation Method

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

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

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

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

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

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

Values

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

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			TOTAL
Exposure Year	Exposure Duration (years)	Age	Year	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	
0	0.25	-0.25 - 0*	2021	10	0.0014	0.0286	0.0301	0.019	0.002	0.0001	0.02
1	1	0 - 1	2021	10	0.0014	0.0286	0.0301	0.227	0.027	0.0017	0.26
2	1	1 - 2	2022	10	0.0014	0.0289	0.0304	0.229	0.027	0.0017	0.26
3	1	2 - 3	2023	3	0.0014	0.0289	0.0304	0.036	0.004	0.0003	0.04
4	1	3 - 4	2024	3	0.0014	0.0289	0.0304	0.036	0.004	0.0003	0.04
5	1	4 - 5	2025	3	0.0014	0.0289	0.0304	0.036	0.004	0.0003	0.04
6	1	5 - 6	2026	3	0.0014	0.0289	0.0304	0.036	0.004	0.0003	0.04
7	1	6 - 7	2027	3	0.0014	0.0289	0.0304	0.036	0.004	0.0003	0.04
8	1	7 - 8	2028	3	0.0014	0.0289	0.0304	0.036	0.004	0.0003	0.04
9	1	8 - 9	2029	3	0.0014	0.0289	0.0304	0.036	0.004	0.0003	0.04
10	1	9 - 10	2030	3	0.0014	0.0289	0.0304	0.036	0.004	0.0003	0.04
11	1	10 - 11	2031	3	0.0014	0.0289	0.0304	0.036	0.004	0.0003	0.04
12	1	11 - 12	2032	3	0.0014	0.0289	0.0304	0.036	0.004	0.0003	0.04
13	1	12 - 13	2033	3	0.0014	0.0289	0.0304	0.036	0.004	0.0003	0.04
14	1	13 - 14	2034	3	0.0014	0.0289	0.0304	0.036	0.004	0.0003	0.04
15	1	14 - 15	2035	3	0.0014	0.0289	0.0304	0.036	0.004	0.0003	0.04
16	1	15 - 16	2036	3	0.0014	0.0289	0.0304	0.036	0.004	0.0003	0.04
17	1	16-17	2037	1	0.0014	0.0289	0.0304	0.004	0.000	0.0000	0.005
18	1	17-18	2038	1	0.0014	0.0289	0.0304	0.004	0.000	0.0000	0.005
19	1	18-19	2039	1	0.0014	0.0289	0.0304	0.004	0.000	0.0000	0.005
20	1	19-20	2040	1	0.0014	0.0289	0.0304	0.004	0.000	0.0000	0.005
21	1	20-21	2041	1	0.0014	0.0289	0.0304	0.004	0.000	0.0000	0.005
22	1	21-22	2042	1	0.0014	0.0289	0.0304	0.004	0.000	0.0000	0.005
23	1	22-23	2043	1	0.0014	0.0289	0.0304	0.004	0.000	0.0000	0.005
24	1	23-24	2044	1	0.0014	0.0289	0.0304	0.004	0.000	0.0000	0.005
25	1	24-25	2045	1	0.0014	0.0289	0.0304	0.004	0.000	0.0000	0.005
26	1	25-26	2046	1	0.0014	0.0289	0.0304	0.004	0.000	0.0000	0.005
27	1	26-27	2047	1	0.0014	0.0289	0.0304	0.004	0.000	0.0000	0.005
28	1	27-28	2048	1	0.0014	0.0289	0.0304	0.004	0.000	0.0000	0.005
29	1	28-29	2049	1	0.0014	0.0289	0.0304	0.004	0.000	0.0000	0.005
30	1	29-30	2050	1	0.0014	0.0289	0.0304	0.004	0.000	0.0000	0.005
Total Increased Cancer Risk								1.03	0.122	0.008	**1.2**

Maximum	
Hazard Index	**Total PM2.5 (µg/m3)**
0.0003	0.030
0.0003	0.030

* Third trimester of pregnancy

Old Oakland Road Comercial Development, San Jose, CA
AERMOD Risk Modeling Parameters and Maximum Concentrations at Construction MEI Receptor

Emissions Years	2021 and 2022
Receptor Information	
Number of Receptors	
Receptor Height (in m) =	1.5
Receptor Distances =	Construction MEI Location
Meteorological Conditions	
BAAQMD San Jose Airport Met Data	2013 - 2017
Land Use Classification	urban
Wind Speed =	variable
Wind Direction =	variable

Oakland Road Construction MEI Maximum Concentrations 2021 - Floor 1

Meteorological Data Years	2021 Concentrations (µg/m^3)		
	DPM	Exhaust TOG	Evaporative TOG
2013 - 2017	0.00771	0.35456	0.38856

Meteorological Data Years	2021 PM2.5 Concentrations (µg/m^3)		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013 - 2017	0.38042	0.35222	0.0282

Oakland Road Construction MEI Maximum Concentrations 2022 -Floor 1*

Meteorological Data Years	2022 Concentrations (µg/m^3)		
	DPM	Exhaust TOG	Evaporative TOG
2013 - 2017	0.0077871	0.3581056	0.3924456

Meteorological Data Years	2022 PM2.5 Concentrations (µg/m^3)		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013 - 2017	0.3842242	0.3557422	0.028482

*2022 Concentrations estimated using 1% increase to account for increase in traffic volumes.
A 1% increase in traffic volume would result in less than a 1% increase in concentrations.

Old Oakland Road Comercial Development, San Jose, CA - Oakland Road Impacts
Maximum DPM Cancer Risk and PM2.5 Calculations for Construction MEI
Impacts at Off-Site MF Home - 1.5 meter receptor height

Cancer Risk Calculation Method

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

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

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

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

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

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

Values

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

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			TOTAL
Exposure Year	Exposure Duration (years)	Age	Year	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	
0	0.25	-0.25 - 0*	2021	10	0.0077	0.3546	0.3886	0.105	0.028	0.0018	0.13
1	1	0 - 1	2021	10	0.0077	0.3546	0.3886	1.266	0.332	0.0215	1.62
2	1	1 - 2	2022	10	0.0078	0.3581	0.3924	1.279	0.336	0.0217	1.64
3	1	2 - 3	2023	3	0.0078	0.3581	0.3924	0.201	0.053	0.0034	0.26
4	1	3 - 4	2024	3	0.0078	0.3581	0.3924	0.201	0.053	0.0034	0.26
5	1	4 - 5	2025	3	0.0078	0.3581	0.3924	0.201	0.053	0.0034	0.26
6	1	5 - 6	2026	3	0.0078	0.3581	0.3924	0.201	0.053	0.0034	0.26
7	1	6 - 7	2027	3	0.0078	0.3581	0.3924	0.201	0.053	0.0034	0.26
8	1	7 - 8	2028	3	0.0078	0.3581	0.3924	0.201	0.053	0.0034	0.26
9	1	8 - 9	2029	3	0.0078	0.3581	0.3924	0.201	0.053	0.0034	0.26
10	1	9 - 10	2030	3	0.0078	0.3581	0.3924	0.201	0.053	0.0034	0.26
11	1	10 - 11	2031	3	0.0078	0.3581	0.3924	0.201	0.053	0.0034	0.26
12	1	11 - 12	2032	3	0.0078	0.3581	0.3924	0.201	0.053	0.0034	0.26
13	1	12 - 13	2033	3	0.0078	0.3581	0.3924	0.201	0.053	0.0034	0.26
14	1	13 - 14	2034	3	0.0078	0.3581	0.3924	0.201	0.053	0.0034	0.26
15	1	14 - 15	2035	3	0.0078	0.3581	0.3924	0.201	0.053	0.0034	0.26
16	1	15 - 16	2036	3	0.0078	0.3581	0.3924	0.201	0.053	0.0034	0.26
17	1	16-17	2037	1	0.0078	0.3581	0.3924	0.022	0.006	0.0004	0.029
18	1	17-18	2038	1	0.0078	0.3581	0.3924	0.022	0.006	0.0004	0.029
19	1	18-19	2039	1	0.0078	0.3581	0.3924	0.022	0.006	0.0004	0.029
20	1	19-20	2040	1	0.0078	0.3581	0.3924	0.022	0.006	0.0004	0.029
21	1	20-21	2041	1	0.0078	0.3581	0.3924	0.022	0.006	0.0004	0.029
22	1	21-22	2042	1	0.0078	0.3581	0.3924	0.022	0.006	0.0004	0.029
23	1	22-23	2043	1	0.0078	0.3581	0.3924	0.022	0.006	0.0004	0.029
24	1	23-24	2044	1	0.0078	0.3581	0.3924	0.022	0.006	0.0004	0.029
25	1	24-25	2045	1	0.0078	0.3581	0.3924	0.022	0.006	0.0004	0.029
26	1	25-26	2046	1	0.0078	0.3581	0.3924	0.022	0.006	0.0004	0.029
27	1	26-27	2047	1	0.0078	0.3581	0.3924	0.022	0.006	0.0004	0.029
28	1	27-28	2048	1	0.0078	0.3581	0.3924	0.022	0.006	0.0004	0.029
29	1	28-29	2049	1	0.0078	0.3581	0.3924	0.022	0.006	0.0004	0.029
30	1	29-30	2050	1	0.0078	0.3581	0.3924	0.022	0.006	0.0004	0.029
Total Increased Cancer Risk								5.78	1.518	0.098	**7.4**

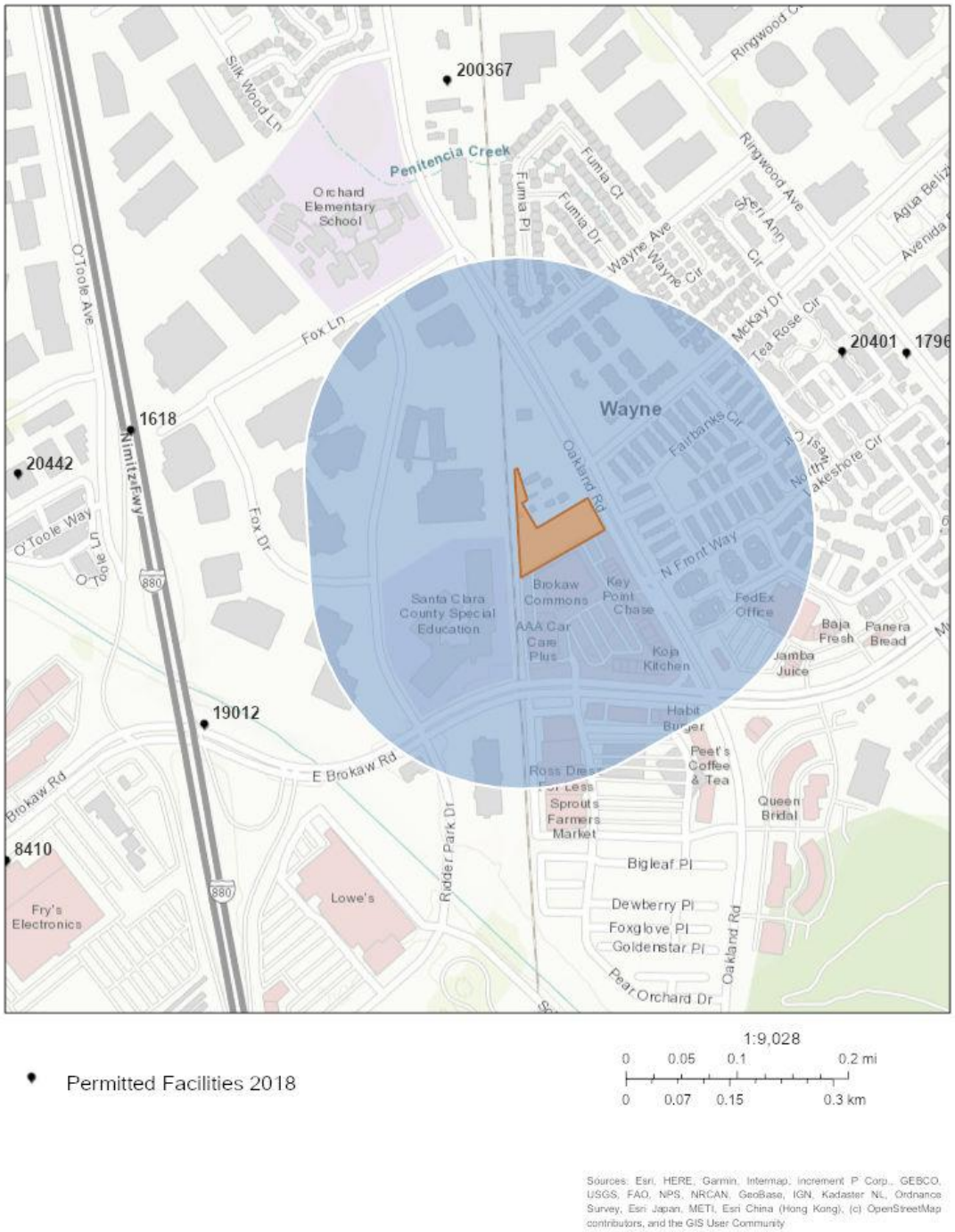
Maximum	
Hazard Index	**Total PM2.5 (µg/m3)**
0.0015	0.380
0.0015	0.384

Stationary Source Risk & Hazards Screening Report

Area of Interest (AOI) Information

Area : 4,778,684.15 ft²

Oct 6 2020 14:17:51 Pacific Daylight Time



Summary

Name	Count	Area(ft²)	Length(ft)
Permitted Facilities 2018	0	N/A	N/A

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

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

DEPARTMENT OF PLANNING, BUILDING AND CODE ENFORCEMENT

Purpose of the Compliance Checklist

In 2020, the City adopted a Greenhouse Gas Reduction Strategy (GHGRS) that outlines the actions the City will undertake to achieve its proportional share of State greenhouse gas (GHG) emission reductions for the interim target year 2030. The purpose of the Greenhouse Gas Reduction Strategy Compliance Checklist (Checklist) is to:

- Implement GHG reduction strategies from the 2030 GHGRS to new development projects.
- Provide a streamlined review process for proposed new development projects that are subject to discretionary review and trigger environmental review pursuant to the California Environmental Quality Act (CEQA).

The 2030 GHGRS presents the City's comprehensive path to reduce GHG emissions to achieve the 2030 reduction target, based on SB 32, BAAQMD, and OPR. Additionally, the 2030 GHGRS leverages other important City plans and policies; including the General Plan, Climate Smart San José, and the City Municipal Code in identifying reductions strategies that achieve the City's target. CEQA Guidelines Section 15183.5 allows for public agencies to analyze and mitigate GHG emissions as part of a larger plan for the reduction of greenhouse gases. Accordingly, the City of San José's 2030 GHGRS represents San José's qualified climate action plan in compliance with CEQA.

As described in the 2030 GHGRS, these GHG reductions will occur through a combination of City initiatives in various plans and policies and will provide reductions from both existing and new developments. This Compliance Checklist specifically applies to proposed discretionary projects that require environmental review pursuant to CEQA. Therefore, the Checklist is a critical implementation tool in the City's overall strategy to reduce GHG emissions. Implementation of applicable reduction actions in new development projects will help the City achieve incremental reductions toward its target. Per the 2030 GHGRS, the City will monitor strategy implementation and make updates, as necessary, to maintain an appropriate trajectory to the 2030 GHG target.

Pursuant to CEQA Guidelines Sections 15064(h)(3), 15130(d), and 15183(b), a project's incremental contribution to a cumulative GHG emissions effect may be determined not to be cumulatively considerable if it complies with the requirements of the GHGRS.

Instructions for Compliance Checklist

Applicants shall complete the following sections to demonstrate conformance with the City of San José 2030 Greenhouse Gas Reduction Strategy for the proposed project. All projects must complete Section A. General Plan Policy Conformance and Section B. Greenhouse Gas Reduction Strategies. Projects that propose alternative GHG mitigation measures must also complete Section C. Alternative Project Measures and Additional GHG Reductions.

A. General Plan Policy Compliance

Projects need to demonstrate consistency with the Envision San José 2040 General Plan's relevant policies for Land Use & Design, Transportation, Green Building, and Water Conservation, enumerated in Table A. All applicants shall complete the following steps.

1. Complete Table A, Item #1 to demonstrate the project's consistency with the General Plan Land Use and Circulation Diagram.

2. Complete Table A, Items #2 through #4 to demonstrate the project's consistency with General Plan policies[1] related to green building; pedestrian, bicycle & transit site design; and water conservation and urban forestry, as applicable. For each policy listed, mark the relevant yes/no check boxes to indicate project consistency, and provide a qualitative description of how the policy is implemented in the proposed project or why the policy is not applicable to the proposed project. Qualitative descriptions can be included in Table A or provided as separate attachments. This explanation will provide the basis for analysis in the CEQA document.

B. Greenhouse Gas Reduction Strategies

Table B identifies the GHGRS strategies and recommended consistency options. Projects need to demonstrate consistency with the GHGRS reduction strategies listed in Table B or document why the strategies are not applicable or are infeasible. The corresponding GHGRS strategies are indicated in the table to provide additional context, with the full text of the strategies preceding Table B.

Residential projects must complete Table B, Part 1 and 2; Non-residential projects must complete Table B, Part 2 only. All applicants shall complete the following steps for Table B.

1. Review the project consistency options described in the column titled 'GHGRS Strategy and Consistency Options'.

2. Use the check boxes in the column titled "Project Conformance" to indicate if the strategy is 'Proposed', 'Not Applicable', 'Not Feasible', or if there is an 'Alternative Measure Proposed'.

[1] The lists in items # 2-4 do not represent all General Plan policies but allow projects to demonstrate consistency and achievement of policies that are related to quantified reduction estimates in the 2030 GHGRS.

3. Provide a qualitative analysis of the proposed project's compliance with the GHGRS strategies in the column titled "Description of Project Measure". This will be the basis for CEQA analysis to demonstrate compliance with the 2030 GHGRS and by extension, with SB 32. The qualitative analysis should provide:

    a. A description of which consistency options are included as part of the proposed project, or

    b. A description of why the strategy is not applicable to the proposed project, or

    c. A description of why the consistency options are infeasible. If applicants select 'Not Feasible' or 'Alternative Measure Proposed', they must complete Table C to document what alternative project measures will be implemented to achieve a similar level of greenhouse gas reduction and how those reduction estimates were calculated.

C. Alternative Project Measures and Additional GHG Reductions

Projects that propose alternative GHG mitigation measures to those identified in Table B or propose to include additional GHG mitigation measures beyond those described in Tables A and B, shall provide a summary explanation of the proposed measures and demonstrate efficiency or greenhouse gas reductions achievable though the proposed measures. Documentation for these alternative or additional project measures shall be documented in Table C. Any applicants who select 'Not Feasible' or 'Alternative Measure Proposed' in Table B must complete the following steps for Table C.

1. In the column titled "Description of Proposed Measure" provide a qualitative description of what measure will be implemented, why it is proposed, and how it will reduce GHG emissions.

2. In the column titled "Description of GHG Reduction Estimate" demonstrate how the alternative project measure would achieve the same or greater level of greenhouse gas reductions as the GHGRS strategy it replaces. Documentation or calculation files can be attached separately.

3. In the column titled "Proposed Measure Implementation" identify how the measure will be implemented: incorporated as part of the project design or as an additional measure that is not part of the project (e.g., purchase of carbon offsets).

Compliance Checklist

Evaluation of Project Conformance with the 2030 Greenhouse Gas Reduction Strategy

Table A: General Plan Consistency

Development Type: ☐ Commercial ☐ Residential ☐ Office ☐ Other: Specify

1) Consistency with the Land Use/Transportation Diagram (Land Use and Density)	Yes	No
Is the proposed Project consistent with the Land Use/Transportation Diagram?	☒	☐
If not, and the proposed project includes a General Plan Amendment, does the proposed amendment decrease GHG emissions (in absolute terms or per capita, per employee, per service population) below the level assumed in the GHGRS based on the existing planned land use? (The project could have a higher density, mix of uses, or other features that would reduce GHG emissions compared to the planned land use).[2]	☐	☐
If not, would the proposed project and the General Plan Amendment increase GHG emissions (in absolute terms or per capita, per employee, per service population)? Project is not consistent with GHGRS and further modeling will be required to determine if additional mitigation measures are necessary.	☐	☐

Response documentation: *[Either here or as an attachment]*

[2] For example, a General Plan Amendment to change use from single-family residential to multi-family residential or a General Plan Amendment to change the use from regional-serving commercial to mixed-use urban in a transit-served area might reduce travel demand, and therefore GHG emissions from mobile sources.

2) Implementation of Green Building Measures	Yes	No
***MS-2.2**: Encourage maximized use of on-site generation of renewable energy for all new and existing buildings.*	☐	☒
Not applicable	☐	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment] Installation of solar panels, solar hot water, or other clean energy power generation sources onsite would not feasible for this project.		
***MS-2.3**: Encourage consideration of solar orientation, including building placement, landscaping, design and construction techniques for new construction to minimize energy consumption.*	☒	☐
Not applicable	☐	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment] The project would be designed to orient buildings on sites to maximize the effectiveness of passive solar design.		
***MS-2.7**: Encourage the installation of solar panels or other clean energy power generation sources over parking areas.*	☐	☒
Not applicable	☐	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment] Installation of solar panels, solar hot water, or other clean energy power generation sources onsite would not feasible for this project.		
***MS-2.11**: Require new development to incorporate green building practices, including those required by the Green Building Ordinance. Specifically, target reduced energy use through construction techniques (e.g., design of building envelopes and systems to maximize energy performance), through architectural design (e.g., design to maximize cross ventilation and interior daylight) and through site design techniques (e.g., orienting buildings on sites to maximize the effectiveness of passive solar design).*	☒	☐
Not applicable	☐	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment] The project would comply with Building Energy Efficiency Standards (Title 24), the City's REACH code, and the City's Green Building Ordinance and the most recent CALGreen requirements.		
***MS-16.2**: Promote neighborhood-based distributed clean/renewable energy generation to improve local energy security and to reduce the amount of energy wasted in transmitting electricity over long distances.*	☐	☐
Not applicable	☒	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment]		

3) Pedestrian, Bicycle & Transit Site Design Measures	**Yes**	**No**
***CD-2.1**: Promote the Circulation Goals and Policies in the Envision San José 2040 General Plan. Create streets that promote pedestrian and bicycle transportation by following applicable goals and policies in the Circulation section of the Envision San José 2040 General Plan.*		
a) Design the street network for its safe shared use by pedestrians, bicyclists, and vehicles. Include elements that increase driver awareness.	☐	☐
b) Create a comfortable and safe pedestrian environment by implementing wider sidewalks, shade structures, attractive street furniture, street trees, reduced traffic speeds, pedestrian-oriented lighting, mid-block pedestrian crossings, pedestrian-activated crossing lights, bulb-outs and curb extensions at intersections, and on-street parking that buffers pedestrians from vehicles.	☐	☐
c) Consider support for reduced parking requirements, alternative parking arrangements, and Transportation Demand Management strategies to reduce area dedicated to parking and increase area dedicated to employment, housing, parks, public art, or other amenities. Encourage de-coupled parking to ensure that the value and cost of parking are considered in real estate and business transactions.	☐	☐
Not applicable	☒	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment]		

***CD-2.5**: Integrate Green Building Goals and Policies of the Envision San José 2040 General Plan into site design to create healthful environments. Consider factors such as shaded parking areas, pedestrian connections, minimization of impervious surfaces, incorporation of stormwater treatment measures, appropriate building orientations, etc.*	☒	☐
Not applicable	☐	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment] The prooject will incorporate LID-based stormwater treatment measures on-site and minimize impervious surfaces to the extent feasible.		

	Yes	No
***CD-2.11**: Within the Downtown and Urban Village Overlay areas, consistent with the minimum density requirements of the pertaining Land Use/Transportation Diagram designation, avoid the construction of surface parking lots except as an interim use, so that long-term development of the site will result in a cohesive urban form. In these areas, whenever possible, use structured parking, rather than surface parking, to fulfill parking requirements. Encourage the incorporation of alternative uses, such as parks, above parking structures.*	☐	☐
Not applicable	☒	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment]		

	Yes	No
***CD-3.2**: Prioritize pedestrian and bicycle connections to transit, community facilities (including schools), commercial areas, and other areas serving daily needs. Ensure that the design of new facilities can accommodate significant anticipated future increases in bicycle and pedestrian activity.*	☒	☐
Not applicable	☐	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment] The project provides pedestrian access to the existing transit stop adjacent to the site on Oakland Road, as well as bicycle access to the existing and planned bike lanes on Oakland Road.		

	Yes	No
***CD-3.4**: Encourage pedestrian cross-access connections between adjacent properties and require pedestrian and bicycle connections to streets and other public spaces, with particular attention and priority given to providing convenient access to transit facilities. Provide pedestrian and vehicular connections with cross-access easements within and between new and existing developments to encourage walking and minimize interruptions by parking areas and curb cuts.*	☐	☐
Not applicable	☒	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment] CD-3.4 is not applicable to the project given the configuration of the site and adjacent structures.		

	Yes	No
***LU-3.5**: Balance the need for parking to support a thriving Downtown with the need to minimize the impacts of parking upon a vibrant pedestrian and transit oriented urban environment. Provide for the needs of bicyclists and pedestrians, including adequate bicycle parking areas and design measures to promote bicyclist and pedestrian safety.*	☒	☐
Not applicable	☐	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment] The project provides pedestrian access to the existing transit stop adjacent to the site on Oakland Road, as well as bicycle access to the existing and planned bike lanes on Oakland Road.		

	Yes	No
TR-2.8: *Require new development to provide on-site facilities such as bicycle storage and showers, provide connections to existing and planned facilities, dedicate land to expand existing facilities or provide new facilities such as sidewalks and/or bicycle lanes/paths, or share in the cost of improvements.*	☒	☐
Not applicable	☐	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment] The project provides short term (bike racks) and long-term (bike lockers) bicycle facilities to encourage bicycle use among employees and reduce vehicle trips.		
TR-7.1: *Require large employers to develop TDM programs to reduce the vehicle trips and vehicle miles generated by their employees through the use of shuttles, provision for car-sharing, bicycle sharing, carpool, parking strategies, transit incentives and other measures.*	☒	☐
Not applicable	☐	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment] The project will be required to develop a transportation demand management (TDM) plan for the purpose of mitigating VMT impacts. The measures recommended for inclusion in the TDM plan binclude the provision of end of trip bicycle facilities. (see response to TR-2.8)		
TR-8.5: *Promote participation in car share programs to minimize the need for parking spaces in new and existing development.*	☐	☒
Not applicable	☐	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment] The project would not participate in any car-share programs, but will reduce vehicle trips via other measures, as recommended in the required TDM plan.		

4) Water Conservation and Urban Forestry Measures	Yes	No
MS-3.1*: Require water-efficient landscaping, which conforms to the State's Model Water Efficient Landscape Ordinance, for all new commercial, institutional, industrial and developer-installed residential development unless for recreation needs or other area functions.*	☒	☐
Not applicable	☐	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment] The project will provide water-efficient landscaping in conformance with the State's Model Water Efficient Landscape Ordinance.		

	Yes	No
***MS-3.2**: Promote the use of green building technology or techniques that can help reduce the depletion of the City's potable water supply, as building codes permit. For example, promote the use of captured rainwater, graywater, or recycled water as the preferred source for non-potable water needs such as irrigation and building cooling, consistent with Building Codes or other regulations.*	☒	☐
Not applicable	☐	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment] The project will provide water-efficient landscaping in conformance with the State's Model Water Efficient Landscape Ordinance.		
***MS-19.4**: Require the use of recycled water wherever feasible and cost-effective to serve existing and new development.*	☐	☐
Not applicable	☐	☒
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment] Access to recycled water is not available at the project site.		
***MS-21.3**: Ensure that San José's Community Forest is comprised of species that have low water requirements and are well adapted to its Mediterranean climate. Select and plant diverse species to prevent monocultures that are vulnerable to pest invasions. Furthermore, consider the appropriate placement of tree species and their lifespan to ensure the perpetuation of the Community Forest.*	☐	☐
Not applicable	☒	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment]		
***MS-26.1**: As a condition of new development, require the planting and maintenance of both street trees and trees on private property to achieve a level of tree coverage in compliance with and that implements City laws, policies or guidelines.*	☒	☐
Not applicable	☐	☐
Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment] The project includes the planting and maintenance of new trees onsite in conformance with City requirements.		

	Yes	No
***ER-8.7**: Encourage stormwater reuse for beneficial uses in existing infrastructure and future development through the installation of rain barrels, cisterns, or other water storage and reuse facilities.*	☐	☒
Not applicable	☐	☐

Describe how the project is consistent or why the measure is not applicable. [Either here or as an attachment]

Runoff storage and re-use facilities are not feasible for the project. Onsite treatment facilities will be incorporated. (see response to CD-2.5)

GHGRS Strategies

GHGRS #1: The City will implement the San José Clean Energy program to provide residents and businesses access to cleaner energy at competitive rates.

GHGRS #2: The City will implement its building reach code ordinance (adopted September 2019) and its prohibition of natural gas infrastructure ordinance (adopted October 2019) to guide the city's new construction toward zero net carbon (ZNC) buildings.

GHGRS #3: The City will expand development of rooftop solar energy through the provision of technical assistance and supportive financial incentives to make progress toward the Climate Smart San José goal of becoming a one-gigawatt solar city.

GHGRS #4: The City will support a transition to building decarbonization through increased efficiency improvements in the existing building stock and reduced use of natural gas appliances and equipment.

GHGRS #5: As an expansion to Climate Smart San José, the City will update its Zero Waste Strategic Plan and reassess zero waste strategies. Throughout the development of the update, the City will continue to divert 90 percent of waste away from landfills through source reduction, recycling, food recovery and composting, and other strategies.

GHGRS #6: The City will continue to be a partner in the Caltrain Modernization Project to enhance local transit opportunities while simultaneously improving the city's air quality.

GHGRS #7: The City will expand its water conservation efforts to achieve and sustain long-term per capita reductions that ensure a reliable water supply with a changing climate, through regional partnerships, sustainable landscape designs, green infrastructure, and water-efficient technology and systems.

Table B: 2030 Greenhouse Gas Reduction Strategy Compliance

GHGRS Strategy and Consistency Options	Description of Project Measure	Project Conformance
PART 1: RESIDENTIAL PROJECTS ONLY		
Zero Net Carbon Residential Construction 1. Achieve/exceed the City's Reach Code, and 2. Exclude natural gas infrastructure in new construction, or 3. Install on-site renewable energy systems or participate in a community solar program to offset 100% of the project's estimated energy demand, or 4. Participate in San José Clean Energy at the Total Green level (i.e., 100% carbon-free electricity) for electricity accounts associated with the project until which time SJCE achieves 100% carbon-free electricity for all accounts. **Supports Strategies**: GHGRS #1, GHGRS #2, GHGRS #3	*Describe which, if any, project consistency options from the leftmost column you are implementing.* *OR,* *Describe why this strategy is not applicable to your project.* *OR,* *Describe why such measures are infeasible.* The project would comply with project consistency options 1 and 2. The proposed project would be required to comply with the reach code which aligns with Climate Smart San José goals. In addition, all new development (including the proposed project) would be required to be designed for energy efficiency and conservation per Climate Smart San José. The project would comply with Building Energy Efficiency Standards (Title 24), the City's REACH code, and the City's Green Building Ordinance and the most recent CALGreen requirements. The proposed project would be designed to achieve LEED Applicable New Construction Checklist certification	☒ Proposed ☐ Not Applicable ☐ Not Feasible* ☐ Alternative Measure Proposed ** The 2030 GHGRS assumed this strategy would be feasible for 50% of residential units constructed between 2020 and 2030.*
PART 2: RESIDENTIAL AND NON-RESIDENTIAL PROJECTS		
Renewable Energy Development 1. Install solar panels, solar hot water, or other clean energy power generation sources on development sites, or 2. Participate in community solar programs to support development of renewable energy in the community, or 3. Participate in San José Clean Energy at the Total Green level (i.e., 100% carbon-free electricity) for electricity accounts associated with the project. **Supports Strategies**: GHGRS #1, GHGRS #3	*Describe which, if any, project consistency options from the leftmost column you are implementing.* *OR,* *Describe why this strategy is not applicable to your project.* *OR,* *Describe why such measures are infeasible.* Installation of solar panels, solar hot water, or other clean energy power generation sources onsite would not feasible for this project. The project would be designed to orient buildings on sites to maximize the effectiveness of passive solar design.	☐ See Part 1 (Residential projects only) ☐ Proposed ☐ Not Applicable ☒ Not Feasible ☐ Alternative Measure Proposed

GHGRS Strategy and Consistency Options	Description of Project Measure	Project Conformance
Building Retrofits – Natural Gas[3] This strategy only applies to projects that include a retrofit of an existing building. If the proposed project does not include a retrofit, select "Not Applicable" in the Project Conformance column. 1. Replace an existing natural gas appliance with an electric alternative (e.g., space heater, water heater, clothes dryer), or 2. Replace an existing natural gas appliance with a high-efficiency model **Supports Strategies:** GHGRS #4	*Describe which, if any, project consistency options from the leftmost column you are implementing.* *OR,* *Describe why this strategy is not applicable to your project.* *OR,* *Describe why such measures are infeasible.* The project would not comply with any of the listed project consistency options. The project does not propose to retrofit an existing building.	☐ Proposed ☒ Not Applicable ☐ Not Feasible ☐ Alternative Measure Proposed
Zero Waste Goal 1. Provide space for organic waste (e.g., food scraps, yard waste) collection containers, and/or 2. Exceed the City's construction & demolition waste diversion requirement. **Supports Strategies:** GHGRS #5	*Describe which, if any, project consistency options from the leftmost column you are implementing.* *OR,* *Describe why this strategy is not applicable to your project.* *OR,* *Describe why such measures are infeasible.* The project would comply with project consistency option 1. The project will provide on-site recycling facilities, including space for organic waste (e.g., food scraps, yard waste) collection containers.	☒ Proposed ☐ Not Applicable ☐ Not Feasible ☐ Alternative Measure Proposed

[3] GHGRS Strategy #4 applies to existing building retrofits and not to new construction; Strategy #2 applies to new construction to reduce natural gas related GHG emissions

GHGRS Strategy and Consistency Options	Description of Project Measure	Project Conformance
Caltrain Modernization 1. For projects located within ½ mile of a Caltrain station, establish a program through which to provide project tenants and/or residents with free or reduced Caltrain passes or 2. Develop a program that provides project tenants and/or residents with options to reduce their vehicle miles traveled (e.g., a TDM program), which could include transit passes, bike lockers and showers, or other strategies to reduce project related VMT. **Supports Strategies:** GHGRS #6	*Describe which, if any, project consistency options from the leftmost column you are implementing.* *OR,* *Describe why this strategy is not applicable to your project.* *OR,* *Describe why such measures are infeasible.* The project would comply with project consistency option 2. The site is not located within 0.5-mile of Caltrain. The project would include bicycle racks and bicycle storage facilities.	☒ Proposed ☐ Not Applicable ☐ Not Feasible ☐ Alternative Measure Proposed
Water Conservation 1. Install high-efficiency appliances/fixtures to reduce water use, and/or include water-sensitive landscape design, and/or 2. Provide access to reclaimed water for outdoor water use on the project site. **Supports Strategies:** GHGRS #7	*Describe which, if any, project consistency options from the leftmost column you are implementing.* *OR,* *Describe why this strategy is not applicable to your project.* *OR,* *Describe why such measures are infeasible.* The project would comply with project consistency option 1. The project proposes to achieve LEED Applicable New Construction Checklist certification which requires outdoor water use reduction (water efficiency). Additionally, the project would comply with the Policy 6-32 which requires that applicable projects achieve minimum green building performance levels using the Council adopted standards. In addition, the project would include water efficient plumbing fixtures.	☒ Proposed ☐ Not Applicable ☐ Not Feasible ☐ Alternative Measure Proposed

Table C: Applicant Proposed Greenhouse Gas Reduction Measures

Description of Proposed Measure	**Description of GHG Reduction Estimate**	**Proposed Measure Implementation**
[Describe the proposed project measure and why it is proposed] **Supports Strategies/Sectors:** GHGRS #	*[Demonstrate the effectiveness of the proposed measure to reduce the project's GHG emissions.* *Include a description of how your measure will reduce emissions and provide supporting quantification documentation/assumptions.]*	☐ Part of Design ☐ Additional Measure
[Describe the proposed project measure and why it is proposed] **Supports Strategies/Sectors:** GHGRS #	*[Demonstrate the effectiveness of the proposed measure to reduce the project's GHG emissions.* *Include a description of how your measure will reduce emissions and provide supporting quantification documentation/assumptions.]*	☐ Part of Design ☐ Additional Measure
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