Appendix A
Air Quality, Toxic Air Contaminant, and Greenhouse Gas Emissions Analysis

SHOE PALACE EXPANSION PROJECT AIR QUALITY & COMMUNITY RISK ASSESSMENT & GHG EMISSSIONS ASSESSMENT

Morgan Hill, CA

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Introduction

The purpose of this report is to address air quality and community risk impacts associated with the proposed expansion of the Shoe Palace warehouse in Morgan Hill, California. The existing 250,000 square feet (sf) Shoe Palace warehouse, office, and distribution facility is located at 755 Jarvis Drive in the Morgan Hill Ranch Business Park. The proposed project would construct a 503,400-sf warehouse, distribution and office facility on the property adjacent and behind the existing facility footprint. A lot line adjustment is planned for the two parcels to result in the existing facility to be on one parcel, and the new facility to be on the other. The existing parcel would be leased or sold once the new facility is operational. This assessment assumes entirely new emissions from the proposed new warehouse.

This project would involve construction, which would be the primary source of toxic air contaminant (TAC) and fine particulate matter (PM2.5) emissions that could lead to community risk impacts, or in other words, increase health risks at sensitive receptors. Criteria air pollutants and greenhouse gas emissions resulting from construction and project operation are also addressed. This analysis addresses those issues following the guidance provided by the Bay Area Air Quality Management District (BAAQMD).

Setting

The project is located in Santa Clara County, which is in the San Francisco Bay Area Air Basin. Ambient air quality standards have been established at both the State and federal level. The Bay Area meets all ambient air quality standards with the exception of ground-level ozone, respirable particulate matter (PM10), and fine particulate matter (PM2.5).

Air Pollutants of Concern

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

Particulate matter is another problematic air pollutant of the Bay Area. Particulate matter is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less (PM10) and fine particulate matter where particles have a diameter of 2.5 micrometers or less (PM2.5). Elevated concentrations of PM_{10} and $PM_{2.5}$ are the result of both region-wide (or cumulative) emissions and localized emissions. High particulate matter levels aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

Toxic Air Contaminants

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 complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the State's Proposition 65 or under the Federal Hazardous Air Pollutants programs. The most recent Office of Environmental Health Hazard Assessment (OEHHA) risk assessment guidelines were published in February of 2015.[1] See *Attachment 1* for a detailed description of the community risk modeling methodology used in this assessment.

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. The closest sensitive receptors to the project site are residences located adjacent to the southeastern site boundary. Additional residences are located south of the project site.

Regulatory Agencies

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 recently published California Environmental Quality Act (CEQA) Air Quality Guidelines that are used in this assessment to evaluate air quality impacts of projects.

[1] 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.

Regulatory Setting

Federal Regulations

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

In the past decade the EPA has established a number of emission standards for on- and non-road heavy-duty diesel engines used in trucks and other equipment. This was done in part because diesel engines are a significant source of NO_X and particulate matter (PM_{10} and $PM_{2.5}$) and because the EPA has identified DPM as a probable carcinogen. Implementation of the heavy-duty diesel on-road vehicle standards and the non-road diesel engine standards are estimated to reduce particulate matter and NO_X emissions from diesel engines up to 95 percent in 2030 when the heavy-duty vehicle fleet is completely replaced with newer heavy-duty vehicles that comply with these emission standards.[2]

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

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

State Regulations

To address the issue of diesel emissions in the state, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.[3] In addition to requiring more stringent emission standards for new on-road and off-road mobile sources and stationary diesel-fueled engines to reduce particulate matter emissions by 90 percent, a significant component of the plan involves application of emission control strategies to existing diesel vehicles and equipment. Many of the measures of the Diesel Risk Reduction Plan have

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

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

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

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

Bay Area Air Quality Management District (BAAQMD)

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

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

The BAAQMD California Environmental Quality Act (*CEQA) Air Quality Guidelines*[4] were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process consistent with CEQA requirements including thresholds of significance, mitigation measures, and background air quality information. They also include assessment methodologies for air toxics, odors, and greenhouse gas emissions.

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

City of Morgan Hill 2035 General Plan

Adopted July 27, 2016, the *Morgan Hill 2035 General Plan* includes goals, policies, and actions to improve air quality issues facing the City of Morgan Hill and to reduce greenhouse gas emissions.[5] The following goals, policies, and actions are applicable to the proposed project:

Air Quality

Goal NRE-11: Minimized exposure of people to toxic air contaminants such as ozone, carbon monoxide, lead, and particulate matter.

Policy NRE-11.3 **Health Risk Assessments.** For proposed development that emits toxic air contaminants, require project proponents to prepare health risk assessments in accordance with Bay Area Air Quality Management District procedures as part of environmental review and implement effective mitigation measures to reduce potential health risks to less-than-significant levels. Alternatively, require these projects to be located an adequate distance from residences and other sensitive receptors to avoid health risks. Consult with the Bay Area Air Quality Management District to identify stationary and mobile toxic air contaminant sources and determine the need for and requirements of a health risk assessment for proposed developments

Goal NRE-12: Minimized air pollutant emissions from demolition and construction activities

Policy NRE-12.1: **Best Practices.** Requirement that development projects implement best management practices to reduce air pollutant emissions associated with construction and operation of the project.

Climate Change

Goal NRE-15: An adaptive and resilient community that responds to climate change

Policy NRE-12.1 **Greenhouse Gas Emission Reduction Targets.** Maintain a greenhouse gas reduction trajectory that is consistent with the greenhouse gas reduction targets of Executive Orders B-30-15 (40 percent below 1990 levels by 2030) and S-03-05 (80 percent below 1990 levels by 2050) to ensure the City is consistent with statewide efforts to reduce greenhouse gas emissions.

Significance Thresholds

In June 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under CEQA. These thresholds were designed to establish the level at which BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA. The

[5] City of Morgan Hill, California (2016). "Chapter 8 Natural Resources and Environment". *City of Morgan Hill General Plan 2035.* https://www.morgan-hill.ca.gov/DocumentCenter/View/22839/MH2035-General-Plan---December-2017?bidId=

significance thresholds identified by BAAQMD and used in this analysis are summarized in Table 1 below. The BAAQMD's adoption of significance thresholds contained in the 2011 *CEQA Air Quality Guidelines* was called into question by an order issued March 5, 2012, in California Building Industry Association (CBIA) v. BAAQMD (Alameda Superior Court Case No. RGI0548693). In December 2015, the Supreme Court determined that an analysis of the impacts of the environment on a project – known as "CEQA-in-reverse" – is only required under two limited circumstances: (1) when a statute provides an express legislative directive to consider such impacts; and (2) when a proposed project risks exacerbating environmental hazards or conditions that already exist (Cal. Supreme Court Case No. S213478). Because the Supreme Court's holding concerns the effects of the environment on a project (as contrasted to the effects of a proposed project on the environment), and not the science behind the thresholds, the significance thresholds contained in the CEQA Air Quality Guidelines are applied to this project.

Table 1. Air Quality Significance Thresholds

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	**Average Daily Emissions (lbs./day)**	**Annual Average Emissions (tons/year)**
Criteria Air Pollutants			
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 for Single Sources			
Excess Cancer Risk	>10 per one million		
Hazard Index	>1.0		
Incremental annual $PM_{2.5}$	>0.3 µg/m^3		
Health Risks and Hazards for Combined Sources (Cumulative from all sources within 1,000-foot zone of influence)			
Excess Cancer Risk	>100 per one million		
Hazard Index	>10.0		
Annual Average $PM_{2.5}$	>0.8 µg/m^3		
Greenhouse Gas Emissions			
GHG Annual Emissions	Compliance with a Qualified GHG Reduction Strategy OR 1,100 metric tons or 4.6 metric tons per capita		
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; and GHG = greenhouse gas.			

Project Criteria Emissions

The Bay Area is considered a non-attainment area for ground-level ozone 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 ozone and PM_{10}, the BAAQMD has established thresholds of significance for these air pollutants and their precursors. These thresholds are for ozone precursor pollutants (ROG and NO_X), PM_{10}, and $PM_{2.5}$ and apply to both construction period and operational period impacts.

The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to estimate emissions from construction and operation of the site assuming full build-out of the project. The project land use types and size, and anticipated construction schedule were input to CalEEMod. The model output from CalEEMod is included as *Attachment 2*.

<u>Construction period emissions</u>

CalEEMod provides annual 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. A construction build-out scenario, including equipment list and schedule, was based on information provided by the project applicant. The proposed project land uses were inputted into CalEEMod, which included: 63,000-sf entered as "General Office Building", 440,400-sf entered as "Unrefrigerated Warehouse-No Rail", and 380 spaces entered as "Parking Lot" on a 22.30-acre site. In addition, 11.5 tons (1,240 cubic yards) of demolition debris, 980 one-way cement truck deliveries for building construction, and 265 one-way paving truck deliveries were also entered into the model.

The applicant did not provide a construction schedule with specific start and end dates, so CalEEMod construction schedule defaults based on the land uses were used. Construction was assumed to begin January 2019 and last 24 months. The exact work days, equipment quantities, and equipment usages were provided, though, and used in the model. Based on the CalEEMod default construction schedule and the applicant provided information, there were an estimated 290 construction workdays. Average daily emissions were computed by dividing the total construction emissions by the number of construction days. Table 2 shows average daily construction emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust during construction of the project. As indicated in Table 2, predicted the construction period emissions would not exceed the BAAQMD significance thresholds.

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*.

Table 2. Construction Period Emissions

Scenario	**ROG**	**NOx**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**
Total construction emissions (tons)	2.8 tons	2.4 tons	0.68 tons	0.63 tons
Average daily emissions (pounds)[1]	19.3 lbs./day	16.6 lbs./day	4.69 lbs./day	4.34 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 290 workdays.

Operational Period Emissions

Operational air emissions from the project would be generated primarily from autos driven by employees and truck deliveries. 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.

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 the project could possibly be constructed and begin operating would be 2021. Emissions associated with build-out later than 2021 would be lower.

Trip Generation Rates

CalEEMod allows the user to enter specific vehicle trip generation rates, which were input to the model using the daily trip generation rate provided in the project trip generation table. For each land use type, the forecasted daily trip rate with trip reductions applied was divided by the quantity of that land use to identify the weekday daily trip rate. The 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.

The applicant provided project trip generation values for the warehouse expansion. The weekday trip rate used for the “General Office Building” was 3.87, which changed the Saturday trip rate to 0.86 and the Sunday trip rate to 0.37. The trip rate used for the “Unrefrigerated Warehouse – No

Rail" was 3.87, which changed the Saturday and Sunday trip rate to 3.87.

Energy

CalEEMod defaults for energy use were used, which include the 2016 Title 24 Building Standards. Indirect emissions from electricity were computed in CalEEMod. The model has a default rate of 641.3 pounds of CO_2 per megawatt of electricity produced, which is based on PG&E's 2008 emissions rate. The rate was adjusted to account for PG&E's projected 2020 CO_2 intensity rate. This 2020 rate is based, in part, on the requirement of a renewable energy portfolio standard of 33 percent by the year 2020. The derived 2020 rate for PG&E was estimated at 290 pounds of CO_2 per megawatt of electricity delivered.[6]

Other Inputs

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

Existing Uses

A CalEEMod model run was not developed to compute existing-use emissions because the applicant plans to lease or sell the existing facility once the new building is occupied. It is assumed then that the existing facility will continue to run with similar emissions. Therefore, no net annual emissions would be calculated.

As shown in Table 3, operational emissions would not exceed the BAAQMD significance thresholds. This would be considered a *less-than-significant* impact.

Table 3. Operational Emissions

Scenario	**ROG**	**NOx**	**PM_{10}**	**$PM_{2.5}$**
2021 Project Operational Emissions (*tons/year*)	2.8 tons	2.7 tons	2.1 tons	0.6 tons
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Threshold?	No	No	No	No
2021 Project Operational Emissions (*lbs/day*)	15.3 lbs.	14.8 lbs.	11.5 lbs.	3.3 lbs.
BAAQMD Thresholds (pounds/day)	*54* lbs.	*54* lbs.	*82* lbs.	*54* lbs.
Exceed Threshold?	No	No	No	No

Notes: [1] Assumes 365-day operation.

Community Risk Impacts

Operation of the project is not expected to cause any localized emissions that could expose existing sensitive receptors to unhealthy air pollutant levels. When operating, the project may generate

[6] Pacific Gas & Electric, 2015. *Greenhouse Gas Emission Factors: Guidance for PG&E Customers*. November.

automobile traffic and infrequent truck traffic. No stationary sources of TACs, such as generators, are proposed as part of the project. Community risk impacts associated with the project would occur primarily from construction activity. Cumulative impacts were evaluated with respect to the project construction and effects from local high-volume roadways and stationary sources permitted by BAAQMD. This industrial project would not introduce new sensitive receptors to the area.

Operational Truck Traffic

Operation of the project would result in a small increase in truck trips, which are assumed to be diesel powered and a source of long-term DPM emissions. The existing warehousing and corporate office function typically receives 3 to 5 trucks daily mostly utilizing 53-foot long intermodal transport containers carried by semi-tractor trucks (18-wheelers). The proposed project is anticipated to result in a small increase in daily trucks of 2 to 3 trucks or 5 to 8 total trucks per day. Emissions of DPM from this activity were computed using the CARB EMFAC2017 model assuming trucks travel an average of 0.25 miles on and near the site at 15 miles per hour and idling of each truck for 5 minutes per trip. There would be 6 new truck trips. Each truck trip would emit 0.02 grams of DPM on or near the site per trip. Idling trips were computed based on EMFAC2014 emission rates 5-mph travel and computed to hourly emissions. Each truck idling would produce 0.06 grams. Daily emissions based on 6 new truck trips would increase by 0.27 pounds per year. This increase is below the BAAQMD Toxic Air Contaminant Trigger Levels of 0.34 pounds per year for DPM that are contained in Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants. In summary, emissions would be low such that BAAQMD would not require any health risk assessment of these emissions. The truck traffic calculations are provided in *Attachment 3*.

Project Construction Activity

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. These exhaust air pollutant emissions would not be considered to contribute substantially to existing or projected air quality violations. Construction exhaust emissions may still pose health risks for sensitive receptors such as surrounding residents. The primary community risk impact issues associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A health risk assessment of the project construction activities was conducted that evaluated potential health effects of sensitive receptors at these nearby residences from construction emissions of DPM and $PM_{2.5}$.[7] The closest sensitive receptors to the project site are residences located adjacent to the southeastern site boundary. Additional residences are located south of the project site. Dispersion modeling was conducted to predict the off-site concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be evaluated. Figure 1 shows the project site and sensitive receptor locations (residences) used in the air quality dispersion modeling analysis where potential health impacts were evaluated.

[7] 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 uncontrolled annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles, with total emissions from all construction stages of 0.0632 tons (126 pounds). The on-road emissions are a result of haul truck travel during grading and trenching activities, worker travel, and vendor deliveries during construction. A trip length of one mile was used to represent vehicle travel while at or near the construction site. It was assumed that these emissions from on-road vehicles traveling at or near the site would occur at the construction site. Fugitive $PM_{2.5}$ dust emissions were calculated by CalEEMod as 0.0065 tons (13 pounds) for the overall construction period. The project emission calculations are provided in *Attachment 4*.

Dispersion Modeling

The U.S. EPA ISCST3 dispersion model was used to predict DPM and $PM_{2.5}$ concentrations at existing sensitive receptors (residences) in the vicinity of the project construction area. The ISCST3 dispersion model is a BAAQMD-recommended model for use in modeling these types of emission activities for CEQA projects.[8] The ISCST3 modeling utilized two area sources to represent the on-site construction emissions; one for DPM exhaust emissions and the other for fugitive $PM_{2.5}$ dust emissions. To represent the construction equipment exhaust emissions, an emission release height of six meters (19.7 feet) was used for the area source. The elevated source height reflects the height of the equipment exhaust pipes and buoyancy of the exhaust plume. For modeling fugitive $PM_{2.5}$ emissions, a near ground level release height of two meters (6.6 feet) was used for the area source. Emissions from vehicle travel around the project site were included in the modeled area sources. Construction emissions were modeled as occurring daily between 7 a.m. and 4 p.m., when the majority of the construction activity involving equipment usage would occur.

The modeling used a five-year data set (2001 - 2005) of hourly meteorological data from San Martin Airport prepared for use with the ISCST3 model by the BAAQMD. The airport is about 5 miles southeast of the project site. Annual DPM and $PM_{2.5}$ concentrations from construction activities in 2019 - 2020 were calculated using the model. DPM and $PM_{2.5}$ concentrations were calculated at nearby residential locations at receptor heights of 1.5 meters (4.9 feet) to represent the breathing heights of the residents.

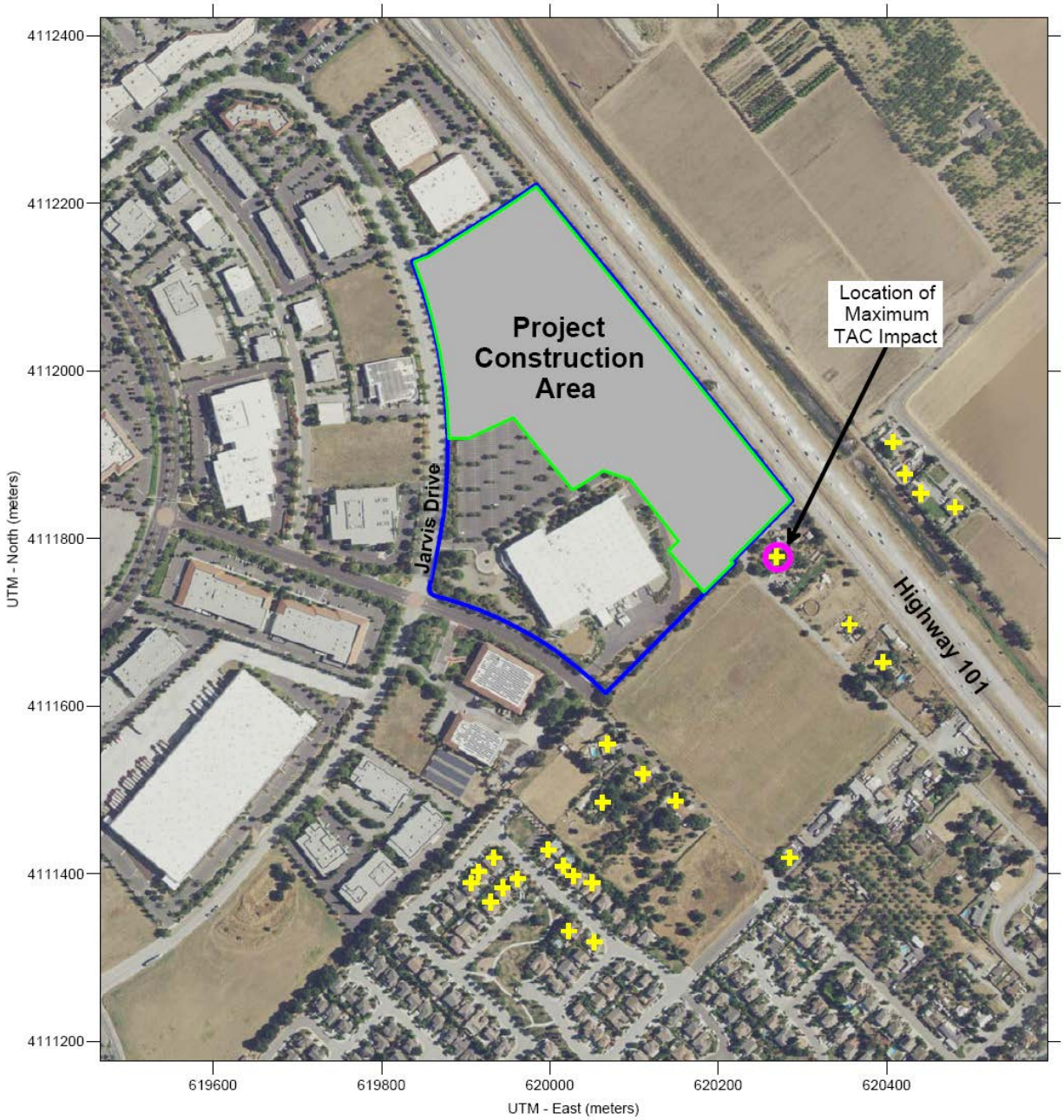
Predicted Cancer Risk and Hazards

The maximum-modeled DPM and $PM_{2.5}$ concentrations occurred at a residence near the southeastern project site boundary. Figure 1 shows the location where the maximum TAC impact occurred, as well as the construction area modeled and locations of nearby residential receptors. Using the maximum annual modeled DPM concentration, the maximum increased cancer risk at the location of the maximally exposed individual (MEI) was calculated using BAAQMD recommended methods. The cancer risk calculations are based on applying the BAAQMD recommended age sensitivity factors to the TAC concentrations. Age-sensitivity factors reflect

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

the greater sensitivity of infants and small children to cancer causing TACs. BAAQMD-recommended exposure parameters were used for the cancer risk calculations, as described in *Attachment 1*. Infant and adult exposures were assumed to occur at all residences through the entire construction period. *Attachment 4* to this report includes the emission calculations used for the construction area source modeling and the cancer risk calculations.

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



Results of this assessment indicate that the maximum increased residential cancer risk would be 8.3 in one million for an infant exposure and 0.1 in one million for an adult exposure. The

maximum excess cancer risk would not exceed the BAAQMD significance threshold of 10 in one million.

The maximum-modeled annual $PM_{2.5}$ concentration, which is based on combined exhaust and fugitive dust emissions, was 0.05 micrograms per cubic meter ($\mu g/m^3$). This maximum annual $PM_{2.5}$ concentration would not exceed the BAAQMD significance threshold of 0.3 $\mu g/m^3$.

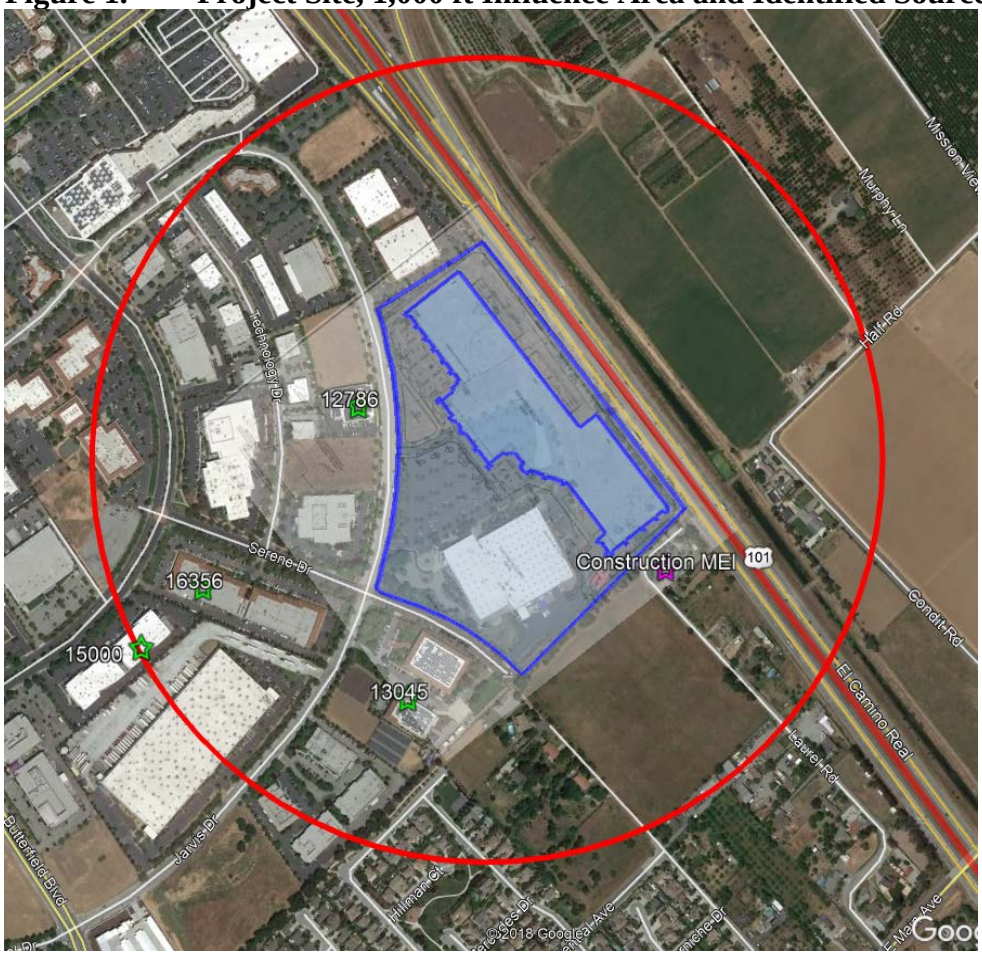
The maximum modeled annual residential DPM concentration (i.e., from construction exhaust) was 0.0463 $\mu g/m^3$. The maximum computed Hazard Index (HI) based on this DPM concentration is 0.009, which would not exceed the BAAQMD significance criterion of a HI greater than 1.0.

The project would have a *less-than-significant impact* with respect to community risk caused by construction activities.

Cumulative Impact on Construction MEI

Contributing sources of TAC and PM2.5 emissions were considered in a cumulative analysis. These sources and the influence area are shown in Figure 2. Cumulative sources included a highway and stationary sources. The project impacts along with impacts from cumulative sources are shown in Table 1. Screening community risk calculations from sources affecting the project and MEI are in *Attachment 5*.

Figure 1. Project Site, 1,000 ft Influence Area and Identified Sources



Highway: U.S. Route 101

BAAQMD provides a Google Earth *Highway Screening Analysis Tool* that can be used to identify screening level impacts from State highways. The portion of the highway closest to the project was selected (i.e., Link 7, 6ft elevation). The lifetime cancer risk, annual $PM_{2.5}$ exposure and non-cancer hazard index corresponding to the distance between the project and the site was used. The data were based on a distance of 250 feet west from the highway.

Local High-Volume Roadways

For local roadways, BAAQMD has provided the *Roadway Screening Analysis Calculator* to assess whether roadways with traffic volumes of over 10,000 vehicles per day may have a potentially significant effect on a proposed project. There are no local roadways within 1,000-ft screening radius that have traffic volumes over 10,000 vehicles per day.

Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Stationary Source Risk & Hazard Analysis Tool*. This mapping tool uses Google Earth and identified the location of four stationary sources and their estimated risk and hazard

impacts. A Stationary Source Information Form (SSIF) containing five identified sources (Plant # 12786, 13045, 16356, 15000, and 15938) was prepared and submitted to BAAQMD. The District provided updated risk levels, emissions and adjustments to account for new OEHHA guidance.[9] The District also noted that Plant #15938 was demolished. The four-remaining identified stationary sources were then adjusted using the appropriate distance multiplier values provided by BAAQMD's *Distance Adjustment Multiplier Tool for Diesel Internal Combustion* or the emissions information was used in refined modeling as in the case of Plant #12786.

For Plant #12786, the BAAQMD *Risk and Hazards Emissions Screening Beta Calculator* was used to for refined modeling because this stationary source exceeded the initial screening for cancer risk. The 2018 daily emission information for this plant was reported by BAAQMD and used in the calculation.[10] The refined risk estimates were then adjusted using the *Distance Adjustment Multiplier Tool for Diesel Internal Combustion*. The estimated risk values for all four sources are reported in Table 1.

Table 1. Impacts from Combined Sources at Construction MEI

Source	Maximum Cancer Risk (per million)	$PM_{2.5}$ concentration ($\mu g/m^3$)	Hazard Index
Project Construction - Unmitigated Resident MEI	8.3 (infant)	0.05	<0.01
BAAQMD Threshold – Single Source	***>10.0***	***>0.3***	***>1.0***
Significant?	*No*	*No*	*No*
Highway 101 at 250 feet west	81.3	0.56	0.07
Stationary Source #12786 – Plant – Diesel Generator at 1000 feet	<0.1	<0.01	<0.01
Stationary Source #13045 – Plant – Diesel Generator at 1000 feet	0.1	<0.01	<0.01
Stationary Source #16356 – Plant – Diesel Generator at 1000 feet	<0.1	<0.01	<0.01
Stationary Source #15000 – Plant – Diesel Generator at 1000 feet	0.1	<0.01	<0.01
Combined Sources at Residential MEI - Unmitigated Construction	90.0	0.65	0.12
BAAQMD Threshold – Combined Sources	***>100***	***>0.8***	***>10.0***
Significant?	*No*	*No*	*No*

Summary Impacts

The project would have a *less-than-significant* impact with respect to community risk because all single source impacts and cumulative source impacts would be below the significance thresholds. Implementation of the BAAQMD Best Management Practices using *Mitigation Measures AQ*-1 is still recommend to keep project construction emissions *less-than-significant*.

[9] Correspondence with Areana Flores, BAAQMD, August 8, 2018.
[10] Correspondence with Areana Flores, BAAQMD, August 24, 2018.

Mitigation Measure AQ-1: **Include basic measures to control dust and exhaust during construction.**

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 that are required of all projects:

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

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

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

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

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

6. 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.

<u>Effectiveness of Mitigation</u>

Implementation of *Mitigation Measure AQ-1* is considered to reduce exhaust emissions by 5 percent and fugitive dust emissions by over 50 percent.

Greenhouse Gases

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 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

Assembly Bill 32 (AB 32), California Global Warming Solutions Act (2006)

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.

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.

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.

SB 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.

Executive Order EO-B-30-15 (2015) and SB 32 GHG Reduction Targets

In April 2015, Governor Brown signed Executive Order 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 SB 32, which legislatively established the GHG reduction target of 40 percent of 1990 levels by 2030. In November 2017, CARB issued *California's 2017 Climate Change Scoping Plan*. While the State is on track to exceed the AB 32 scoping plan 2020 targets, this plan is an update to reflect the enacted SB 32 reduction target.

The new Scoping Plan establishes a strategy that will reduce GHG emissions in California to meet the 2030 target (note that the AB 32 Scoping Plan only addressed 2020 targets and a long-

term goal). Key features of this plan are:

- 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 (note that new
- 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.

In the updated 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.

Significance Thresholds

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[11]. The 2030 bright-line threshold is a 40 percent reduction of the 2020 1,100 MT CO_{2e}/year threshold. The use of this 2030 threshold also agrees with the City of Morgan Hill's GHG emission reduction target in their 2035 general plan.

[11] 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.

CalEEMod Modeling

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

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 the project could possibly be constructed and begin operating would be 2021. Emissions associated with build-out later than 2021 would be lower.

Trip Generation Rates

The trip rates, trip lengths, and trip types were input into CalEEMod as described above for the operational period modeling.

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 PG&E's 2008 emissions rate. PG&E published 2015 emissions rates for 2009 through 2015, which showed the emission rate for delivered electricity had been reduced to 405 pounds CO_2 per megawatt of electricity delivered.[12] The projected GHG intensity factor for the year 2020 is 290 pounds of CO_2 per megawatt of electricity produced, which was input to the model.[13]

Other Inputs

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

[12] PG&E 2017. Climate Change. See http://www.pgecorp.com/corp_responsibility/reports/2017/en02_climate_change.html accessed March 13, 2018.
[13] PG&E. 2015. Greenhouse Gas Emission Factors: Guidance for PG&E Customers
See: https://www.pge.com/includes/docs/pdfs/shared/environment/calculator/pge_ghg_emission_factor_info_sheet.pdf

Existing Uses

As described above for the operational period modeling, an existing-use CalEEMod model was not run.

Service Population Emissions

The project service population efficiency rate is based on the number of future residents. The applicant provided that the number of future employees would increase by 100 personnel to 300 workers at the new project development. The total future service population for the project would be 300.

Construction Emissions

GHG emissions associated with construction were computed to be 525 MT of CO_2e for the total construction period. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the City nor BAAQMD have an adopted threshold of significance for construction-related GHG emissions, though BAAQMD recommends quantifying emissions and disclosing that GHG emissions would occur during construction. BAAQMD also encourages the incorporation of best management practices to reduce GHG emissions during construction where feasible and applicable. Best management practices assumed to be incorporated into construction of the proposed project include but are not limited to: using local building materials of at least 10 percent and recycling or reusing at least 50 percent of construction waste or demolition materials.

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 4, annual emissions resulting from operation of the proposed project are predicted to be 3,525MT of CO_2e for the year 2021 and 3,069 MT of CO_{2e} for the year 2030. These emissions would exceed the 2030 "Substantial Progress" threshold of 660 MT of CO_{2e}/yr by 2,409 MT/year and the per capita threshold by 2,289 MT/year.

Table 4. Annual Project GHG Emissions (CO_2e) in Metric Tons

Source Category	Proposed Project in 2021	Proposed Project in 2030
Area	<1	<1
Energy Consumption	1,100	1,100
Mobile	2,034	1,577
Solid Waste Generation	237	237
Water Usage	153	154
Total	3,525	3,069
Significance Threshold	**-**	***660 MT CO_2e/yr***
Service Population Emissions	12.0	10.2
Significance Threshold	***4.6 in 2020***	***2.6 in 2030***

Supporting Documentation

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

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

Attachment 3 includes operational truck traffic calculations.

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 screening community risk calculations from sources affecting the project and MEI.

Attachment 1: Health Impact Evaluation 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.[14] 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.[15] This HRA used the recent 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.[16] 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 are 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 of exposure, and the exposure duration. 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). As recommended by the BAAQMD, 95th percentile breathing rates are used for the third trimester and infant exposures, and 80th percentile breathing rates for child and adult exposures. 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).

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 that would 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:

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[14] 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.

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

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

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

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

	Exposure Type →	**Infant**		**Child**		**Adult**
Parameter	***Age Range →***	**3rd Trimester**	**0<2**	**2 < 9**	**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	1.10E+00
Daily Breathing Rate (L/kg-day)*		361	1,090	631	572	261
Inhalation Absorption Factor		1	1	1	1	1
Averaging Time (years)		70	70	70	70	70
Exposure Duration (years)		0.25	2	14	14	14
Exposure Frequency (days/year)		350	350	350	350	350
Age Sensitivity Factor		10	10	3	3	1
Fraction of Time at Home		0.85-1.0	0.85-1.0	0.72-1.0	0.72-1.0	0.73

* 95th percentile breathing rates for 3rd trimester and infants and 80th percentile for children and adults

Non-Cancer Hazards

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 Construction and Operational Emissions Output

Project Name: **Shoe Palace Expansion**

Complete ALL Portions in Yellow

See Equipment Type TAB for type, horsepower and load factor

Project Size		**Dwelling Units**	**22.3 ac**	**total project acres disturbed**	
		s.f. residential			**Pile Driving NO**
		s.f. retail			
	63000	**s.f. office/commercial**	**OFFICE**		
	440400	**s.f. other, specify:**	**Warehouse & Mechnical**		
		s.f. parking garage		**spaces**	
	77500	**s.f. parking lot**	**380**	**spaces**	
Construction Hours	**7**	**am to**	**6**	**pm**	

Qty	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	Annual Hours	Comments
	Demolition	**Start Date:**	**wk 1**	**Total phase:**	**10**			**Overall Import/Export Volumes**
		End Date:	**wk 2**					
2	Concrete/Industrial Saws	81	0.73	8	1	0.8	16	**Demolition Volume**
2	Excavators	162	0.38	8	9	7.2	144	Square footage of buildings to be demolished
	Rubber-Tired Dozers	255	0.4			0	0	(*or* total tons to be hauled)
1	Tractors/Loaders/Backhoes	97	0.37	8	9	7.2	72	existing pavement & concrete demolition planned for processing and utilized on site (approx 1,240 CY)
1	Crushing/Proc. Equipment	85	0.78	8	5	4	40	
	Site Preperation	**Start Date:**	**wk 2**	**Total phase:**	**20**			
		End Date:	**wk 6**					
1	Graders	174	0.41	8	10	4	80	
	Rubber Tired Dozers	255	0.4			0	0	
2	Tractors/Loaders/Backhoes	97	0.37	8	10	4	160	Estimated 230 CY of vegetative debries to be hauled off-site
	Grading / Excavation	**Start Date:**	**wk 4**	**Total phase:**	**60**			
		End Date:	**wk 16**					**Soil Hauling Volume**
1	Excavators	162	0.38	8	50	6.66666667	400	Export volume = **0** cubic yards (balanced design)
1	Graders	174	0.41	8	30	4	240	Import volume = **0** cubic yards (balanced design)
1	Off-Highway Tractors	122	0.4	8	10	1.33333333	80	Sheeps Foot Roller Compactor
2	Tractors/Loaders/Backhoes	97	0.37	8	45	6	720	
2	*Scrapers*	361	0.48	8	10	1.33333333	160	
	Trenching/Foundation	**Start Date:**	**wk 16**	**Total phase:**	**40**			
		End Date:	**wk 24**					
2	Tractor/Loader/Backhoe	97	0.37	8	15	3	240	
2	Excavators	162	0.38	8	40	8	640	
	Other Equipment?							
	Building - Exterior	**Start Date:**	**wk 20**	**Total phase:**	**100**			**Approx. 980 concrete truck trips (one way)**
		End Date:	**wk 40**					
1	Cranes	226	0.29	8	25	2	200	Electric? No
2	Rough Terrain Forklifts	100	0.4	5	55	2.75	550	Diesel forklifts
1	Forklifts	89	0.2	8	50	4	400	Liquid Propane (LPG)) _Yes
1	Generator Sets	84	0.74	8	10	0.8	80	temporary line power? _Yes__, but also a generator likely
1	Tractors/Loaders/Backhoes	97	0.37	8	15	1.2	120	
2	Welders	46	0.45	8	10	0.8	160	Welders are electric
8	*Aerial Lift*	62	0.31	8	60	4.8	3840	Aerial Lifts are battery / electric
Building - Interior/Architectural Coating		**Start Date:**	**wk 36**	**Total phase:**	**50**			
		End Date:	**wk 46**					
2	Air Compressors	78	0.48	8	10	1.6	160	Air compressors are electric
4	Aerial Lift	62	0.31	8	50	8	1600	Aerial Lifts are battery / electric
	Other Equipment?							
	Paving	**Start Date:**	**wk 36**	**Total phase:**	**10**			
		End Date:	**wk 38**					
	Cement and Mortar Mixers	9	0.56			0	0	
1	Pavers	125	0.42	8	5	4	40	**Asphalt approx. 140 truck trips (one way), Aggregate Base**
1	Paving Equipment	130	0.36	8	5	4	40	**Approx 125 truck trips (one way)**
2	Rollers	80	0.38	8	10	8	160	
1	Tractors/Loaders/Backhoes	97	0.37	8	5	4	40	
	Other Equipment?							

18-139 Shoe Palace AQ

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	63.00	1000sqft	0.00	63,000.00	0
Unrefrigerated Warehouse-No Rail	440.00	1000sqft	22.30	440,400.00	0
Parking Lot	380.00	Space	0.00	77,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	3			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 rate

Land Use - Client provided info from construction sheet

Construction Phase - Construction schedule has no specific dates

Off-road Equipment - Client provided info

Off-road Equipment - Client provided info

Off-road Equipment - Client provided info

Off-road Equipment - Client provided info

Off-road Equipment - Client provided info

Off-road Equipment - Client provided info

Off-road Equipment - Client provided info

Off-road Equipment -

Trips and VMT - Construction: 980 concrete one-way; paving: asphalt 140 truck trips & aggregate base 125 truck trips (both one-way) --> 265 total

Demolition - Construction sheet (1,240 cy to tons)

Grading - Construction sheet

Vehicle Trips - Weekday rate 3.87, Office: Sat 0.86 & Sun 0.37, warehouse rate = 3.87

Energy Use -

Water And Wastewater - 100% aerobic

Construction Off-road Equipment Mitigation - BMPs, tier 3, welders are electric; aerial lifts are battery/eletric; air compressors are eletric

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	20.00	50.00
tblConstructionPhase	NumDays	370.00	100.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	35.00	60.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	10.00	20.00
tblGrading	AcresOfGrading	34.50	34.95
tblGrading	MaterialExported	0.00	230.00
tblLandUse	LandUseSquareFeet	440,000.00	440,400.00
tblLandUse	LandUseSquareFeet	152,000.00	77,500.00

tblLandUse	LotAcreage	1.45	0.00
tblLandUse	LotAcreage	10.10	22.30
tblLandUse	LotAcreage	3.42	0.00
tblOffRoadEquipment	HorsePower	63.00	84.00
tblOffRoadEquipment	LoadFactor	0.31	0.74
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	6.00	1.60
tblOffRoadEquipment	UsageHours	8.00	0.80
tblOffRoadEquipment	UsageHours	7.00	2.00
tblOffRoadEquipment	UsageHours	8.00	7.20
tblOffRoadEquipment	UsageHours	8.00	6.70
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	0.80
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	1.30
tblOffRoadEquipment	UsageHours	7.00	1.20

tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	0.80
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	HaulingTripNumber	0.00	980.00
tblTripsAndVMT	HaulingTripNumber	0.00	265.00
tblVehicleTrips	ST_TR	2.46	0.86
tblVehicleTrips	ST_TR	1.68	3.87
tblVehicleTrips	SU_TR	1.05	0.37
tblVehicleTrips	SU_TR	1.68	3.87
tblVehicleTrips	WD_TR	11.03	3.87
tblVehicleTrips	WD_TR	1.68	3.87
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction

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					

2019	0.1887	2.1994	2.1357	5.2400e-003	0.1626	0.0625	0.2251	0.0407	0.0580	0.0986	0.0000	480.8860	480.8860	0.0809	0.0000	482.9076
2020	2.6574	0.1667	0.2116	4.6000e-004	0.0123	5.3700e-003	0.0177	3.2900e-003	5.0600e-003	8.3500e-003	0.0000	41.7810	41.7810	7.3000e-003	0.0000	41.9635
Maximum	**2.6574**	**2.1994**	**2.1357**	**5.2400e-003**	**0.1626**	**0.0625**	**0.2251**	**0.0407**	**0.0580**	**0.0986**	**0.0000**	**480.8860**	**480.8860**	**0.0809**	**0.0000**	**482.9076**

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					
2019	0.1043	1.4092	1.3922	5.2400e-003	0.1509	0.0393	0.1902	0.0389	0.0390	0.0779	0.0000	363.8084	363.8084	0.0441	0.0000	364.9110
2020	2.6478	0.0709	0.0819	4.6000e-004	0.0123	2.0300e-003	0.0143	3.2900e-003	2.0200e-003	5.3000e-003	0.0000	23.6241	23.6241	2.2600e-003	0.0000	23.6806
Maximum	**2.6478**	**1.4092**	**1.3922**	**5.2400e-003**	**0.1509**	**0.0393**	**0.1902**	**0.0389**	**0.0390**	**0.0779**	**0.0000**	**363.8084**	**363.8084**	**0.0441**	**0.0000**	**364.9110**

	ROG	NOx	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	**3.30**	**37.44**	**37.20**	**0.00**	**6.70**	**39.18**	**15.78**	**4.05**	**34.88**	**22.24**	**0.00**	**25.87**	**25.87**	**47.41**	**0.00**	**25.96**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2019**	**3-31-2019**	0.3793	0.2461
2	**4-1-2019**	**6-30-2019**	1.4027	0.8922
3	**7-1-2019**	**9-30-2019**	0.5874	0.3573
7	**7-1-2020**	**9-30-2020**	0.1597	0.1456
		Highest	1.4027	0.8922

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	2.2359	7.0000e-005	8.1500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0158	0.0158	4.0000e-005	0.0000	0.0168
Energy	0.0474	0.4306	0.3617	2.5800e-003		0.0327	0.0327		0.0327	0.0327	0.0000	1,091.8976	1,091.8976	0.0713	0.0215	1,100.0830
Mobile	0.5102	2.2372	6.4819	0.0222	2.0132	0.0190	2.0322	0.5389	0.0178	0.5567	0.0000	2,031.8885	2,031.8885	0.0681	0.0000	2,033.5906
Waste						0.0000	0.0000		0.0000	0.0000	95.8503	0.0000	95.8503	5.6646	0.0000	237.4651
Water						0.0000	0.0000		0.0000	0.0000	39.9609	83.5524	123.5133	0.1459	0.0886	153.5726
Total	**2.7935**	**2.6678**	**6.8518**	**0.0248**	**2.0132**	**0.0518**	**2.0650**	**0.5389**	**0.0505**	**0.5895**	**135.8112**	**3,207.3542**	**3,343.1654**	**5.9499**	**0.1101**	**3,524.7281**

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	2.2359	7.0000e-005	8.1500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0158	0.0158	4.0000e-005	0.0000	0.0168
Energy	0.0474	0.4306	0.3617	2.5800e-003		0.0327	0.0327		0.0327	0.0327	0.0000	1,091.8976	1,091.8976	0.0713	0.0215	1,100.0830
Mobile	0.5102	2.2372	6.4819	0.0222	2.0132	0.0190	2.0322	0.5389	0.0178	0.5567	0.0000	2,031.8885	2,031.8885	0.0681	0.0000	2,033.5906
Waste						0.0000	0.0000		0.0000	0.0000	95.8503	0.0000	95.8503	5.6646	0.0000	237.4651
Water						0.0000	0.0000		0.0000	0.0000	39.9609	83.5524	123.5133	0.1459	0.0886	153.5726
Total	**2.7935**	**2.6678**	**6.8518**	**0.0248**	**2.0132**	**0.0518**	**2.0650**	**0.5389**	**0.0505**	**0.5895**	**135.8112**	**3,207.3542**	**3,343.1654**	**5.9499**	**0.1101**	**3,524.7281**

	ROG	NOx	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	1/1/2019	1/14/2019	5	10	
2	Site Preparation	Site Preparation	1/29/2019	2/25/2019	5	20	
3	Grading	Grading	2/12/2019	5/6/2019	5	60	
4	Building Construction	Building Construction	4/2/2019	8/19/2019	5	100	
5	Trenching/Foundation	Trenching	5/6/2019	6/28/2019	5	40	
6	Paving	Paving	9/1/2020	9/14/2020	5	10	
7	Architectural Coating	Architectural Coating	9/29/2020	12/7/2020	5	50	

Acres of Grading (Site Preparation Phase): 5

Acres of Grading (Grading Phase): 34.95

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 755,100; Non-Residential Outdoor: 251,700; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	2	0.80	81	0.73
Demolition	Crushing/Proc. Equipment	1	4.00	85	0.78
Demolition	Excavators	2	7.20	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	1	7.20	97	0.37
Site Preparation	Graders	1	4.00	187	0.41
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Grading	Excavators	1	6.70	158	0.38
Grading	Graders	1	4.00	187	0.41

Grading	Off-Highway Tractors	1	1.30	124	0.44
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Scrapers	2	1.30	367	0.48
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Aerial Lifts	8	4.80	84	0.74
Building Construction	Cranes	1	2.00	231	0.29
Building Construction	Forklifts	1	4.00	89	0.20
Building Construction	Generator Sets	1	0.80	84	0.74
Building Construction	Rough Terrain Forklifts	2	2.80	100	0.40
Building Construction	Tractors/Loaders/Backhoes	1	1.20	97	0.37
Building Construction	Welders	2	0.80	46	0.45
Trenching/Foundation	Excavators	2	8.00	158	0.38
Trenching/Foundation	Tractors/Loaders/Backhoes	2	3.00	97	0.37
Paving	Pavers	1	4.00	130	0.42
Paving	Paving Equipment	1	4.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Architectural Coating	Aerial Lifts	4	8.00	63	0.31
Architectural Coating	Air Compressors	2	1.60	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	1.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	29.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	16	238.00	95.00	980.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching/Foundation	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	265.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	6	48.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Alternative Fuel for Construction Equipment

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2019

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					1.2000e-004	0.0000	1.2000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.3700e-003	0.0486	0.0544	8.0000e-005		2.8000e-003	2.8000e-003		2.6500e-003	2.6500e-003	0.0000	7.4734	7.4734	1.8800e-003	0.0000	7.5204
Total	**5.3700e-003**	**0.0486**	**0.0544**	**8.0000e-005**	**1.2000e-004**	**2.8000e-003**	**2.9200e-003**	**2.0000e-005**	**2.6500e-003**	**2.6700e-003**	**0.0000**	**7.4734**	**7.4734**	**1.8800e-003**	**0.0000**	**7.5204**

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	1.6000e-004	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0385	0.0385	0.0000	0.0000	0.0386
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	2.7000e-004	2.0000e-004	2.1000e-003	1.0000e-005	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5266	0.5266	1.0000e-005	0.0000	0.5269
Total	**2.7000e-004**	**3.6000e-004**	**2.1300e-003**	**1.0000e-005**	**6.0000e-004**	**0.0000**	**6.1000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.5651**	**0.5651**	**1.0000e-005**	**0.0000**	**0.5655**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9600e-003	0.0408	0.0605	8.0000e-005		2.3800e-003	2.3800e-003		2.3800e-003	2.3800e-003	0.0000	7.4734	7.4734	1.8800e-003	0.0000	7.5204
Total	**1.9600e-003**	**0.0408**	**0.0605**	**8.0000e-005**	**6.0000e-005**	**2.3800e-003**	**2.4400e-003**	**0.0000**	**2.3800e-003**	**2.3800e-003**	**0.0000**	**7.4734**	**7.4734**	**1.8800e-003**	**0.0000**	**7.5204**

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	1.6000e-004	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0385	0.0385	0.0000	0.0000	0.0386
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	2.7000e-004	2.0000e-004	2.1000e-003	1.0000e-005	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5266	0.5266	1.0000e-005	0.0000	0.5269
Total	**2.7000e-004**	**3.6000e-004**	**2.1300e-003**	**1.0000e-005**	**6.0000e-004**	**0.0000**	**6.1000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.5651**	**0.5651**	**1.0000e-005**	**0.0000**	**0.5655**

3.3 Site Preparation - 2019

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					2.6600e-003	0.0000	2.6600e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7600e-003	0.0563	0.0322	6.0000e-005		2.6200e-003	2.6200e-003		2.4100e-003	2.4100e-003	0.0000	5.7729	5.7729	1.8300e-003	0.0000	5.8186
Total	**4.7600e-003**	**0.0563**	**0.0322**	**6.0000e-005**	**2.6600e-003**	**2.6200e-003**	**5.2800e-003**	**2.9000e-004**	**2.4100e-003**	**2.7000e-003**	**0.0000**	**5.7729**	**5.7729**	**1.8300e-003**	**0.0000**	**5.8186**

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	1.3000e-004	4.5100e-003	8.9000e-004	1.0000e-005	2.5000e-004	2.0000e-005	2.6000e-004	7.0000e-005	2.0000e-005	8.0000e-005	0.0000	1.1174	1.1174	5.0000e-005	0.0000	1.1187
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	2.9000e-004	2.2000e-004	2.2300e-003	1.0000e-005	6.3000e-004	0.0000	6.4000e-004	1.7000e-004	0.0000	1.7000e-004	0.0000	0.5617	0.5617	2.0000e-005	0.0000	0.5621
Total	**4.2000e-004**	**4.7300e-003**	**3.1200e-003**	**2.0000e-005**	**8.8000e-004**	**2.0000e-005**	**9.0000e-004**	**2.4000e-004**	**2.0000e-005**	**2.5000e-004**	**0.0000**	**1.6791**	**1.6791**	**7.0000e-005**	**0.0000**	**1.6808**

Mitigated Construction On-Site

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

Fugitive Dust					1.2000e-003	0.0000	1.2000e-003	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5700e-003	0.0330	0.0410	6.0000e-005		1.8100e-003	1.8100e-003		1.8100e-003	1.8100e-003	0.0000	5.7729	5.7729	1.8300e-003	0.0000	5.8186
Total	**1.5700e-003**	**0.0330**	**0.0410**	**6.0000e-005**	**1.2000e-003**	**1.8100e-003**	**3.0100e-003**	**6.0000e-005**	**1.8100e-003**	**1.8700e-003**	**0.0000**	**5.7729**	**5.7729**	**1.8300e-003**	**0.0000**	**5.8186**

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	1.3000e-004	4.5100e-003	8.9000e-004	1.0000e-005	2.5000e-004	2.0000e-005	2.6000e-004	7.0000e-005	2.0000e-005	8.0000e-005	0.0000	1.1174	1.1174	5.0000e-005	0.0000	1.1187
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	2.9000e-004	2.2000e-004	2.2300e-003	1.0000e-005	6.3000e-004	0.0000	6.4000e-004	1.7000e-004	0.0000	1.7000e-004	0.0000	0.5617	0.5617	2.0000e-005	0.0000	0.5621
Total	**4.2000e-004**	**4.7300e-003**	**3.1200e-003**	**2.0000e-005**	**8.8000e-004**	**2.0000e-005**	**9.0000e-004**	**2.4000e-004**	**2.0000e-005**	**2.5000e-004**	**0.0000**	**1.6791**	**1.6791**	**7.0000e-005**	**0.0000**	**1.6808**

3.4 Grading - 2019

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					0.0185	0.0000	0.0185	2.0000e-003	0.0000	2.0000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0361	0.4122	0.3069	5.4000e-004		0.0191	0.0191		0.0176	0.0176	0.0000	48.4771	48.4771	0.0153	0.0000	48.8605
Total	**0.0361**	**0.4122**	**0.3069**	**5.4000e-004**	**0.0185**	**0.0191**	**0.0377**	**2.0000e-003**	**0.0176**	**0.0196**	**0.0000**	**48.4771**	**48.4771**	**0.0153**	**0.0000**	**48.8605**

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	1.9600e-003	1.4600e-003	0.0151	4.0000e-005	4.2800e-003	3.0000e-005	4.3100e-003	1.1400e-003	3.0000e-005	1.1700e-003	0.0000	3.7913	3.7913	1.0000e-004	0.0000	3.7938
Total	**1.9600e-003**	**1.4600e-003**	**0.0151**	**4.0000e-005**	**4.2800e-003**	**3.0000e-005**	**4.3100e-003**	**1.1400e-003**	**3.0000e-005**	**1.1700e-003**	**0.0000**	**3.7913**	**3.7913**	**1.0000e-004**	**0.0000**	**3.7938**

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					8.3400e-003	0.0000	8.3400e-003	4.5000e-004	0.0000	4.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0132	0.2680	0.3527	5.4000e-004		0.0134	0.0134		0.0134	0.0134	0.0000	48.4770	48.4770	0.0153	0.0000	48.8605
Total	**0.0132**	**0.2680**	**0.3527**	**5.4000e-004**	**8.3400e-003**	**0.0134**	**0.0218**	**4.5000e-004**	**0.0134**	**0.0139**	**0.0000**	**48.4770**	**48.4770**	**0.0153**	**0.0000**	**48.8605**

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	1.9600e-003	1.4600e-003	0.0151	4.0000e-005	4.2800e-003	3.0000e-005	4.3100e-003	1.1400e-003	3.0000e-005	1.1700e-003	0.0000	3.7913	3.7913	1.0000e-004	0.0000	3.7938
Total	**1.9600e-003**	**1.4600e-003**	**0.0151**	**4.0000e-005**	**4.2800e-003**	**3.0000e-005**	**4.3100e-003**	**1.1400e-003**	**3.0000e-005**	**1.1700e-003**	**0.0000**	**3.7913**	**3.7913**	**1.0000e-004**	**0.0000**	**3.7938**

3.5 Building Construction - 2019

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	0.0542	0.7483	1.0277	1.6000e-003		0.0249	0.0249		0.0231	0.0231	0.0000	142.7315	142.7315	0.0442	0.0000	143.8355
Total	**0.0542**	**0.7483**	**1.0277**	**1.6000e-003**		**0.0249**	**0.0249**		**0.0231**	**0.0231**	**0.0000**	**142.7315**	**142.7315**	**0.0442**	**0.0000**	**143.8355**

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	4.4500e-003	0.1526	0.0301	3.9000e-004	8.3100e-003	5.9000e-004	8.8900e-003	2.2800e-003	5.6000e-004	2.8400e-003	0.0000	37.7616	37.7616	1.7700e-003	0.0000	37.8058
Vendor	0.0233	0.5998	0.1610	1.3000e-003	0.0313	4.3100e-003	0.0356	9.0300e-003	4.1200e-003	0.0132	0.0000	124.9496	124.9496	6.2000e-003	0.0000	125.1046
Worker	0.0432	0.0322	0.3324	9.2000e-004	0.0944	6.2000e-004	0.0950	0.0251	5.7000e-004	0.0257	0.0000	83.5479	83.5479	2.2700e-003	0.0000	83.6048

Total	**0.0710**	**0.7846**	**0.5236**	**2.6100e-003**	**0.1339**	**5.5200e-003**	**0.1395**	**0.0364**	**5.2500e-003**	**0.0417**	**0.0000**	**246.2591**	**246.2591**	**0.0102**	**0.0000**	**246.5152**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.9000e-003	0.1515	0.1966	1.6000e-003		9.5100e-003	9.5100e-003		9.5100e-003	9.5100e-003	0.0000	25.6540	25.6540	7.4000e-003	0.0000	25.8390
Total	**6.9000e-003**	**0.1515**	**0.1966**	**1.6000e-003**		**9.5100e-003**	**9.5100e-003**		**9.5100e-003**	**9.5100e-003**	**0.0000**	**25.6540**	**25.6540**	**7.4000e-003**	**0.0000**	**25.8390**

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	4.4500e-003	0.1526	0.0301	3.9000e-004	8.3100e-003	5.9000e-004	8.8900e-003	2.2800e-003	5.6000e-004	2.8400e-003	0.0000	37.7616	37.7616	1.7700e-003	0.0000	37.8058
Vendor	0.0233	0.5998	0.1610	1.3000e-003	0.0313	4.3100e-003	0.0356	9.0300e-003	4.1200e-003	0.0132	0.0000	124.9496	124.9496	6.2000e-003	0.0000	125.1046
Worker	0.0432	0.0322	0.3324	9.2000e-004	0.0944	6.2000e-004	0.0950	0.0251	5.7000e-004	0.0257	0.0000	83.5479	83.5479	2.2700e-003	0.0000	83.6048
Total	**0.0710**	**0.7846**	**0.5236**	**2.6100e-003**	**0.1339**	**5.5200e-003**	**0.1395**	**0.0364**	**5.2500e-003**	**0.0417**	**0.0000**	**246.2591**	**246.2591**	**0.0102**	**0.0000**	**246.5152**

3.6 Trenching/Foundation - 2019

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	0.0139	0.1423	0.1651	2.5000e-004		7.5100e-003	7.5100e-003		6.9100e-003	6.9100e-003	0.0000	22.7324	22.7324	7.1900e-003	0.0000	22.9122
Total	**0.0139**	**0.1423**	**0.1651**	**2.5000e-004**		**7.5100e-003**	**7.5100e-003**		**6.9100e-003**	**6.9100e-003**	**0.0000**	**22.7324**	**22.7324**	**7.1900e-003**	**0.0000**	**22.9122**

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	7.3000e-004	5.4000e-004	5.5900e-003	2.0000e-005	1.5900e-003	1.0000e-005	1.6000e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.4042	1.4042	4.0000e-005	0.0000	1.4051
Total	**7.3000e-004**	**5.4000e-004**	**5.5900e-003**	**2.0000e-005**	**1.5900e-003**	**1.0000e-005**	**1.6000e-003**	**4.2000e-004**	**1.0000e-005**	**4.3000e-004**	**0.0000**	**1.4042**	**1.4042**	**4.0000e-005**	**0.0000**	**1.4051**

Mitigated Construction On-Site

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

Off-Road	6.2200e-003	0.1243	0.1919	2.5000e-004		6.5700e-003	6.5700e-003		6.5700e-003	6.5700e-003	0.0000	22.7324	22.7324	7.1900e-003	0.0000	22.9122
Total	**6.2200e-003**	**0.1243**	**0.1919**	**2.5000e-004**		**6.5700e-003**	**6.5700e-003**		**6.5700e-003**	**6.5700e-003**	**0.0000**	**22.7324**	**22.7324**	**7.1900e-003**	**0.0000**	**22.9122**

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	7.3000e-004	5.4000e-004	5.5900e-003	2.0000e-005	1.5900e-003	1.0000e-005	1.6000e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.4042	1.4042	4.0000e-005	0.0000	1.4051
Total	**7.3000e-004**	**5.4000e-004**	**5.5900e-003**	**2.0000e-005**	**1.5900e-003**	**1.0000e-005**	**1.6000e-003**	**4.2000e-004**	**1.0000e-005**	**4.3000e-004**	**0.0000**	**1.4042**	**1.4042**	**4.0000e-005**	**0.0000**	**1.4051**

3.7 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.7800e-003	0.0385	0.0382	6.0000e-005		2.2700e-003	2.2700e-003		2.0900e-003	2.0900e-003	0.0000	4.9143	4.9143	1.5900e-003	0.0000	4.9540
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.7800e-003**	**0.0385**	**0.0382**	**6.0000e-005**		**2.2700e-003**	**2.2700e-003**		**2.0900e-003**	**2.0900e-003**	**0.0000**	**4.9143**	**4.9143**	**1.5900e-003**	**0.0000**	**4.9540**

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	1.1000e-003	0.0385	7.8700e-003	1.0000e-004	2.2500e-003	1.2000e-004	2.3700e-003	6.2000e-004	1.2000e-004	7.4000e-004	0.0000	10.1059	10.1059	4.6000e-004	0.0000	10.1174
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	2.2000e-004	1.6000e-004	1.6300e-003	0.0000	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4421	0.4421	1.0000e-005	0.0000	0.4424
Total	**1.3200e-003**	**0.0386**	**9.5000e-003**	**1.0000e-004**	**2.7700e-003**	**1.2000e-004**	**2.8900e-003**	**7.6000e-004**	**1.2000e-004**	**8.8000e-004**	**0.0000**	**10.5480**	**10.5480**	**4.7000e-004**	**0.0000**	**10.5598**

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	1.3700e-003	0.0295	0.0424	6.0000e-005		1.8400e-003	1.8400e-003		1.8400e-003	1.8400e-003	0.0000	4.9143	4.9143	1.5900e-003	0.0000	4.9540
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.3700e-003**	**0.0295**	**0.0424**	**6.0000e-005**		**1.8400e-003**	**1.8400e-003**		**1.8400e-003**	**1.8400e-003**	**0.0000**	**4.9143**	**4.9143**	**1.5900e-003**	**0.0000**	**4.9540**

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	1.1000e-003	0.0385	7.8700e-003	1.0000e-004	2.2500e-003	1.2000e-004	2.3700e-003	6.2000e-004	1.2000e-004	7.4000e-004	0.0000	10.1059	10.1059	4.6000e-004	0.0000	10.1174
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	2.2000e-004	1.6000e-004	1.6300e-003	0.0000	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4421	0.4421	1.0000e-005	0.0000	0.4424
Total	**1.3200e-003**	**0.0386**	**9.5000e-003**	**1.0000e-004**	**2.7700e-003**	**1.2000e-004**	**2.8900e-003**	**7.6000e-004**	**1.2000e-004**	**8.8000e-004**	**0.0000**	**10.5480**	**10.5480**	**4.7000e-004**	**0.0000**	**10.5598**

3.8 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.6411					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.1900e-003	0.0868	0.1338	2.1000e-004		2.9100e-003	2.9100e-003		2.8000e-003	2.8000e-003	0.0000	18.1570	18.1570	5.0300e-003	0.0000	18.2828
Total	**2.6483**	**0.0868**	**0.1338**	**2.1000e-004**		**2.9100e-003**	**2.9100e-003**		**2.8000e-003**	**2.8000e-003**	**0.0000**	**18.1570**	**18.1570**	**5.0300e-003**	**0.0000**	**18.2828**

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	3.9900e-003	2.8600e-003	0.0300	9.0000e-005	9.5200e-003	6.0000e-005	9.5800e-003	2.5300e-003	6.0000e-005	2.5900e-003	0.0000	8.1618	8.1618	2.0000e-004	0.0000	8.1668

Total	**3.9900e-003**	**2.8600e-003**	**0.0300**	**9.0000e-005**	**9.5200e-003**	**6.0000e-005**	**9.5800e-003**	**2.5300e-003**	**6.0000e-005**	**2.5900e-003**	**0.0000**	**8.1618**	**8.1618**	**2.0000e-004**	**0.0000**	**8.1668**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.6411					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	2.1000e-004		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.6411**	**0.0000**	**0.0000**	**2.1000e-004**		**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	3.9900e-003	2.8600e-003	0.0300	9.0000e-005	9.5200e-003	6.0000e-005	9.5800e-003	2.5300e-003	6.0000e-005	2.5900e-003	0.0000	8.1618	8.1618	2.0000e-004	0.0000	8.1668
Total	**3.9900e-003**	**2.8600e-003**	**0.0300**	**9.0000e-005**	**9.5200e-003**	**6.0000e-005**	**9.5800e-003**	**2.5300e-003**	**6.0000e-005**	**2.5900e-003**	**0.0000**	**8.1618**	**8.1618**	**2.0000e-004**	**0.0000**	**8.1668**

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	0.5102	2.2372	6.4819	0.0222	2.0132	0.0190	2.0322	0.5389	0.0178	0.5567	0.0000	2,031.8885	2,031.8885	0.0681	0.0000	2,033.5906
Unmitigated	0.5102	2.2372	6.4819	0.0222	2.0132	0.0190	2.0322	0.5389	0.0178	0.5567	0.0000	2,031.8885	2,031.8885	0.0681	0.0000	2,033.5906

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	243.81	54.18	23.31	442,630	442,630
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	1,702.80	1,702.80	1702.80	4,971,344	4,971,344
Total	1,946.61	1,756.98	1,726.11	5,413,974	5,413,974

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
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	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
Parking Lot	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
Unrefrigerated Warehouse-No Rail	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761

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	623.1188	623.1188	0.0623	0.0129	628.5185
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	623.1188	623.1188	0.0623	0.0129	628.5185
NaturalGas Mitigated	0.0474	0.4306	0.3617	2.5800e-003		0.0327	0.0327		0.0327	0.0327	0.0000	468.7788	468.7788	8.9800e-003	8.5900e-003	471.5645
NaturalGas Unmitigated	0.0474	0.4306	0.3617	2.5800e-003		0.0327	0.0327		0.0327	0.0327	0.0000	468.7788	468.7788	8.9800e-003	8.5900e-003	471.5645

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	822150	4.4300e-003	0.0403	0.0339	2.4000e-004		3.0600e-003	3.0600e-003		3.0600e-003	3.0600e-003	0.0000	43.8731	43.8731	8.4000e-004	8.0000e-004	44.1338
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
Unrefrigerated Warehouse-No Rail	7.96243e+006	0.0429	0.3903	0.3279	2.3400e-003		0.0297	0.0297		0.0297	0.0297	0.0000	424.9057	424.9057	8.1400e-003	7.7900e-003	427.4307

Total		**0.0474**	**0.4306**	**0.3617**	**2.5800e-003**		**0.0327**	**0.0327**		**0.0327**	**0.0327**	**0.0000**	**468.7787**	**468.7787**	**8.9800e-003**	**8.5900e-003**	**471.5645**

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	822150	4.4300e-003	0.0403	0.0339	2.4000e-004		3.0600e-003	3.0600e-003		3.0600e-003	3.0600e-003	0.0000	43.8731	43.8731	8.4000e-004	8.0000e-004	44.1338
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
Unrefrigerated Warehouse-No Rail	7.96243e+006	0.0429	0.3903	0.3279	2.3400e-003		0.0297	0.0297		0.0297	0.0297	0.0000	424.9057	424.9057	8.1400e-003	7.7900e-003	427.4307
Total		**0.0474**	**0.4306**	**0.3617**	**2.5800e-003**		**0.0327**	**0.0327**		**0.0327**	**0.0327**	**0.0000**	**468.7787**	**468.7787**	**8.9800e-003**	**8.5900e-003**	**471.5645**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	574560	75.5787	7.5600e-003	1.5600e-003	76.2336
Parking Lot	27125	3.5681	3.6000e-004	7.0000e-005	3.5990
Unrefrigerated Warehouse-No Rail	4.13536e+006	543.9721	0.0544	0.0113	548.6859
Total		**623.1188**	**0.0623**	**0.0129**	**628.5185**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	574560	75.5787	7.5600e-003	1.5600e-003	76.2336
Parking Lot	27125	3.5681	3.6000e-004	7.0000e-005	3.5990
Unrefrigerated Warehouse-No Rail	4.13536e+006	543.9721	0.0544	0.0113	548.6859
Total		**623.1188**	**0.0623**	**0.0129**	**628.5185**

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	2.2359	7.0000e-005	8.1500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0158	0.0158	4.0000e-005	0.0000	0.0168
Unmitigated	2.2359	7.0000e-005	8.1500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0158	0.0158	4.0000e-005	0.0000	0.0168

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	0.2641					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.9710					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.6000e-004	7.0000e-005	8.1500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0158	0.0158	4.0000e-005	0.0000	0.0168
Total	**2.2359**	**7.0000e-005**	**8.1500e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0158**	**0.0158**	**4.0000e-005**	**0.0000**	**0.0168**

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	0.2641					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.9710					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.6000e-004	7.0000e-005	8.1500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0158	0.0158	4.0000e-005	0.0000	0.0168
Total	**2.2359**	**7.0000e-005**	**8.1500e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0158**	**0.0158**	**4.0000e-005**	**0.0000**	**0.0168**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e

Category	MT/yr			
Mitigated	123.5133	0.1459	0.0886	153.5726
Unmitigated	123.5133	0.1459	0.0886	153.5726

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	11.1972 / 6.86282	15.0911	0.0148	8.8500e-003	18.0957
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	101.75 / 0	108.4222	0.1312	0.0798	135.4769
Total		**123.5133**	**0.1459**	**0.0886**	**153.5726**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	11.1972 / 6.86282	15.0911	0.0148	8.8500e-003	18.0957
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	101.75 / 0	108.4222	0.1312	0.0798	135.4769

Total		**123.5133**	**0.1459**	**0.0886**	**153.5726**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	95.8503	5.6646	0.0000	237.4651
Unmitigated	95.8503	5.6646	0.0000	237.4651

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	58.59	11.8932	0.7029	0.0000	29.4650
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	413.6	83.9571	4.9617	0.0000	208.0001
Total		**95.8503**	**5.6646**	**0.0000**	**237.4651**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	58.59	11.8932	0.7029	0.0000	29.4650
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	413.6	83.9571	4.9617	0.0000	208.0001
Total		**95.8503**	**5.6646**	**0.0000**	**237.4651**

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

18-139 Shoe Palace Existing

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	250.00	1000sqft	30.16	250,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	3			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 rate

Land Use - Warehouse, office, and distribution facility from project description

Construction Phase - Existing land use

Off-road Equipment - existing landuse

Grading -

Demolition -

Trips and VMT -

Water And Wastewater - 100 aerobic

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	1.00
tblConstructionPhase	PhaseEndDate	3/11/2019	2/12/2019
tblLandUse	LotAcreage	5.74	30.16
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	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					
2019	3.0000e-005	2.0000e-005	2.5000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0632	0.0632	0.0000	0.0000	0.0632
Maximum	**3.0000e-005**	**2.0000e-005**	**2.5000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0632**	**0.0632**	**0.0000**	**0.0000**	**0.0632**

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					
2019	3.0000e-005	2.0000e-005	2.5000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0632	0.0632	0.0000	0.0000	0.0632
Maximum	**3.0000e-005**	**2.0000e-005**	**2.5000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0632**	**0.0632**	**0.0000**	**0.0000**	**0.0632**

	ROG	NOx	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)
1	**1-1-2019**	**3-31-2019**	0.0000	0.0000
		Highest	0.0000	0.0000

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1070	2.0000e-005	2.3100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.4700e-003	4.4700e-003	1.0000e-005	0.0000	4.7600e-003
Energy	0.0281	0.2558	0.2148	1.5300e-003		0.0194	0.0194		0.0194	0.0194	0.0000	568.4753	568.4753	0.0343	0.0111	572.6433
Mobile	0.3581	1.5767	4.5815	0.0158	1.4288	0.0135	1.4422	0.3825	0.0126	0.3951	0.0000	1,440.5888	1,440.5888	0.0481	0.0000	1,441.7918
Waste						0.0000	0.0000		0.0000	0.0000	62.9272	0.0000	62.9272	3.7189	0.0000	155.8995
Water						0.0000	0.0000		0.0000	0.0000	20.4542	41.1494	61.6035	0.0745	0.0453	76.9755
Total	**1.4932**	**1.8324**	**4.7987**	**0.0173**	**1.4288**	**0.0329**	**1.4617**	**0.3825**	**0.0320**	**0.4145**	**83.3814**	**2,050.2180**	**2,133.5993**	**3.8759**	**0.0564**	**2,247.3148**

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	1.1070	2.0000e-005	2.3100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.4700e-003	4.4700e-003	1.0000e-005	0.0000	4.7600e-003
Energy	0.0281	0.2558	0.2148	1.5300e-003		0.0194	0.0194		0.0194	0.0194	0.0000	568.4753	568.4753	0.0343	0.0111	572.6433
Mobile	0.3581	1.5767	4.5815	0.0158	1.4288	0.0135	1.4422	0.3825	0.0126	0.3951	0.0000	1,440.5888	1,440.5888	0.0481	0.0000	1,441.7918
Waste						0.0000	0.0000		0.0000	0.0000	62.9272	0.0000	62.9272	3.7189	0.0000	155.8995
Water						0.0000	0.0000		0.0000	0.0000	20.4542	41.1494	61.6035	0.0745	0.0453	76.9755
Total	**1.4932**	**1.8324**	**4.7987**	**0.0173**	**1.4288**	**0.0329**	**1.4617**	**0.3825**	**0.0320**	**0.4145**	**83.3814**	**2,050.2180**	**2,133.5993**	**3.8759**	**0.0564**	**2,247.3148**

	ROG	**NOx**	**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	Site Preparation	Site Preparation	2/12/2019	2/12/2019	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40

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
Site Preparation	0	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2019

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	3.0000e-005	2.0000e-005	2.5000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0632	0.0632	0.0000	0.0000	0.0632
Total	**3.0000e-005**	**2.0000e-005**	**2.5000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0632**	**0.0632**	**0.0000**	**0.0000**	**0.0632**

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	3.0000e-005	2.0000e-005	2.5000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0632	0.0632	0.0000	0.0000	0.0632

Total	**3.0000e-005**	**2.0000e-005**	**2.5000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0632**	**0.0632**	**0.0000**	**0.0000**	**0.0632**

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	0.3581	1.5767	4.5815	0.0158	1.4288	0.0135	1.4422	0.3825	0.0126	0.3951	0.0000	1,440.5888	1,440.5888	0.0481	0.0000	1,441.7918
Unmitigated	0.3581	1.5767	4.5815	0.0158	1.4288	0.0135	1.4422	0.3825	0.0126	0.3951	0.0000	1,440.5888	1,440.5888	0.0481	0.0000	1,441.7918

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	1,742.50	330.00	170.00	3,842,285	3,842,285
Total	1,742.50	330.00	170.00	3,842,285	3,842,285

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 Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761

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	290.0496	290.0496	0.0290	6.0000e-003	292.5631
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	290.0496	290.0496	0.0290	6.0000e-003	292.5631
NaturalGas Mitigated	0.0281	0.2558	0.2148	1.5300e-003		0.0194	0.0194		0.0194	0.0194	0.0000	278.4257	278.4257	5.3400e-003	5.1000e-003	280.0802
NaturalGas Unmitigated	0.0281	0.2558	0.2148	1.5300e-003		0.0194	0.0194		0.0194	0.0194	0.0000	278.4257	278.4257	5.3400e-003	5.1000e-003	280.0802

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 Light Industry	5.2175e+006	0.0281	0.2558	0.2148	1.5300e-003		0.0194	0.0194		0.0194	0.0194	0.0000	278.4257	278.4257	5.3400e-003	5.1000e-003	280.0802
Total		**0.0281**	**0.2558**	**0.2148**	**1.5300e-003**		**0.0194**	**0.0194**		**0.0194**	**0.0194**	**0.0000**	**278.4257**	**278.4257**	**5.3400e-003**	**5.1000e-003**	**280.0802**

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 Light Industry	5.2175e+006	0.0281	0.2558	0.2148	1.5300e-003		0.0194	0.0194		0.0194	0.0194	0.0000	278.4257	278.4257	5.3400e-003	5.1000e-003	280.0802
Total		**0.0281**	**0.2558**	**0.2148**	**1.5300e-003**		**0.0194**	**0.0194**		**0.0194**	**0.0194**	**0.0000**	**278.4257**	**278.4257**	**5.3400e-003**	**5.1000e-003**	**280.0802**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	2.205e+006	290.0496	0.0290	6.0000e-003	292.5631
Total		**290.0496**	**0.0290**	**6.0000e-003**	**292.5631**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e

Land Use	kWh/yr	MT/yr			
General Light Industry	2.205e+006	290.0496	0.0290	6.0000e-003	292.5631
Total		**290.0496**	**0.0290**	**6.0000e-003**	**292.5631**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.1070	2.0000e-005	2.3100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.4700e-003	4.4700e-003	1.0000e-005	0.0000	4.7600e-003
Unmitigated	1.1070	2.0000e-005	2.3100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.4700e-003	4.4700e-003	1.0000e-005	0.0000	4.7600e-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	0.1304					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Consumer Products	0.9764					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.2000e-004	2.0000e-005	2.3100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.4700e-003	4.4700e-003	1.0000e-005	0.0000	4.7600e-003
Total	**1.1070**	**2.0000e-005**	**2.3100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**4.4700e-003**	**4.4700e-003**	**1.0000e-005**	**0.0000**	**4.7600e-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	0.1304					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9764					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.2000e-004	2.0000e-005	2.3100e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.4700e-003	4.4700e-003	1.0000e-005	0.0000	4.7600e-003
Total	**1.1070**	**2.0000e-005**	**2.3100e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**4.4700e-003**	**4.4700e-003**	**1.0000e-005**	**0.0000**	**4.7600e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	61.6035	0.0745	0.0453	76.9755
Unmitigated	61.6035	0.0745	0.0453	76.9755

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	57.8125 / 0	61.6035	0.0745	0.0453	76.9755
Total		**61.6035**	**0.0745**	**0.0453**	**76.9755**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	57.8125 / 0	61.6035	0.0745	0.0453	76.9755
Total		**61.6035**	**0.0745**	**0.0453**	**76.9755**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	62.9272	3.7189	0.0000	155.8995
Unmitigated	62.9272	3.7189	0.0000	155.8995

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	310	62.9272	3.7189	0.0000	155.8995
Total		**62.9272**	**3.7189**	**0.0000**	**155.8995**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			

General Light Industry	310	62.9272	3.7189	0.0000	155.8995
Total		**62.9272**	**3.7189**	**0.0000**	**155.8995**

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

18-139 Shoe Palace AQ 2030

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	63.00	1000sqft	0.00	63,000.00	0
Unrefrigerated Warehouse-No Rail	440.00	1000sqft	22.30	440,400.00	0
Parking Lot	380.00	Space	0.00	77,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	3			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 rate

Land Use - Client provided info from construction sheet

Construction Phase - Construction schedule has no specific dates

Off-road Equipment - Client provided info

Off-road Equipment - Client provided info

Off-road Equipment - Client provided info

Off-road Equipment - Client provided info

Off-road Equipment - Client provided info

Off-road Equipment - Client provided info

Off-road Equipment - Client provided info

Off-road Equipment -

Trips and VMT - Construction: 980 concrete one-way; paving: asphalt 140 truck trips & aggregate base 125 truck trips (both one-way) --> 265 total

Demolition - Construction sheet (1,240 cy to tons)

Grading - Construction sheet

Vehicle Trips - Weekday rate 3.87, Office: Sat 0.86 & Sun 0.37, warehouse rate = 3.87

Energy Use -

Water And Wastewater - 100% aerobic

Construction Off-road Equipment Mitigation - BMPs, tier 3, welders are electric; aerial lifts are battery/eletric; air compressors are eletric

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
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tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	35.00	60.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	10.00	20.00
tblGrading	AcresOfGrading	34.50	34.95
tblGrading	MaterialExported	0.00	230.00
tblLandUse	LandUseSquareFeet	440,000.00	440,400.00
tblLandUse	LandUseSquareFeet	152,000.00	77,500.00

tblLandUse	LotAcreage	1.45	0.00
tblLandUse	LotAcreage	10.10	22.30
tblLandUse	LotAcreage	3.42	0.00
tblOffRoadEquipment	HorsePower	63.00	84.00
tblOffRoadEquipment	LoadFactor	0.31	0.74
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	6.00	1.60
tblOffRoadEquipment	UsageHours	8.00	0.80
tblOffRoadEquipment	UsageHours	7.00	2.00
tblOffRoadEquipment	UsageHours	8.00	7.20
tblOffRoadEquipment	UsageHours	8.00	6.70
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	0.80
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	1.30
tblOffRoadEquipment	UsageHours	7.00	1.20

tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	0.80
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	HaulingTripNumber	0.00	980.00
tblTripsAndVMT	HaulingTripNumber	0.00	265.00
tblVehicleTrips	ST_TR	2.46	0.86
tblVehicleTrips	ST_TR	1.68	3.87
tblVehicleTrips	SU_TR	1.05	0.37
tblVehicleTrips	SU_TR	1.68	3.87
tblVehicleTrips	WD_TR	11.03	3.87
tblVehicleTrips	WD_TR	1.68	3.87
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction

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					

2019	0.1887	2.1994	2.1357	5.2400e-003	0.1626	0.0625	0.2251	0.0407	0.0580	0.0986	0.0000	480.8860	480.8860	0.0809	0.0000	482.9076
2020	2.6574	0.1667	0.2116	4.6000e-004	0.0123	5.3700e-003	0.0177	3.2900e-003	5.0600e-003	8.3500e-003	0.0000	41.7810	41.7810	7.3000e-003	0.0000	41.9635
Maximum	**2.6574**	**2.1994**	**2.1357**	**5.2400e-003**	**0.1626**	**0.0625**	**0.2251**	**0.0407**	**0.0580**	**0.0986**	**0.0000**	**480.8860**	**480.8860**	**0.0809**	**0.0000**	**482.9076**

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					
2019	0.1043	1.4092	1.3922	5.2400e-003	0.1509	0.0393	0.1902	0.0389	0.0390	0.0779	0.0000	363.8084	363.8084	0.0441	0.0000	364.9110
2020	2.6478	0.0709	0.0819	4.6000e-004	0.0123	2.0300e-003	0.0143	3.2900e-003	2.0200e-003	5.3000e-003	0.0000	23.6241	23.6241	2.2600e-003	0.0000	23.6806
Maximum	**2.6478**	**1.4092**	**1.3922**	**5.2400e-003**	**0.1509**	**0.0393**	**0.1902**	**0.0389**	**0.0390**	**0.0779**	**0.0000**	**363.8084**	**363.8084**	**0.0441**	**0.0000**	**364.9110**

	ROG	NOx	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	**3.30**	**37.44**	**37.20**	**0.00**	**6.70**	**39.18**	**15.78**	**4.05**	**34.88**	**22.24**	**0.00**	**25.87**	**25.87**	**47.41**	**0.00**	**25.96**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2019**	**3-31-2019**	0.3793	0.2461
2	**4-1-2019**	**6-30-2019**	1.4027	0.8922
3	**7-1-2019**	**9-30-2019**	0.5874	0.3573
7	**7-1-2020**	**9-30-2020**	0.1597	0.1456
		Highest	1.4027	0.8922

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	2.2359	7.0000e-005	8.0700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0158	0.0158	4.0000e-005	0.0000	0.0168
Energy	0.0474	0.4306	0.3617	2.5800e-003		0.0327	0.0327		0.0327	0.0327	0.0000	1,091.8976	1,091.8976	0.0713	0.0215	1,100.0830
Mobile	0.3072	1.3423	3.8479	0.0171	2.0127	0.0113	2.0240	0.5386	0.0105	0.5492	0.0000	1,576.6945	1,576.6945	0.0439	0.0000	1,577.7930
Waste						0.0000	0.0000		0.0000	0.0000	95.8503	0.0000	95.8503	5.6646	0.0000	237.4651
Water						0.0000	0.0000		0.0000	0.0000	39.9609	83.5524	123.5133	0.1459	0.0886	153.5726
Total	**2.5905**	**1.7730**	**4.2177**	**0.0197**	**2.0127**	**0.0441**	**2.0568**	**0.5386**	**0.0433**	**0.5819**	**135.8112**	**2,752.1602**	**2,887.9714**	**5.9258**	**0.1101**	**3,068.9304**

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	2.2359	7.0000e-005	8.0700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0158	0.0158	4.0000e-005	0.0000	0.0168
Energy	0.0474	0.4306	0.3617	2.5800e-003		0.0327	0.0327		0.0327	0.0327	0.0000	1,091.8976	1,091.8976	0.0713	0.0215	1,100.0830
Mobile	0.3072	1.3423	3.8479	0.0171	2.0127	0.0113	2.0240	0.5386	0.0105	0.5492	0.0000	1,576.6945	1,576.6945	0.0439	0.0000	1,577.7930
Waste						0.0000	0.0000		0.0000	0.0000	95.8503	0.0000	95.8503	5.6646	0.0000	237.4651
Water						0.0000	0.0000		0.0000	0.0000	39.9609	83.5524	123.5133	0.1459	0.0886	153.5726
Total	**2.5905**	**1.7730**	**4.2177**	**0.0197**	**2.0127**	**0.0441**	**2.0568**	**0.5386**	**0.0433**	**0.5819**	**135.8112**	**2,752.1602**	**2,887.9714**	**5.9258**	**0.1101**	**3,068.9304**

	ROG	**NOx**	**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	1/1/2019	1/14/2019	5	10	
2	Site Preparation	Site Preparation	1/29/2019	2/25/2019	5	20	
3	Grading	Grading	2/12/2019	5/6/2019	5	60	
4	Building Construction	Building Construction	4/2/2019	8/19/2019	5	100	
5	Trenching/Foundation	Trenching	5/6/2019	6/28/2019	5	40	
6	Paving	Paving	9/1/2020	9/14/2020	5	10	
7	Architectural Coating	Architectural Coating	9/29/2020	12/7/2020	5	50	

Acres of Grading (Site Preparation Phase): 5

Acres of Grading (Grading Phase): 34.95

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 755,100; Non-Residential Outdoor: 251,700; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	2	0.80	81	0.73
Demolition	Crushing/Proc. Equipment	1	4.00	85	0.78
Demolition	Excavators	2	7.20	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	1	7.20	97	0.37
Site Preparation	Graders	1	4.00	187	0.41
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Grading	Excavators	1	6.70	158	0.38
Grading	Graders	1	4.00	187	0.41

Grading	Off-Highway Tractors	1	1.30	124	0.44
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Scrapers	2	1.30	367	0.48
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Aerial Lifts	8	4.80	84	0.74
Building Construction	Cranes	1	2.00	231	0.29
Building Construction	Forklifts	1	4.00	89	0.20
Building Construction	Generator Sets	1	0.80	84	0.74
Building Construction	Rough Terrain Forklifts	2	2.80	100	0.40
Building Construction	Tractors/Loaders/Backhoes	1	1.20	97	0.37
Building Construction	Welders	2	0.80	46	0.45
Trenching/Foundation	Excavators	2	8.00	158	0.38
Trenching/Foundation	Tractors/Loaders/Backhoes	2	3.00	97	0.37
Paving	Pavers	1	4.00	130	0.42
Paving	Paving Equipment	1	4.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Architectural Coating	Aerial Lifts	4	8.00	63	0.31
Architectural Coating	Air Compressors	2	1.60	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	1.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	29.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	16	238.00	95.00	980.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching/Foundation	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	265.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	6	48.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Alternative Fuel for Construction Equipment

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2019

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					1.2000e-004	0.0000	1.2000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.3700e-003	0.0486	0.0544	8.0000e-005		2.8000e-003	2.8000e-003		2.6500e-003	2.6500e-003	0.0000	7.4734	7.4734	1.8800e-003	0.0000	7.5204
Total	**5.3700e-003**	**0.0486**	**0.0544**	**8.0000e-005**	**1.2000e-004**	**2.8000e-003**	**2.9200e-003**	**2.0000e-005**	**2.6500e-003**	**2.6700e-003**	**0.0000**	**7.4734**	**7.4734**	**1.8800e-003**	**0.0000**	**7.5204**

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	1.6000e-004	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0385	0.0385	0.0000	0.0000	0.0386
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	2.7000e-004	2.0000e-004	2.1000e-003	1.0000e-005	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5266	0.5266	1.0000e-005	0.0000	0.5269
Total	**2.7000e-004**	**3.6000e-004**	**2.1300e-003**	**1.0000e-005**	**6.0000e-004**	**0.0000**	**6.1000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.5651**	**0.5651**	**1.0000e-005**	**0.0000**	**0.5655**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9600e-003	0.0408	0.0605	8.0000e-005		2.3800e-003	2.3800e-003		2.3800e-003	2.3800e-003	0.0000	7.4734	7.4734	1.8800e-003	0.0000	7.5204
Total	**1.9600e-003**	**0.0408**	**0.0605**	**8.0000e-005**	**6.0000e-005**	**2.3800e-003**	**2.4400e-003**	**0.0000**	**2.3800e-003**	**2.3800e-003**	**0.0000**	**7.4734**	**7.4734**	**1.8800e-003**	**0.0000**	**7.5204**

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	1.6000e-004	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0385	0.0385	0.0000	0.0000	0.0386
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	2.7000e-004	2.0000e-004	2.1000e-003	1.0000e-005	5.9000e-004	0.0000	6.0000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.5266	0.5266	1.0000e-005	0.0000	0.5269
Total	**2.7000e-004**	**3.6000e-004**	**2.1300e-003**	**1.0000e-005**	**6.0000e-004**	**0.0000**	**6.1000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.5651**	**0.5651**	**1.0000e-005**	**0.0000**	**0.5655**

3.3 Site Preparation - 2019

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					2.6600e-003	0.0000	2.6600e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7600e-003	0.0563	0.0322	6.0000e-005		2.6200e-003	2.6200e-003		2.4100e-003	2.4100e-003	0.0000	5.7729	5.7729	1.8300e-003	0.0000	5.8186
Total	**4.7600e-003**	**0.0563**	**0.0322**	**6.0000e-005**	**2.6600e-003**	**2.6200e-003**	**5.2800e-003**	**2.9000e-004**	**2.4100e-003**	**2.7000e-003**	**0.0000**	**5.7729**	**5.7729**	**1.8300e-003**	**0.0000**	**5.8186**

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	1.3000e-004	4.5100e-003	8.9000e-004	1.0000e-005	2.5000e-004	2.0000e-005	2.6000e-004	7.0000e-005	2.0000e-005	8.0000e-005	0.0000	1.1174	1.1174	5.0000e-005	0.0000	1.1187
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	2.9000e-004	2.2000e-004	2.2300e-003	1.0000e-005	6.3000e-004	0.0000	6.4000e-004	1.7000e-004	0.0000	1.7000e-004	0.0000	0.5617	0.5617	2.0000e-005	0.0000	0.5621
Total	**4.2000e-004**	**4.7300e-003**	**3.1200e-003**	**2.0000e-005**	**8.8000e-004**	**2.0000e-005**	**9.0000e-004**	**2.4000e-004**	**2.0000e-005**	**2.5000e-004**	**0.0000**	**1.6791**	**1.6791**	**7.0000e-005**	**0.0000**	**1.6808**

Mitigated Construction On-Site

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

Fugitive Dust					1.2000e-003	0.0000	1.2000e-003	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5700e-003	0.0330	0.0410	6.0000e-005		1.8100e-003	1.8100e-003		1.8100e-003	1.8100e-003	0.0000	5.7729	5.7729	1.8300e-003	0.0000	5.8186
Total	**1.5700e-003**	**0.0330**	**0.0410**	**6.0000e-005**	**1.2000e-003**	**1.8100e-003**	**3.0100e-003**	**6.0000e-005**	**1.8100e-003**	**1.8700e-003**	**0.0000**	**5.7729**	**5.7729**	**1.8300e-003**	**0.0000**	**5.8186**

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	1.3000e-004	4.5100e-003	8.9000e-004	1.0000e-005	2.5000e-004	2.0000e-005	2.6000e-004	7.0000e-005	2.0000e-005	8.0000e-005	0.0000	1.1174	1.1174	5.0000e-005	0.0000	1.1187
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	2.9000e-004	2.2000e-004	2.2300e-003	1.0000e-005	6.3000e-004	0.0000	6.4000e-004	1.7000e-004	0.0000	1.7000e-004	0.0000	0.5617	0.5617	2.0000e-005	0.0000	0.5621
Total	**4.2000e-004**	**4.7300e-003**	**3.1200e-003**	**2.0000e-005**	**8.8000e-004**	**2.0000e-005**	**9.0000e-004**	**2.4000e-004**	**2.0000e-005**	**2.5000e-004**	**0.0000**	**1.6791**	**1.6791**	**7.0000e-005**	**0.0000**	**1.6808**

3.4 Grading - 2019

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					0.0185	0.0000	0.0185	2.0000e-003	0.0000	2.0000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0361	0.4122	0.3069	5.4000e-004		0.0191	0.0191		0.0176	0.0176	0.0000	48.4771	48.4771	0.0153	0.0000	48.8605
Total	**0.0361**	**0.4122**	**0.3069**	**5.4000e-004**	**0.0185**	**0.0191**	**0.0377**	**2.0000e-003**	**0.0176**	**0.0196**	**0.0000**	**48.4771**	**48.4771**	**0.0153**	**0.0000**	**48.8605**

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	1.9600e-003	1.4600e-003	0.0151	4.0000e-005	4.2800e-003	3.0000e-005	4.3100e-003	1.1400e-003	3.0000e-005	1.1700e-003	0.0000	3.7913	3.7913	1.0000e-004	0.0000	3.7938
Total	**1.9600e-003**	**1.4600e-003**	**0.0151**	**4.0000e-005**	**4.2800e-003**	**3.0000e-005**	**4.3100e-003**	**1.1400e-003**	**3.0000e-005**	**1.1700e-003**	**0.0000**	**3.7913**	**3.7913**	**1.0000e-004**	**0.0000**	**3.7938**

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					8.3400e-003	0.0000	8.3400e-003	4.5000e-004	0.0000	4.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0132	0.2680	0.3527	5.4000e-004		0.0134	0.0134		0.0134	0.0134	0.0000	48.4770	48.4770	0.0153	0.0000	48.8605
Total	**0.0132**	**0.2680**	**0.3527**	**5.4000e-004**	**8.3400e-003**	**0.0134**	**0.0218**	**4.5000e-004**	**0.0134**	**0.0139**	**0.0000**	**48.4770**	**48.4770**	**0.0153**	**0.0000**	**48.8605**

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	1.9600e-003	1.4600e-003	0.0151	4.0000e-005	4.2800e-003	3.0000e-005	4.3100e-003	1.1400e-003	3.0000e-005	1.1700e-003	0.0000	3.7913	3.7913	1.0000e-004	0.0000	3.7938
Total	**1.9600e-003**	**1.4600e-003**	**0.0151**	**4.0000e-005**	**4.2800e-003**	**3.0000e-005**	**4.3100e-003**	**1.1400e-003**	**3.0000e-005**	**1.1700e-003**	**0.0000**	**3.7913**	**3.7913**	**1.0000e-004**	**0.0000**	**3.7938**

3.5 Building Construction - 2019

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	0.0542	0.7483	1.0277	1.6000e-003		0.0249	0.0249		0.0231	0.0231	0.0000	142.7315	142.7315	0.0442	0.0000	143.8355
Total	**0.0542**	**0.7483**	**1.0277**	**1.6000e-003**		**0.0249**	**0.0249**		**0.0231**	**0.0231**	**0.0000**	**142.7315**	**142.7315**	**0.0442**	**0.0000**	**143.8355**

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	4.4500e-003	0.1526	0.0301	3.9000e-004	8.3100e-003	5.9000e-004	8.8900e-003	2.2800e-003	5.6000e-004	2.8400e-003	0.0000	37.7616	37.7616	1.7700e-003	0.0000	37.8058
Vendor	0.0233	0.5998	0.1610	1.3000e-003	0.0313	4.3100e-003	0.0356	9.0300e-003	4.1200e-003	0.0132	0.0000	124.9496	124.9496	6.2000e-003	0.0000	125.1046
Worker	0.0432	0.0322	0.3324	9.2000e-004	0.0944	6.2000e-004	0.0950	0.0251	5.7000e-004	0.0257	0.0000	83.5479	83.5479	2.2700e-003	0.0000	83.6048

Total	**0.0710**	**0.7846**	**0.5236**	**2.6100e-003**	**0.1339**	**5.5200e-003**	**0.1395**	**0.0364**	**5.2500e-003**	**0.0417**	**0.0000**	**246.2591**	**246.2591**	**0.0102**	**0.0000**	**246.5152**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.9000e-003	0.1515	0.1966	1.6000e-003		9.5100e-003	9.5100e-003		9.5100e-003	9.5100e-003	0.0000	25.6540	25.6540	7.4000e-003	0.0000	25.8390
Total	**6.9000e-003**	**0.1515**	**0.1966**	**1.6000e-003**		**9.5100e-003**	**9.5100e-003**		**9.5100e-003**	**9.5100e-003**	**0.0000**	**25.6540**	**25.6540**	**7.4000e-003**	**0.0000**	**25.8390**

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	4.4500e-003	0.1526	0.0301	3.9000e-004	8.3100e-003	5.9000e-004	8.8900e-003	2.2800e-003	5.6000e-004	2.8400e-003	0.0000	37.7616	37.7616	1.7700e-003	0.0000	37.8058
Vendor	0.0233	0.5998	0.1610	1.3000e-003	0.0313	4.3100e-003	0.0356	9.0300e-003	4.1200e-003	0.0132	0.0000	124.9496	124.9496	6.2000e-003	0.0000	125.1046
Worker	0.0432	0.0322	0.3324	9.2000e-004	0.0944	6.2000e-004	0.0950	0.0251	5.7000e-004	0.0257	0.0000	83.5479	83.5479	2.2700e-003	0.0000	83.6048
Total	**0.0710**	**0.7846**	**0.5236**	**2.6100e-003**	**0.1339**	**5.5200e-003**	**0.1395**	**0.0364**	**5.2500e-003**	**0.0417**	**0.0000**	**246.2591**	**246.2591**	**0.0102**	**0.0000**	**246.5152**

3.6 Trenching/Foundation - 2019

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	0.0139	0.1423	0.1651	2.5000e-004		7.5100e-003	7.5100e-003		6.9100e-003	6.9100e-003	0.0000	22.7324	22.7324	7.1900e-003	0.0000	22.9122
Total	**0.0139**	**0.1423**	**0.1651**	**2.5000e-004**		**7.5100e-003**	**7.5100e-003**		**6.9100e-003**	**6.9100e-003**	**0.0000**	**22.7324**	**22.7324**	**7.1900e-003**	**0.0000**	**22.9122**

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	7.3000e-004	5.4000e-004	5.5900e-003	2.0000e-005	1.5900e-003	1.0000e-005	1.6000e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.4042	1.4042	4.0000e-005	0.0000	1.4051
Total	**7.3000e-004**	**5.4000e-004**	**5.5900e-003**	**2.0000e-005**	**1.5900e-003**	**1.0000e-005**	**1.6000e-003**	**4.2000e-004**	**1.0000e-005**	**4.3000e-004**	**0.0000**	**1.4042**	**1.4042**	**4.0000e-005**	**0.0000**	**1.4051**

Mitigated Construction On-Site

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

Off-Road	6.2200e-003	0.1243	0.1919	2.5000e-004		6.5700e-003	6.5700e-003		6.5700e-003	6.5700e-003	0.0000	22.7324	22.7324	7.1900e-003	0.0000	22.9122
Total	**6.2200e-003**	**0.1243**	**0.1919**	**2.5000e-004**		**6.5700e-003**	**6.5700e-003**		**6.5700e-003**	**6.5700e-003**	**0.0000**	**22.7324**	**22.7324**	**7.1900e-003**	**0.0000**	**22.9122**

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	7.3000e-004	5.4000e-004	5.5900e-003	2.0000e-005	1.5900e-003	1.0000e-005	1.6000e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.4042	1.4042	4.0000e-005	0.0000	1.4051
Total	**7.3000e-004**	**5.4000e-004**	**5.5900e-003**	**2.0000e-005**	**1.5900e-003**	**1.0000e-005**	**1.6000e-003**	**4.2000e-004**	**1.0000e-005**	**4.3000e-004**	**0.0000**	**1.4042**	**1.4042**	**4.0000e-005**	**0.0000**	**1.4051**

3.7 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.7800e-003	0.0385	0.0382	6.0000e-005		2.2700e-003	2.2700e-003		2.0900e-003	2.0900e-003	0.0000	4.9143	4.9143	1.5900e-003	0.0000	4.9540
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.7800e-003**	**0.0385**	**0.0382**	**6.0000e-005**		**2.2700e-003**	**2.2700e-003**		**2.0900e-003**	**2.0900e-003**	**0.0000**	**4.9143**	**4.9143**	**1.5900e-003**	**0.0000**	**4.9540**

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	1.1000e-003	0.0385	7.8700e-003	1.0000e-004	2.2500e-003	1.2000e-004	2.3700e-003	6.2000e-004	1.2000e-004	7.4000e-004	0.0000	10.1059	10.1059	4.6000e-004	0.0000	10.1174
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	2.2000e-004	1.6000e-004	1.6300e-003	0.0000	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4421	0.4421	1.0000e-005	0.0000	0.4424
Total	**1.3200e-003**	**0.0386**	**9.5000e-003**	**1.0000e-004**	**2.7700e-003**	**1.2000e-004**	**2.8900e-003**	**7.6000e-004**	**1.2000e-004**	**8.8000e-004**	**0.0000**	**10.5480**	**10.5480**	**4.7000e-004**	**0.0000**	**10.5598**

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	1.3700e-003	0.0295	0.0424	6.0000e-005		1.8400e-003	1.8400e-003		1.8400e-003	1.8400e-003	0.0000	4.9143	4.9143	1.5900e-003	0.0000	4.9540
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.3700e-003**	**0.0295**	**0.0424**	**6.0000e-005**		**1.8400e-003**	**1.8400e-003**		**1.8400e-003**	**1.8400e-003**	**0.0000**	**4.9143**	**4.9143**	**1.5900e-003**	**0.0000**	**4.9540**

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	1.1000e-003	0.0385	7.8700e-003	1.0000e-004	2.2500e-003	1.2000e-004	2.3700e-003	6.2000e-004	1.2000e-004	7.4000e-004	0.0000	10.1059	10.1059	4.6000e-004	0.0000	10.1174
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	2.2000e-004	1.6000e-004	1.6300e-003	0.0000	5.2000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4421	0.4421	1.0000e-005	0.0000	0.4424
Total	**1.3200e-003**	**0.0386**	**9.5000e-003**	**1.0000e-004**	**2.7700e-003**	**1.2000e-004**	**2.8900e-003**	**7.6000e-004**	**1.2000e-004**	**8.8000e-004**	**0.0000**	**10.5480**	**10.5480**	**4.7000e-004**	**0.0000**	**10.5598**

3.8 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.6411					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.1900e-003	0.0868	0.1338	2.1000e-004		2.9100e-003	2.9100e-003		2.8000e-003	2.8000e-003	0.0000	18.1570	18.1570	5.0300e-003	0.0000	18.2828
Total	**2.6483**	**0.0868**	**0.1338**	**2.1000e-004**		**2.9100e-003**	**2.9100e-003**		**2.8000e-003**	**2.8000e-003**	**0.0000**	**18.1570**	**18.1570**	**5.0300e-003**	**0.0000**	**18.2828**

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	3.9900e-003	2.8600e-003	0.0300	9.0000e-005	9.5200e-003	6.0000e-005	9.5800e-003	2.5300e-003	6.0000e-005	2.5900e-003	0.0000	8.1618	8.1618	2.0000e-004	0.0000	8.1668

Total	**3.9900e-003**	**2.8600e-003**	**0.0300**	**9.0000e-005**	**9.5200e-003**	**6.0000e-005**	**9.5800e-003**	**2.5300e-003**	**6.0000e-005**	**2.5900e-003**	**0.0000**	**8.1618**	**8.1618**	**2.0000e-004**	**0.0000**	**8.1668**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.6411					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	2.1000e-004		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.6411**	**0.0000**	**0.0000**	**2.1000e-004**		**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	3.9900e-003	2.8600e-003	0.0300	9.0000e-005	9.5200e-003	6.0000e-005	9.5800e-003	2.5300e-003	6.0000e-005	2.5900e-003	0.0000	8.1618	8.1618	2.0000e-004	0.0000	8.1668
Total	**3.9900e-003**	**2.8600e-003**	**0.0300**	**9.0000e-005**	**9.5200e-003**	**6.0000e-005**	**9.5800e-003**	**2.5300e-003**	**6.0000e-005**	**2.5900e-003**	**0.0000**	**8.1618**	**8.1618**	**2.0000e-004**	**0.0000**	**8.1668**

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	0.3072	1.3423	3.8479	0.0171	2.0127	0.0113	2.0240	0.5386	0.0105	0.5492	0.0000	1,576.6945	1,576.6945	0.0439	0.0000	1,577.7930
Unmitigated	0.3072	1.3423	3.8479	0.0171	2.0127	0.0113	2.0240	0.5386	0.0105	0.5492	0.0000	1,576.6945	1,576.6945	0.0439	0.0000	1,577.7930

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	243.81	54.18	23.31	442,630	442,630
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	1,702.80	1,702.80	1702.80	4,971,344	4,971,344
Total	1,946.61	1,756.98	1,726.11	5,413,974	5,413,974

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
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	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Parking Lot	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Unrefrigerated Warehouse-No Rail	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651

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	623.1188	623.1188	0.0623	0.0129	628.5185
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	623.1188	623.1188	0.0623	0.0129	628.5185
NaturalGas Mitigated	0.0474	0.4306	0.3617	2.5800e-003		0.0327	0.0327		0.0327	0.0327	0.0000	468.7788	468.7788	8.9800e-003	8.5900e-003	471.5645
NaturalGas Unmitigated	0.0474	0.4306	0.3617	2.5800e-003		0.0327	0.0327		0.0327	0.0327	0.0000	468.7788	468.7788	8.9800e-003	8.5900e-003	471.5645

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	822150	4.4300e-003	0.0403	0.0339	2.4000e-004		3.0600e-003	3.0600e-003		3.0600e-003	3.0600e-003	0.0000	43.8731	43.8731	8.4000e-004	8.0000e-004	44.1338
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
Unrefrigerated Warehouse-No Rail	7.96243e+006	0.0429	0.3903	0.3279	2.3400e-003		0.0297	0.0297		0.0297	0.0297	0.0000	424.9057	424.9057	8.1400e-003	7.7900e-003	427.4307

Total		**0.0474**	**0.4306**	**0.3617**	**2.5800e-003**		**0.0327**	**0.0327**		**0.0327**	**0.0327**	**0.0000**	**468.7787**	**468.7787**	**8.9800e-003**	**8.5900e-003**	**471.5645**

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	822150	4.4300e-003	0.0403	0.0339	2.4000e-004		3.0600e-003	3.0600e-003		3.0600e-003	3.0600e-003	0.0000	43.8731	43.8731	8.4000e-004	8.0000e-004	44.1338
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
Unrefrigerated Warehouse-No Rail	7.96243e+006	0.0429	0.3903	0.3279	2.3400e-003		0.0297	0.0297		0.0297	0.0297	0.0000	424.9057	424.9057	8.1400e-003	7.7900e-003	427.4307
Total		**0.0474**	**0.4306**	**0.3617**	**2.5800e-003**		**0.0327**	**0.0327**		**0.0327**	**0.0327**	**0.0000**	**468.7787**	**468.7787**	**8.9800e-003**	**8.5900e-003**	**471.5645**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	574560	75.5787	7.5600e-003	1.5600e-003	76.2336
Parking Lot	27125	3.5681	3.6000e-004	7.0000e-005	3.5990
Unrefrigerated Warehouse-No Rail	4.13536e+006	543.9721	0.0544	0.0113	548.6859
Total		**623.1188**	**0.0623**	**0.0129**	**628.5185**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	574560	75.5787	7.5600e-003	1.5600e-003	76.2336
Parking Lot	27125	3.5681	3.6000e-004	7.0000e-005	3.5990
Unrefrigerated Warehouse-No Rail	4.13536e+006	543.9721	0.0544	0.0113	548.6859
Total		**623.1188**	**0.0623**	**0.0129**	**628.5185**

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	2.2359	7.0000e-005	8.0700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0158	0.0158	4.0000e-005	0.0000	0.0168
Unmitigated	2.2359	7.0000e-005	8.0700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0158	0.0158	4.0000e-005	0.0000	0.0168

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	0.2641					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.9710					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.4000e-004	7.0000e-005	8.0700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0158	0.0158	4.0000e-005	0.0000	0.0168
Total	**2.2359**	**7.0000e-005**	**8.0700e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0158**	**0.0158**	**4.0000e-005**	**0.0000**	**0.0168**

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	0.2641					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.9710					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.4000e-004	7.0000e-005	8.0700e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0158	0.0158	4.0000e-005	0.0000	0.0168
Total	**2.2359**	**7.0000e-005**	**8.0700e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0158**	**0.0158**	**4.0000e-005**	**0.0000**	**0.0168**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e

Category	MT/yr			
Mitigated	123.5133	0.1459	0.0886	153.5726
Unmitigated	123.5133	0.1459	0.0886	153.5726

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	11.1972 / 6.86282	15.0911	0.0148	8.8500e-003	18.0957
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	101.75 / 0	108.4222	0.1312	0.0798	135.4769
Total		**123.5133**	**0.1459**	**0.0886**	**153.5726**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	11.1972 / 6.86282	15.0911	0.0148	8.8500e-003	18.0957
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	101.75 / 0	108.4222	0.1312	0.0798	135.4769

Total		**123.5133**	**0.1459**	**0.0886**	**153.5726**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	95.8503	5.6646	0.0000	237.4651
Unmitigated	95.8503	5.6646	0.0000	237.4651

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	58.59	11.8932	0.7029	0.0000	29.4650
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	413.6	83.9571	4.9617	0.0000	208.0001
Total		**95.8503**	**5.6646**	**0.0000**	**237.4651**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	58.59	11.8932	0.7029	0.0000	29.4650
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	413.6	83.9571	4.9617	0.0000	208.0001
Total		**95.8503**	**5.6646**	**0.0000**	**237.4651**

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

18-139 Shoe Palace TAC

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	63.00	1000sqft	0.00	63,000.00	0
Unrefrigerated Warehouse-No Rail	440.00	1000sqft	22.30	440,400.00	0
Parking Lot	380.00	Space	0.00	77,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	3			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 rate

Land Use - Client provided info from construction sheet

Construction Phase - Construction schedule has no specific dates

Off-road Equipment - Client provided info

Off-road Equipment - Client provided info

Off-road Equipment - Client provided info

Off-road Equipment - Client provided info

Off-road Equipment - Client provided info

Off-road Equipment - Client provided info

Off-road Equipment - Client provided info

Off-road Equipment -

Trips and VMT - Construction: 980 concrete one-way; paving: asphalt 140 truck trips & aggregate base 125 truck trips (both one-way) --> 265 total; TAC 1 mile trips

Demolition - Construction sheet (1,240 cy to tons)

Grading - Construction sheet

Vehicle Trips - Weekday rate 3.87, sat = 0.86, sun = 0.37, warehouse = 3.87

Energy Use -

Water And Wastewater - 100% aerobic

Construction Off-road Equipment Mitigation - BMPs, tier 3, welders are electric; aerial lifts are battery/eletric; air compressors are eletric

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
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tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	35.00	60.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	10.00	20.00
tblGrading	AcresOfGrading	34.50	34.95
tblGrading	MaterialExported	0.00	230.00
tblLandUse	LandUseSquareFeet	440,000.00	440,400.00

tblLandUse	LandUseSquareFeet	152,000.00	77,500.00
tblLandUse	LotAcreage	1.45	0.00
tblLandUse	LotAcreage	10.10	22.30
tblLandUse	LotAcreage	3.42	0.00
tblOffRoadEquipment	HorsePower	63.00	84.00
tblOffRoadEquipment	LoadFactor	0.31	0.74
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
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tblOffRoadEquipment	UsageHours	6.00	1.60
tblOffRoadEquipment	UsageHours	8.00	0.80
tblOffRoadEquipment	UsageHours	7.00	2.00
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tblOffRoadEquipment	UsageHours	8.00	6.70
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tblOffRoadEquipment	UsageHours	8.00	0.80
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	1.30

tblOffRoadEquipment	UsageHours	7.00	1.20
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	0.80
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
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tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblVehicleTrips	ST_TR	2.46	0.86
tblVehicleTrips	ST_TR	1.68	3.87

tblVehicleTrips	SU_TR	1.05	0.37
tblVehicleTrips	SU_TR	1.68	3.87
tblVehicleTrips	WD_TR	11.03	3.87
tblVehicleTrips	WD_TR	1.68	3.87
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction

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					
2019	0.1416	1.8036	1.7860	3.1200e-003	0.0357	0.0580	0.0936	6.2500e-003	0.0536	0.0599	0.0000	282.5568	282.5568	0.0758	0.0000	284.4511
2020	2.6537	0.1396	0.1826	2.9000e-004	1.0600e-003	5.2100e-003	6.2600e-003	2.8000e-004	4.9100e-003	5.1900e-003	0.0000	25.8209	25.8209	6.8500e-003	0.0000	25.9922
Maximum	**2.6537**	**1.8036**	**1.7860**	**3.1200e-003**	**0.0357**	**0.0580**	**0.0936**	**6.2500e-003**	**0.0536**	**0.0599**	**0.0000**	**282.5568**	**282.5568**	**0.0758**	**0.0000**	**284.4511**

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					
2019	0.0572	1.0135	1.0425	3.1200e-003	0.0239	0.0347	0.0586	4.4600e-003	0.0347	0.0391	0.0000	165.4792	165.4792	0.0390	0.0000	166.4544
2020	2.6441	0.0438	0.0529	2.9000e-004	1.0600e-003	1.8600e-003	2.9200e-003	2.8000e-004	1.8600e-003	2.1500e-003	0.0000	7.6639	7.6639	1.8200e-003	0.0000	7.7093
Maximum	**2.6441**	**1.0135**	**1.0425**	**3.1200e-003**	**0.0239**	**0.0347**	**0.0586**	**4.4600e-003**	**0.0347**	**0.0391**	**0.0000**	**165.4792**	**165.4792**	**0.0390**	**0.0000**	**166.4544**

	ROG	**NOx**	**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	**3.36**	**45.59**	**44.36**	**0.00**	**31.94**	**42.12**	**38.37**	**27.41**	**37.59**	**36.56**	**0.00**	**43.85**	**43.85**	**50.58**	**0.00**	**43.90**

Quarter	**Start Date**	**End Date**	**Maximum Unmitigated ROG + NOX (tons/quarter)**	**Maximum Mitigated ROG + NOX (tons/quarter)**
1	**1-1-2019**	**3-31-2019**	0.3737	0.2405
2	**4-1-2019**	**6-30-2019**	1.1323	0.6218
3	**7-1-2019**	**9-30-2019**	0.4381	0.2081
7	**7-1-2020**	**9-30-2020**	0.1346	0.1206
		Highest	1.1323	0.6218

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	2.2359	7.0000e-005	8.1500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0158	0.0158	4.0000e-005	0.0000	0.0168
Energy	0.0474	0.4306	0.3617	2.5800e-003		0.0327	0.0327		0.0327	0.0327	0.0000	1,091.8976	1,091.8976	0.0713	0.0215	1,100.0830
Mobile	0.5102	2.2372	6.4819	0.0222	2.0132	0.0190	2.0322	0.5389	0.0178	0.5567	0.0000	2,031.8885	2,031.8885	0.0681	0.0000	2,033.5906

Waste						0.0000	0.0000		0.0000	0.0000	95.8503	0.0000	95.8503	5.6646	0.0000	237.4651
Water						0.0000	0.0000		0.0000	0.0000	39.9609	83.5524	123.5133	0.1459	0.0886	153.5726
Total	**2.7935**	**2.6678**	**6.8518**	**0.0248**	**2.0132**	**0.0518**	**2.0650**	**0.5389**	**0.0505**	**0.5895**	**135.8112**	**3,207.3542**	**3,343.1654**	**5.9499**	**0.1101**	**3,524.7281**

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	2.2359	7.0000e-005	8.1500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0158	0.0158	4.0000e-005	0.0000	0.0168
Energy	0.0474	0.4306	0.3617	2.5800e-003		0.0327	0.0327		0.0327	0.0327	0.0000	1,091.8976	1,091.8976	0.0713	0.0215	1,100.0830
Mobile	0.5102	2.2372	6.4819	0.0222	2.0132	0.0190	2.0322	0.5389	0.0178	0.5567	0.0000	2,031.8885	2,031.8885	0.0681	0.0000	2,033.5906
Waste						0.0000	0.0000		0.0000	0.0000	95.8503	0.0000	95.8503	5.6646	0.0000	237.4651
Water						0.0000	0.0000		0.0000	0.0000	39.9609	83.5524	123.5133	0.1459	0.0886	153.5726
Total	**2.7935**	**2.6678**	**6.8518**	**0.0248**	**2.0132**	**0.0518**	**2.0650**	**0.5389**	**0.0505**	**0.5895**	**135.8112**	**3,207.3542**	**3,343.1654**	**5.9499**	**0.1101**	**3,524.7281**

	ROG	**NOx**	**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	1/1/2019	1/14/2019	5	10	
2	Site Preparation	Site Preparation	1/29/2019	2/25/2019	5	20	

3	Grading	Grading	2/12/2019	5/6/2019	5	60	
4	Building Construction	Building Construction	4/2/2019	8/19/2019	5	100	
5	Trenching/Foundation	Trenching	5/6/2019	6/28/2019	5	40	
6	Paving	Paving	9/1/2020	9/14/2020	5	10	
7	Architectural Coating	Architectural Coating	9/29/2020	12/7/2020	5	50	

Acres of Grading (Site Preparation Phase): 5

Acres of Grading (Grading Phase): 34.95

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 755,100; Non-Residential Outdoor: 251,700; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	2	0.80	81	0.73
Demolition	Crushing/Proc. Equipment	1	4.00	85	0.78
Demolition	Excavators	2	7.20	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	1	7.20	97	0.37
Site Preparation	Graders	1	4.00	187	0.41
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Grading	Excavators	1	6.70	158	0.38
Grading	Graders	1	4.00	187	0.41
Grading	Off-Highway Tractors	1	1.30	124	0.44
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Scrapers	2	1.30	367	0.48
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Aerial Lifts	8	4.80	84	0.74
Building Construction	Cranes	1	2.00	231	0.29
Building Construction	Forklifts	1	4.00	89	0.20

Building Construction	Generator Sets	1	0.80	84	0.74
Building Construction	Rough Terrain Forklifts	2	2.80	100	0.40
Building Construction	Tractors/Loaders/Backhoes	1	1.20	97	0.37
Building Construction	Welders	2	0.80	46	0.45
Trenching/Foundation	Excavators	2	8.00	158	0.38
Trenching/Foundation	Tractors/Loaders/Backhoes	2	3.00	97	0.37
Paving	Pavers	1	4.00	130	0.42
Paving	Paving Equipment	1	4.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Architectural Coating	Aerial Lifts	4	8.00	63	0.31
Architectural Coating	Air Compressors	2	1.60	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	1.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	29.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Grading	7	18.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Building Construction	16	238.00	95.00	980.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Trenching/Foundation	4	10.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	265.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	6	48.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Alternative Fuel for Construction Equipment

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2019

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					1.2000e-004	0.0000	1.2000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.3700e-003	0.0486	0.0544	8.0000e-005		2.8000e-003	2.8000e-003		2.6500e-003	2.6500e-003	0.0000	7.4734	7.4734	1.8800e-003	0.0000	7.5204
Total	**5.3700e-003**	**0.0486**	**0.0544**	**8.0000e-005**	**1.2000e-004**	**2.8000e-003**	**2.9200e-003**	**2.0000e-005**	**2.6500e-003**	**2.6700e-003**	**0.0000**	**7.4734**	**7.4734**	**1.8800e-003**	**0.0000**	**7.5204**

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	5.0000e-005	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6.4800e-003	6.4800e-003	0.0000	0.0000	6.5000e-003
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	9.0000e-005	4.0000e-005	5.5000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.0629	0.0629	0.0000	0.0000	0.0630
Total	**9.0000e-005**	**9.0000e-005**	**5.6000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**1.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0694**	**0.0694**	**0.0000**	**0.0000**	**0.0695**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9600e-003	0.0408	0.0605	8.0000e-005		2.3800e-003	2.3800e-003		2.3800e-003	2.3800e-003	0.0000	7.4734	7.4734	1.8800e-003	0.0000	7.5204
Total	**1.9600e-003**	**0.0408**	**0.0605**	**8.0000e-005**	**6.0000e-005**	**2.3800e-003**	**2.4400e-003**	**0.0000**	**2.3800e-003**	**2.3800e-003**	**0.0000**	**7.4734**	**7.4734**	**1.8800e-003**	**0.0000**	**7.5204**

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	5.0000e-005	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6.4800e-003	6.4800e-003	0.0000	0.0000	6.5000e-003
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	9.0000e-005	4.0000e-005	5.5000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.0629	0.0629	0.0000	0.0000	0.0630
Total	**9.0000e-005**	**9.0000e-005**	**5.6000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**1.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0694**	**0.0694**	**0.0000**	**0.0000**	**0.0695**

3.3 Site Preparation - 2019

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					2.6600e-003	0.0000	2.6600e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7600e-003	0.0563	0.0322	6.0000e-005		2.6200e-003	2.6200e-003		2.4100e-003	2.4100e-003	0.0000	5.7729	5.7729	1.8300e-003	0.0000	5.8186
Total	**4.7600e-003**	**0.0563**	**0.0322**	**6.0000e-005**	**2.6600e-003**	**2.6200e-003**	**5.2800e-003**	**2.9000e-004**	**2.4100e-003**	**2.7000e-003**	**0.0000**	**5.7729**	**5.7729**	**1.8300e-003**	**0.0000**	**5.8186**

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	4.0000e-005	1.5500e-003	2.6000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.1879	0.1879	2.0000e-005	0.0000	0.1884
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	1.0000e-004	5.0000e-005	5.9000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0671	0.0671	0.0000	0.0000	0.0672
Total	**1.4000e-004**	**1.6000e-003**	**8.5000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.2550**	**0.2550**	**2.0000e-005**	**0.0000**	**0.2556**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.2000e-003	0.0000	1.2000e-003	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5700e-003	0.0330	0.0410	6.0000e-005		1.8100e-003	1.8100e-003		1.8100e-003	1.8100e-003	0.0000	5.7729	5.7729	1.8300e-003	0.0000	5.8186
Total	**1.5700e-003**	**0.0330**	**0.0410**	**6.0000e-005**	**1.2000e-003**	**1.8100e-003**	**3.0100e-003**	**6.0000e-005**	**1.8100e-003**	**1.8700e-003**	**0.0000**	**5.7729**	**5.7729**	**1.8300e-003**	**0.0000**	**5.8186**

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	4.0000e-005	1.5500e-003	2.6000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.1879	0.1879	2.0000e-005	0.0000	0.1884
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	1.0000e-004	5.0000e-005	5.9000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0671	0.0671	0.0000	0.0000	0.0672
Total	**1.4000e-004**	**1.6000e-003**	**8.5000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.2550**	**0.2550**	**2.0000e-005**	**0.0000**	**0.2556**

3.4 Grading - 2019

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					0.0185	0.0000	0.0185	2.0000e-003	0.0000	2.0000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0361	0.4122	0.3069	5.4000e-004		0.0191	0.0191		0.0176	0.0176	0.0000	48.4771	48.4771	0.0153	0.0000	48.8605
Total	**0.0361**	**0.4122**	**0.3069**	**5.4000e-004**	**0.0185**	**0.0191**	**0.0377**	**2.0000e-003**	**0.0176**	**0.0196**	**0.0000**	**48.4771**	**48.4771**	**0.0153**	**0.0000**	**48.8605**

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	6.6000e-004	3.1000e-004	3.9900e-003	1.0000e-005	4.0000e-004	1.0000e-005	4.1000e-004	1.1000e-004	1.0000e-005	1.1000e-004	0.0000	0.4530	0.4530	2.0000e-005	0.0000	0.4535
Total	**6.6000e-004**	**3.1000e-004**	**3.9900e-003**	**1.0000e-005**	**4.0000e-004**	**1.0000e-005**	**4.1000e-004**	**1.1000e-004**	**1.0000e-005**	**1.1000e-004**	**0.0000**	**0.4530**	**0.4530**	**2.0000e-005**	**0.0000**	**0.4535**

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					8.3400e-003	0.0000	8.3400e-003	4.5000e-004	0.0000	4.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0132	0.2680	0.3527	5.4000e-004		0.0134	0.0134		0.0134	0.0134	0.0000	48.4770	48.4770	0.0153	0.0000	48.8605
Total	**0.0132**	**0.2680**	**0.3527**	**5.4000e-004**	**8.3400e-003**	**0.0134**	**0.0218**	**4.5000e-004**	**0.0134**	**0.0139**	**0.0000**	**48.4770**	**48.4770**	**0.0153**	**0.0000**	**48.8605**

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	6.6000e-004	3.1000e-004	3.9900e-003	1.0000e-005	4.0000e-004	1.0000e-005	4.1000e-004	1.1000e-004	1.0000e-005	1.1000e-004	0.0000	0.4530	0.4530	2.0000e-005	0.0000	0.4535

Total	**6.6000e-004**	**3.1000e-004**	**3.9900e-003**	**1.0000e-005**	**4.0000e-004**	**1.0000e-005**	**4.1000e-004**	**1.1000e-004**	**1.0000e-005**	**1.1000e-004**	**0.0000**	**0.4530**	**0.4530**	**2.0000e-005**	**0.0000**	**0.4535**

3.5 Building Construction - 2019

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	0.0542	0.7483	1.0277	1.6000e-003		0.0249	0.0249		0.0231	0.0231	0.0000	142.7315	142.7315	0.0442	0.0000	143.8355
Total	**0.0542**	**0.7483**	**1.0277**	**1.6000e-003**		**0.0249**	**0.0249**		**0.0231**	**0.0231**	**0.0000**	**142.7315**	**142.7315**	**0.0442**	**0.0000**	**143.8355**

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	1.1900e-003	0.0525	8.7600e-003	7.0000e-005	4.3000e-004	7.0000e-005	4.9000e-004	1.2000e-004	6.0000e-005	1.8000e-004	0.0000	6.3481	6.3481	7.4000e-004	0.0000	6.3666
Vendor	0.0104	0.3344	0.0963	4.0000e-004	4.3900e-003	8.2000e-004	5.2100e-003	1.2800e-003	7.8000e-004	2.0600e-003	0.0000	38.0944	38.0944	4.0900e-003	0.0000	38.1967
Worker	0.0146	6.9100e-003	0.0879	1.1000e-004	8.8500e-003	1.2000e-004	8.9700e-003	2.3700e-003	1.1000e-004	2.4800e-003	0.0000	9.9820	9.9820	4.8000e-004	0.0000	9.9941
Total	**0.0261**	**0.3938**	**0.1930**	**5.8000e-004**	**0.0137**	**1.0100e-003**	**0.0147**	**3.7700e-003**	**9.5000e-004**	**4.7200e-003**	**0.0000**	**54.4245**	**54.4245**	**5.3100e-003**	**0.0000**	**54.5574**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.9000e-003	0.1515	0.1966	1.6000e-003		9.5100e-003	9.5100e-003		9.5100e-003	9.5100e-003	0.0000	25.6540	25.6540	7.4000e-003	0.0000	25.8390
Total	**6.9000e-003**	**0.1515**	**0.1966**	**1.6000e-003**		**9.5100e-003**	**9.5100e-003**		**9.5100e-003**	**9.5100e-003**	**0.0000**	**25.6540**	**25.6540**	**7.4000e-003**	**0.0000**	**25.8390**

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	1.1900e-003	0.0525	8.7600e-003	7.0000e-005	4.3000e-004	7.0000e-005	4.9000e-004	1.2000e-004	6.0000e-005	1.8000e-004	0.0000	6.3481	6.3481	7.4000e-004	0.0000	6.3666
Vendor	0.0104	0.3344	0.0963	4.0000e-004	4.3900e-003	8.2000e-004	5.2100e-003	1.2800e-003	7.8000e-004	2.0600e-003	0.0000	38.0944	38.0944	4.0900e-003	0.0000	38.1967
Worker	0.0146	6.9100e-003	0.0879	1.1000e-004	8.8500e-003	1.2000e-004	8.9700e-003	2.3700e-003	1.1000e-004	2.4800e-003	0.0000	9.9820	9.9820	4.8000e-004	0.0000	9.9941
Total	**0.0261**	**0.3938**	**0.1930**	**5.8000e-004**	**0.0137**	**1.0100e-003**	**0.0147**	**3.7700e-003**	**9.5000e-004**	**4.7200e-003**	**0.0000**	**54.4245**	**54.4245**	**5.3100e-003**	**0.0000**	**54.5574**

3.6 Trenching/Foundation - 2019

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	0.0139	0.1423	0.1651	2.5000e-004		7.5100e-003	7.5100e-003		6.9100e-003	6.9100e-003	0.0000	22.7324	22.7324	7.1900e-003	0.0000	22.9122
Total	**0.0139**	**0.1423**	**0.1651**	**2.5000e-004**		**7.5100e-003**	**7.5100e-003**		**6.9100e-003**	**6.9100e-003**	**0.0000**	**22.7324**	**22.7324**	**7.1900e-003**	**0.0000**	**22.9122**

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	2.5000e-004	1.2000e-004	1.4800e-003	0.0000	1.5000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1678	0.1678	1.0000e-005	0.0000	0.1680
Total	**2.5000e-004**	**1.2000e-004**	**1.4800e-003**	**0.0000**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1678**	**0.1678**	**1.0000e-005**	**0.0000**	**0.1680**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.2200e-003	0.1243	0.1919	2.5000e-004		6.5700e-003	6.5700e-003		6.5700e-003	6.5700e-003	0.0000	22.7324	22.7324	7.1900e-003	0.0000	22.9122
Total	**6.2200e-003**	**0.1243**	**0.1919**	**2.5000e-004**		**6.5700e-003**	**6.5700e-003**		**6.5700e-003**	**6.5700e-003**	**0.0000**	**22.7324**	**22.7324**	**7.1900e-003**	**0.0000**	**22.9122**

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	2.5000e-004	1.2000e-004	1.4800e-003	0.0000	1.5000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1678	0.1678	1.0000e-005	0.0000	0.1680
Total	**2.5000e-004**	**1.2000e-004**	**1.4800e-003**	**0.0000**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1678**	**0.1678**	**1.0000e-005**	**0.0000**	**0.1680**

3.7 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.7800e-003	0.0385	0.0382	6.0000e-005		2.2700e-003	2.2700e-003		2.0900e-003	2.0900e-003	0.0000	4.9143	4.9143	1.5900e-003	0.0000	4.9540
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.7800e-003**	**0.0385**	**0.0382**	**6.0000e-005**		**2.2700e-003**	**2.2700e-003**		**2.0900e-003**	**2.0900e-003**	**0.0000**	**4.9143**	**4.9143**	**1.5900e-003**	**0.0000**	**4.9540**

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	2.9000e-004	0.0137	2.2300e-003	2.0000e-005	1.1000e-004	1.0000e-005	1.3000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	1.7209	1.7209	1.8000e-004	0.0000	1.7255
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	7.0000e-005	3.0000e-005	4.3000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0529	0.0529	0.0000	0.0000	0.0529
Total	**3.6000e-004**	**0.0137**	**2.6600e-003**	**2.0000e-005**	**1.6000e-004**	**1.0000e-005**	**1.8000e-004**	**4.0000e-005**	**1.0000e-005**	**5.0000e-005**	**0.0000**	**1.7738**	**1.7738**	**1.8000e-004**	**0.0000**	**1.7784**

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	1.3700e-003	0.0295	0.0424	6.0000e-005		1.8400e-003	1.8400e-003		1.8400e-003	1.8400e-003	0.0000	4.9143	4.9143	1.5900e-003	0.0000	4.9540
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.3700e-003**	**0.0295**	**0.0424**	**6.0000e-005**		**1.8400e-003**	**1.8400e-003**		**1.8400e-003**	**1.8400e-003**	**0.0000**	**4.9143**	**4.9143**	**1.5900e-003**	**0.0000**	**4.9540**

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	2.9000e-004	0.0137	2.2300e-003	2.0000e-005	1.1000e-004	1.0000e-005	1.3000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	1.7209	1.7209	1.8000e-004	0.0000	1.7255
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	7.0000e-005	3.0000e-005	4.3000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0529	0.0529	0.0000	0.0000	0.0529

Total	**3.6000e-004**	**0.0137**	**2.6600e-003**	**2.0000e-005**	**1.6000e-004**	**1.0000e-005**	**1.8000e-004**	**4.0000e-005**	**1.0000e-005**	**5.0000e-005**	**0.0000**	**1.7738**	**1.7738**	**1.8000e-004**	**0.0000**	**1.7784**

3.8 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.6411					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.1900e-003	0.0868	0.1338	2.1000e-004		2.9100e-003	2.9100e-003		2.8000e-003	2.8000e-003	0.0000	18.1570	18.1570	5.0300e-003	0.0000	18.2828
Total	**2.6483**	**0.0868**	**0.1338**	**2.1000e-004**		**2.9100e-003**	**2.9100e-003**		**2.8000e-003**	**2.8000e-003**	**0.0000**	**18.1570**	**18.1570**	**5.0300e-003**	**0.0000**	**18.2828**

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	1.3300e-003	6.1000e-004	7.8700e-003	1.0000e-005	8.9000e-004	1.0000e-005	9.0000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.9758	0.9758	4.0000e-005	0.0000	0.9769
Total	**1.3300e-003**	**6.1000e-004**	**7.8700e-003**	**1.0000e-005**	**8.9000e-004**	**1.0000e-005**	**9.0000e-004**	**2.4000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.9758**	**0.9758**	**4.0000e-005**	**0.0000**	**0.9769**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.6411					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	2.1000e-004		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.6411**	**0.0000**	**0.0000**	**2.1000e-004**		**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	1.3300e-003	6.1000e-004	7.8700e-003	1.0000e-005	8.9000e-004	1.0000e-005	9.0000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.9758	0.9758	4.0000e-005	0.0000	0.9769
Total	**1.3300e-003**	**6.1000e-004**	**7.8700e-003**	**1.0000e-005**	**8.9000e-004**	**1.0000e-005**	**9.0000e-004**	**2.4000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.9758**	**0.9758**	**4.0000e-005**	**0.0000**	**0.9769**

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	0.5102	2.2372	6.4819	0.0222	2.0132	0.0190	2.0322	0.5389	0.0178	0.5567	0.0000	2,031.8885	2,031.8885	0.0681	0.0000	2,033.5906
Unmitigated	0.5102	2.2372	6.4819	0.0222	2.0132	0.0190	2.0322	0.5389	0.0178	0.5567	0.0000	2,031.8885	2,031.8885	0.0681	0.0000	2,033.5906

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	243.81	54.18	23.31	442,630	442,630
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	1,702.80	1,702.80	1702.80	4,971,344	4,971,344
Total	1,946.61	1,756.98	1,726.11	5,413,974	5,413,974

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
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	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
Parking Lot	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
Unrefrigerated Warehouse-No Rail	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761

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	623.1188	623.1188	0.0623	0.0129	628.5185
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	623.1188	623.1188	0.0623	0.0129	628.5185
NaturalGas Mitigated	0.0474	0.4306	0.3617	2.5800e-003		0.0327	0.0327		0.0327	0.0327	0.0000	468.7788	468.7788	8.9800e-003	8.5900e-003	471.5645
NaturalGas Unmitigated	0.0474	0.4306	0.3617	2.5800e-003		0.0327	0.0327		0.0327	0.0327	0.0000	468.7788	468.7788	8.9800e-003	8.5900e-003	471.5645

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	822150	4.4300e-003	0.0403	0.0339	2.4000e-004		3.0600e-003	3.0600e-003		3.0600e-003	3.0600e-003	0.0000	43.8731	43.8731	8.4000e-004	8.0000e-004	44.1338
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
Unrefrigerated Warehouse-No Rail	7.96243e+006	0.0429	0.3903	0.3279	2.3400e-003		0.0297	0.0297		0.0297	0.0297	0.0000	424.9057	424.9057	8.1400e-003	7.7900e-003	427.4307
Total		**0.0474**	**0.4306**	**0.3617**	**2.5800e-003**		**0.0327**	**0.0327**		**0.0327**	**0.0327**	**0.0000**	**468.7787**	**468.7787**	**8.9800e-003**	**8.5900e-003**	**471.5645**

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	822150	4.4300e-003	0.0403	0.0339	2.4000e-004		3.0600e-003	3.0600e-003		3.0600e-003	3.0600e-003	0.0000	43.8731	43.8731	8.4000e-004	8.0000e-004	44.1338
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
Unrefrigerated Warehouse-No Rail	7.96243e+006	0.0429	0.3903	0.3279	2.3400e-003		0.0297	0.0297		0.0297	0.0297	0.0000	424.9057	424.9057	8.1400e-003	7.7900e-003	427.4307
Total		**0.0474**	**0.4306**	**0.3617**	**2.5800e-003**		**0.0327**	**0.0327**		**0.0327**	**0.0327**	**0.0000**	**468.7787**	**468.7787**	**8.9800e-003**	**8.5900e-003**	**471.5645**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	574560	75.5787	7.5600e-003	1.5600e-003	76.2336
Parking Lot	27125	3.5681	3.6000e-004	7.0000e-005	3.5990
Unrefrigerated Warehouse-No Rail	4.13536e+006	543.9721	0.0544	0.0113	548.6859
Total		**623.1188**	**0.0623**	**0.0129**	**628.5185**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	574560	75.5787	7.5600e-003	1.5600e-003	76.2336
Parking Lot	27125	3.5681	3.6000e-004	7.0000e-005	3.5990
Unrefrigerated Warehouse-No Rail	4.13536e+006	543.9721	0.0544	0.0113	548.6859
Total		**623.1188**	**0.0623**	**0.0129**	**628.5185**

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	2.2359	7.0000e-005	8.1500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0158	0.0158	4.0000e-005	0.0000	0.0168
Unmitigated	2.2359	7.0000e-005	8.1500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0158	0.0158	4.0000e-005	0.0000	0.0168

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	0.2641					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.9710					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.6000e-004	7.0000e-005	8.1500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0158	0.0158	4.0000e-005	0.0000	0.0168
Total	**2.2359**	**7.0000e-005**	**8.1500e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0158**	**0.0158**	**4.0000e-005**	**0.0000**	**0.0168**

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	0.2641					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.9710					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.6000e-004	7.0000e-005	8.1500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0158	0.0158	4.0000e-005	0.0000	0.0168
Total	**2.2359**	**7.0000e-005**	**8.1500e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0158**	**0.0158**	**4.0000e-005**	**0.0000**	**0.0168**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			

Mitigated	123.5133	0.1459	0.0886	153.5726
Unmitigated	123.5133	0.1459	0.0886	153.5726

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	11.1972 / 6.86282	15.0911	0.0148	8.8500e-003	18.0957
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	101.75 / 0	108.4222	0.1312	0.0798	135.4769
Total		**123.5133**	**0.1459**	**0.0886**	**153.5726**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	11.1972 / 6.86282	15.0911	0.0148	8.8500e-003	18.0957
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	101.75 / 0	108.4222	0.1312	0.0798	135.4769
Total		**123.5133**	**0.1459**	**0.0886**	**153.5726**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	95.8503	5.6646	0.0000	237.4651
Unmitigated	95.8503	5.6646	0.0000	237.4651

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	58.59	11.8932	0.7029	0.0000	29.4650
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	413.6	83.9571	4.9617	0.0000	208.0001
Total		**95.8503**	**5.6646**	**0.0000**	**237.4651**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	58.59	11.8932	0.7029	0.0000	29.4650
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	413.6	83.9571	4.9617	0.0000	208.0001
Total		**95.8503**	**5.6646**	**0.0000**	**237.4651**

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: Operational Truck Traffic Calculations

Travel on or near site = 0.25 miles, 15 mph PM_{10} exhaust rate, 5-day/week operation with increase of 6 truck trips per day at 0.02 grams/trip and 260 days per year = 0.069 lbs/year

Idle = 5mph rate of 0.15gram/mile = 0.75grams per hour = 0.06 grams/5-minute idle.

Add this to each trip and we get

0.06 * 6 idle points/day * 260 days/year converted to pounds = 0.206 pounds/year.

Total = 0.069 running + 0.206 idle = 0.27 lbs/year. Trigger level = 0.34 lbs.

Attachment 4: Construction Health Risk Assessment

Shoe Palace, Morgan Hill, CA

DPM Emissions and Modeling Emission Rates - Unmitigated

Emissions Model Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2019	Construction	0.0580	DPM	116.0	0.03531	4.45E-03	90,697	**4.91E-08**
2020	Construction	0.0052	DPM	10.4	0.00317	3.99E-04	90,697	**4.40E-09**
Total		***0.0632***		***126.4***	***0.0385***	***0.0048***		

Operation Hours

hr/day =	9	(7am - 4pm)
days/yr =	365	
hours/year =	3285	

PM2.5 Fugitive Dust Emissions for Modeling - Unmitigated

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2019	Construction	FUG	0.00625	12.5	0.00381	4.79E-04	90,697	**5.29E-09**
2020	Construction	FUG	0.00028	0.6	0.00017	2.15E-05	90,697	**2.37E-10**
Total			***0.0065***	***13.1***	***0.0040***	***0.0005***		

Operation Hours

hr/day =	9	(7am - 4pm)
days/yr =	365	
hours/year =	3285	

Shoe Palace, Morgan Hill, CA
Construction Health Impacts Summary

Maximum Impacts at Construction MEI Location - Unmitigated

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM ($\mu g/m^3$)	Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million): Child	Cancer Risk (per million): Adult	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2019	0.0463	0.0076	7.61	0.13	0.009	0.05
2020	0.0042	0.0003	0.68	0.01	0.001	0.00
Maximum	0.0463	0.0076	8.3	0.1	0.009	0.05

Shoe Palace, Morgan Hill, CA
Maximum DPM Cancer Risk Calculations From Construction
Impacts at Off-Site Receptors - 1.5 meter 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 - 9**	**2 - 16**	**16 - 30**
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

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

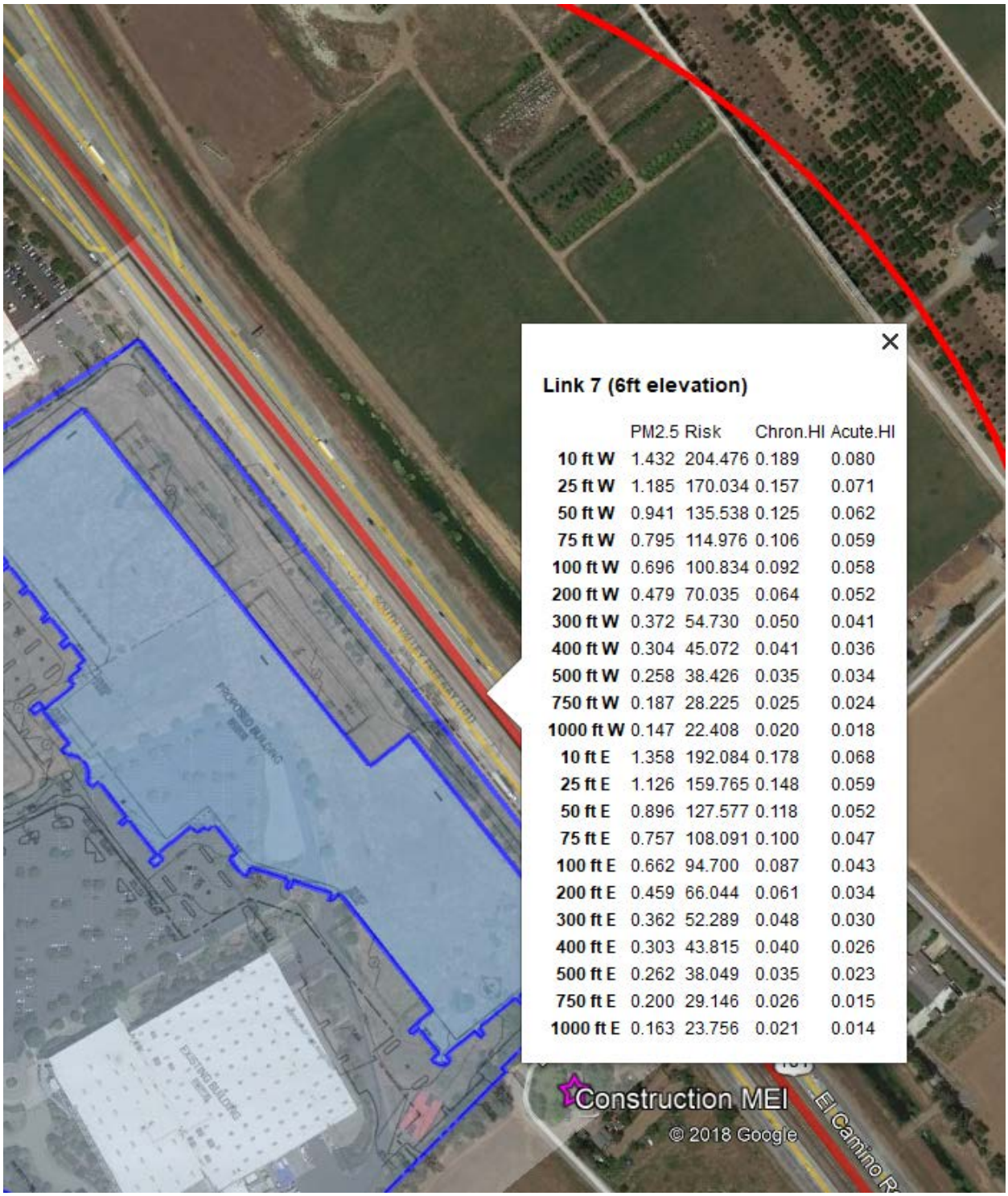
Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information					
			DPM Conc (ug/m3)				Modeled DPM Conc (ug/m3)					
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Age Sensitivity Factor**	**Infant/Child Cancer Risk (per million)**	**Year**	**Annual**	**Age Sensitivity Factor**	**Adult Cancer Risk (per million)**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	-	-	10	-	-	-	-	-		
1	1	0 - 1	2019	0.0463	10	7.61	2019	0.0463	1	0.13	0.0076	0.054
2	1	1 - 2	2020	0.0042	10	0.68	2020	0.0042	1	0.01	0.0003	0.004
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00		
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00		
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00		
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00		
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00		
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00		
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00		
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00		
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00		
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00		
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00		
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00		
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00		
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00		
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00		
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00		
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00		
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00		
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00		
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00		
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00		
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00		
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00		
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00		
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00		
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00		
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00		
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00		
Total Increased Cancer Risk						**8.3**				**0.14**		

* Third trimester of pregnancy

Attachment 5: Cumulative Source Risk Screening Calculations

Highway 101 Risk Summary



Link 7 (6ft elevation)

	PM2.5	Risk	Chron.HI	Acute.HI
10 ft W	1.432	204.476	0.189	0.080
25 ft W	1.185	170.034	0.157	0.071
50 ft W	0.941	135.538	0.125	0.062
75 ft W	0.795	114.976	0.106	0.059
100 ft W	0.696	100.834	0.092	0.058
200 ft W	0.479	70.035	0.064	0.052
300 ft W	0.372	54.730	0.050	0.041
400 ft W	0.304	45.072	0.041	0.036
500 ft W	0.258	38.426	0.035	0.034
750 ft W	0.187	28.225	0.025	0.024
1000 ft W	0.147	22.408	0.020	0.018
10 ft E	1.358	192.084	0.178	0.068
25 ft E	1.126	159.765	0.148	0.059
50 ft E	0.896	127.577	0.118	0.052
75 ft E	0.757	108.091	0.100	0.047
100 ft E	0.662	94.700	0.087	0.043
200 ft E	0.459	66.044	0.061	0.034
300 ft E	0.362	52.289	0.048	0.030
400 ft E	0.303	43.815	0.040	0.026
500 ft E	0.262	38.049	0.035	0.023
750 ft E	0.200	29.146	0.026	0.015
1000 ft E	0.163	23.756	0.021	0.014

Bay Area Air Quality Management District

Risk & Hazard Stationary Source Inquiry Form

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

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

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

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

Table A: Requester Contact Information

Date of Request	**8/8/2018**
Contact Name	Mimi McNamara
Affiliation	Illingworth & Rodkin, Inc.
Phone	707-794-0400 x35
Email	mmcnamara@illingworthrodkin.com
Project Name	18-139 Shoe Palace
Address	755 Jarvis Drive
City	Morgan Hill
County	Santa Clara
Type (residential, commercial, mixed use, industrial, etc.)	Industrial
Project Size (# of units or building square feet)	580,900

Comments:

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

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

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

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

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

5. List the stationary source information in Table B. Table B is for information only.

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

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

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

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

Table B: Google Earth data

Distance from Receptor (feet) or MEI[1]	Facility Name	Address	Plant No.	Cancer Risk[2]	Hazard Risk[2]	$PM_{2.5}$[2]	Source No.[3]	Type of Source[4]	Fuel Code[5]	Status/Comments
111	GMP Metal Plating Inc	740 Jarvis Drive	12786	264.159000	0.137000	0.344000	S1	Generator	98	Use Diesel Distance Multiplier
404	Sakata Seed America	18095 Serene Drive	13045	1.424163	0.002827	0.001786	S1	Generator	98	Use Diesel Distance Multiplier
~~1050~~	~~AHK Electronic Sheet Metal, Inc~~	~~875 Jarvis Dr, Suite 120~~	~~15938~~	~~0.003988~~	~~0.000028~~	~~0.007990~~				Demolished
615	Infineon Technologies	18275 Serene Drive	16356	0.005	0.0000	0.0002	S1	Generator	98	Use Diesel Distance Multiplier
990	K R Anderson Co Inc	18330 Sutter Boulevard	15000	1.235	0.0036	0.0015	S1	Generator	98	Use Diesel Distance Multiplier

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

Date last updated:

Bay Area Air Quality Management District

Risk & Hazard Stationary Source Inquiry Form

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

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

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

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

Table A: Requester Contact Information

Date of Request	**8/8/2018**
Contact Name	Mimi McNamara
Affiliation	Illingworth & Rodkin, Inc.
Phone	707-794-0400 x35
Email	mmcnamara@illingworthrodkin.com
Project Name	18-139 Shoe Palace
Address	755 Jarvis Drive
City	Morgan Hill
County	Santa Clara
Type (residential, commercial, mixed use, industrial, etc.)	Industrial
Project Size (# of units or building square feet)	580,900
Comments:	

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

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

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

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

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

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

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

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

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

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

Table B: Google Earth data

Construction MEI

Distance from Receptor (feet) or MEI[1]	Facility Name	Address	Plant No.	Cancer Risk[2]	Hazard Risk[2]	$PM_{2.5}$[2]	Source No.[3]	Type of Source[4]	Fuel Code[5]	Status/Comments	Distance Adjustment Multiplier	Adjusted Cancer Risk Estimate	Adjusted Hazard Risk	Adjusted PM2.5
1000	GMP Metal Plating Inc	740 Jarvis Drive	12786	0.0987	0.000151	0.000169	S1	Generator	98	Use Diesel Distance Multiplier	0.04	0.004	6.04E-06	6.77E-06
1000	Sakata Seed America	18095 Serene Drive	13045	1.424163	0.002827	0.001786	S1	Generator	98	Use Diesel Distance Multiplier	0.04	0.06	1.13E-04	7.14E-05
1000	Infineon Technologies	18275 Serene Drive	16356	0.005	0.0000	0.0002	S1	Generator	98	Use Diesel Distance Multiplier	0.04	2.19E-04	1.48E-06	7.24E-06
1000	K R Anderson Co Inc	18330 Sutter Boulevard	15000	1.235	0.0036	0.0015	S1	Generator	98	Use Diesel Distance Multiplier	0.04	0.05	1.42E-04	6.05E-05

0.110537439

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

Date last updated:

BAAQMD Risk and Hazards Emissions Screening Calculator Instructions (Beta Version)

Based on emissions data provided by BAAQMD, this calculator will estimate screening-level cancer risk, PM2.5 concentrations, and non-cancer acute/chronic indices. This method should only be used for permitted facilites where screening-level risks have not already been calculated by BAAQMD and BAAQMD Health Risk Screening Assessments have not been completed.

BAAQMD staff will provide emissions information for each requested permitted facility. If a facility contains more than one permitted source, the plant's total emissions can be used, which BAAQMD staff will provide.

Below, note that there are individual worksheets for estimating cancer risk, non-cancer chronic hazard, non-cancer acute hazard and PM2.5 concentrations. To calculate risks, etc., enter daily emissions in each worksheet in column B for each chemical in the emissions printout. Sum the individual risk and hazard from each chemical to determine the total risks and hazards at the facility.

EXAMPLE:

BAY AREA AIR QUALITY MANAGEMENT DISTRICT Printed: DEC 22, 2011
DETAIL POLLUTANTS - ABATED
MOST RECENT P/O APPROVED (2011)

Plant Name: Example 1

S# SOURCE NAME
MATERIAL SOURCE CODE
THROUGHPUT DATE POLLUTANT CODE LBS/DAY

This plant contains 4 permitted sources. These source emissions are combined and presented in the plant total:

PLANT TOTAL:

Daily emissions

Lbs/day Pollutant		
Benzene	41	1.26E-03
Formaldehyde	124	1.04E-04
Organics (part not spec el	990	6.06E-02
Arsenic (all)	1030	1.09E-06
Beryllium (all) pollutant	1040	6.41E-07
Cadmium	1070	2.73E-06
Chromium (hexavalent)	1095	5.65E-08
Lead (all) pollutant	1140	2.32E-06
Manganese	1160	3.64E-06
Nickel pollutant	1180	4.42E-05
Mercury (all) pollutant	1190	7.73E-07
Diesel Engine Exhaust Part	1350	6.31E-02
PAH's (non-speciated)	1840	5.77E-06
Nitrous Oxide (N2O)	2030	3.36E-04
Nitrogen Oxides (part not	2990	8.84E-01
Sulfur Dioxide (SO2)	3990	4.10E-04
Carbon Monoxide (CO) pollu	4990	1.92E-01
Carbon Dioxide, non-biogen	6960	4.20E+01
Methane (CH4)	6970	1.68E-03

Pollutant Name	Emission/lbs per day	Cancer Risk
ARSENIC	1.09E-06	5.50E-08
BENZENE	1.26E-03	1.22E-07
BERYLLIUM	6.41E-07	4.98E-09
CADMIUM	2.73E-06	3.79E-08
CHROMIUM	5.65E-08	2.67E-08
DIESEL PM	6.31E-02	6.70E-05
FORMALDEHYDE	1.04E-04	2.11E-09
LEAD	2.32E-06	2.65E-10
NICKEL	4.42E-05	3.73E-08
PAH'S	5.77E-06	5.77E-06
TOTAL:		**7.31E-05**

Using this screening approach, the cancer risk associated with this facility is estimated to be 7.31E-05, also expressed as **73 in a million**. If the facility contains only diesel back-up engines, the distance multiplier can be used to adjust the estimated cancer risk.

Note: Not all of the chemicals being emitted by the plant in this example are associated with cancer risk, therefore those chemicals are not included in the cancer risk estimation. Similarly, not all of the chemicals emitted by the plant in this example are associated with acute or chronic hazards.

Plug in the emissions in column B in the remaining tabs in the same fashion to estimate chronic and acute hazards, and PM2.5 concentrations.

Notes: Created 7/11/2012. Version 1.3 Beta. This calculator will create screening level values. More detailed modeling methods will result in more accurate values. For questions and comments contact Alison Kirk at akirk@baaqmd.gov.

Plant #: P# 12786
Plant Name: GMP Metal Plating Inc
Number of Sources:

Pollutant Name	Emissions/lbs per day	Cancer Risk (in millions)
ACETALDEHYDE		0.00E+00
ACETAMIDE		0.00E+00
ACRYLAMIDE		0.00E+00
ACRYLONITRILE		0.00E+00
ALLYL CHLORIDE		0.00E+00
2-AMINOANTHRAQUINONE		0.00E+00
ANILINE		0.00E+00
ARSENIC AND COMPOUNDS (INORGANIC)[1,2]	7.95E-09	4.01E-10
ASBESTOS [3]		0.00E+00
BENZENE[1]	9.12E-06	8.80E-10
BENZIDINE (AND ITS SALTS) values also apply to:		0.00E+00
Benzidine based dyes		0.00E+00
Direct Black 38		0.00E+00
Direct Blue 6		0.00E+00
Direct Brown 95 (technical grade)		0.00E+00
BENZYL CHLORIDE		0.00E+00
BERYLLIUM AND COMPOUNDS[2]	4.66E-09	3.62E-11
BIS(2-CHLOROETHYL)ETHER (Dichloroethyl ether)		0.00E+00
BIS(CHLOROMETHYL)ETHER		0.00E+00
POTASSIUM BROMATE		0.00E+00
1,3-BUTADIENE		0.00E+00
CADMIUM AND COMPOUNDS[2]	1.99E-08	2.76E-10
CARBON TETRACHLORIDE[1] (Tetrachloromethane)		0.00E+00
CHLORINATED PARAFFINS		0.00E+00
4-CHLORO-O-PHENYLENEDIAMINE		0.00E+00
CHLOROFORM[1]		0.00E+00
PENTACHLOROPHENOL		0.00E+00
2,4,6-TRICHLOROPHENOL		0.00E+00
p-CHLORO-o-TOLUIDINE		0.00E+00
CHROMIUM 6+2	4.11E-10	1.94E-10
Barium chromate2		0.00E+00
Calcium chromate2		0.00E+00
Lead chromate2		0.00E+00
Sodium dichromate2		0.00E+00
Strontium chromate2		0.00E+00
CHROMIC TRIOXIDE (as chromic acid mist)		0.00E+00
p-CRESIDINE		0.00E+00
CUPFERRON		0.00E+00
2,4-DIAMINOANISOLE		0.00E+00
2,4-DIAMINOTOLUENE		0.00E+00
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)		0.00E+00
1,4-DICHLOROBENZENE		0.00E+00
3,3-DICHLOROBENZIDINE		0.00E+00
1,1,-DICHLOROETHANE (Ethylidene dichloride)		0.00E+00
DI(2-ETHYLHEXYL)PHTHALATE (DEHP)		0.00E+00
p-DIMETHYLAMINOAZOBENZENE		0.00E+00
2,4-DINITROTOLUENE		0.00E+00
1,4-DIOXANE (1,4-Diethylene dioxide)		0.00E+00
EPICHLOROHYDRIN (1-Chloro-2,3-epoxypropane)		0.00E+00
ETHYL BENZENE		0.00E+00
ETHYLENE DIBROMIDE (1,2-Dibromoethane)		0.00E+00
ETHYLENE DICHLORIDE (1,2-Dichloroethane)		0.00E+00
ETHYLENE OXIDE (1,2-Epoxyethane)		0.00E+00
ETHYLENE THIOUREA		0.00E+00
FORMALDEHYDE	7.55E-07	1.53E-11
HEXACHLOROBENZENE		0.00E+00
HEXACHLOROCYCLOHEXANES (mixed or technical grade)		0.00E+00
alpha-HEXACHLOROCYCLOHEXANE		0.00E+00
beta- HEXACHLOROCYCLOHEXANE		0.00E+00
gamma-HEXACHLOROCYCLOHEXANE (Lindane)		0.00E+00
HYDRAZINE		0.00E+00
LEAD AND COMPOUNDS 2,4 (inorganic) values also apply to:	1.68E-08	1.92E-12
Lead acetate2	1.68E-08	1.92E-12
Lead phosphate2	1.68E-08	1.92E-12
Lead subacetate2	1.68E-08	1.92E-12
METHYL tertiary-BUTYL ETHER		0.00E+00
4,4'-METHYLENE BIS (2-CHLOROANILINE) (MOCA)		0.00E+00
METHYLENE CHLORIDE (Dichloromethane)		0.00E+00
4,4'-METHYLENE DIANILINE (AND ITS DICHLORIDE)		0.00E+00
MICHLER'S KETONE (4,4'-Bis(dimethylamino)benzophenone)		0.00E+00
N-NITROSODI-n-BUTYLAMINE		0.00E+00
N-NITROSODI-n-PROPYLAMINE		0.00E+00
N-NITROSODIETHYLAMINE		0.00E+00
N-NITROSODIMETHYLAMINE		0.00E+00
N-NITROSODIPHENYLAMINE		0.00E+00
N-NITROSO-N-METHYLETHYLAMINE		0.00E+00
N-NITROSOMORPHOLINE		0.00E+00
N-NITROSOPIPERIDINE		0.00E+00
N-NITROSOPYRROLIDINE		0.00E+00
NICKEL AND COMPOUNDS2 (values also apply to:)	3.21E-07	2.71E-10
Nickel acetate2	3.21E-07	2.71E-10
Nickel carbonate2	3.21E-07	2.71E-10
Nickel carbonyl2	3.21E-07	2.71E-10
Nickel hydroxide2	3.21E-07	2.71E-10
Nickelocene2	3.21E-07	2.71E-10
NICKEL OXIDE2		0.00E+00
Nickel refinery dust from the pyrometallurgical process2		0.00E+00
Nickel subsulfide2		0.00E+00
p-NITROSODIPHENYLAMINE		0.00E+00
PARTICULATE EMISSIONS FROM DIESEL-FUELED ENGINES	8.77E-05	9.31E-08
PERCHLOROETHYLENE (Tetrachloroethylene)		0.00E+00
PCB (POLYCHLORINATED BIPHENYLS) [low risk] 2,6		0.00E+00
PCB (POLYCHLORINATED BIPHENYLS) [high risk] 2,6		0.00E+00
POLYCHLORINATED DIBENZO-P-DIOXINS (PCDD)(AS 2,3,7,8-PCDD EQUIV) 2,7		0.00E+00
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN2,7		0.00E+00
POLYCHLORINATED DIBENZOFURANS (PCDF)(AS 2,3,7,8-PCDD EQUIV) 2,7		0.00E+00
2,3,7,8-TETRACHLORODIBENZOFURAN2,7		0.00E+00
POLYCYCLIC AROMATIC HYDROCARBON2 (PAH) (AS B(a)P-EQUIV)5	4.19E-08	2.21E-09
BENZO(A)PYRENE2,5		0.00E+00
NAPHTHALENE		0.00E+00
1,3-PROPANE SULTONE		0.00E+00
PROPYLENE OXIDE		0.00E+00
1,1,2,2-TETRACHLOROETHANE		0.00E+00
THIOACETAMIDE		0.00E+00
Toluene diisocyantates		0.00E+00
TOLUENE-2,4-DIISOCYANATE		0.00E+00
TOLUENE-2,6-DIISOCYANATE		0.00E+00
1,1,2-TRICHLOROETHANE (Vinyl trichloride)		0.00E+00
TRICHLOROETHYLENE		0.00E+00
URETHANE (Ethyl carbamate)		0.00E+00
VINYL CHLORIDE (Chloroethylene)		0.00E+00
	TOTAL:	9.87E-08

Plant #: P# 12786

Plant Name: GMP Metal Plating Inc

Number of Sources:

Diesel PM Concentrations	Emissions (lbs/day)	M2.5 Concentration (ug/m3)
Diesel Engine Exhast Part	8.77E-05	0.000169336
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
		0
TOTAL:		0.000169336

Plant #: P# 12786
Plant Name: GMP Metal Plating Inc
Number of Sources:

Pollutant Name	Emission/lbs per day	Chronic Hazard
ACETALDEHYDE	0	0
ACROLEIN		0
ACRYLONITRILE		0
AMMONIA		0
ARSENIC AND COMPOUNDS (INORGANIC)1,2	7.95E-09	3.78198E-05
ARSINE		0
BENZENE1	9.12E-06	2.86942E-07
BERYLLIUM AND COMPOUNDS2	4.66E-09	1.25798E-06
1,3-BUTADIENE		0
CADMIUM AND COMPOUNDS2	1.99E-08	2.09998E-06
CARBON DISULFIDE1		0
CARBON TETRACHLORIDE1 (Tetrachloromethane)		0
CHLORINE		0
CHLORINE DIOXIDE		0
CHLOROBENZENE		0
CHLOROFORM1		0
2,3,4,6-Tetrachlorophenol		0
CHLOROPICRIN		0
CHROMIUM 6+2	4.11E-10	3.87938E-09
Barium chromate2		0
Calcium chromate2		0
Lead chromate2		0
Sodium dichromate2		0
Strontium chromate2		0
CHROMIC TRIOXIDE (as chromic acid mist)		0
CRESOLS		0
M-CRESOL		0
O-CRESOL		0
P-CRESOL		0
Cyanide And Compounds (inorganic)		0
HYDROGEN CYANIDE (Hydrocyanic acid)		0
1,4-DICHLOROBENZENE		0
DIETHANOLAMINE		0
DIMETHYLAMINE		0
N,N-DIMETHYL FORMAMIDE		0
1,4-DIOXANE (1,4-Diethylene dioxide)		0
EPICHLOROHYDRIN (1-Chloro-2,3-epoxypropane)		0
1,2-EPOXYBUTANE		0
ETHYL BENZENE		0
ETHYL CHLORIDE (Chloroethane)		0
ETHYLENE DIBROMIDE (1,2-Dibromoethane)		0
ETHYLENE DICHLORIDE (1,2-Dichloroethane)		0
ETHYLENE GLYCOL		0
ETHYLENE OXIDE (1,2-Epoxyethane)		0
Fluorides		0
HYDROGEN FLUORIDE (Hydrofluoric acid)		0
FORMALDEHYDE	7.55E-07	1.58364E-07
GASOLINE VAPORS		0
GLUTARALDEHYDE		0
ETHYLENE GLYCOL ETHYL ETHER – EGEE1		0
ETHYLENE GLYCOL ETHYL ETHER ACETATE – EGEEA1		0
ETHYLENE GLYCOL METHYL ETHER – EGME1		0
ETHYLENE GLYCOL METHYL ETHER ACETATE – EGMEA		0
n-HEXANE		0
HYDRAZINE		0
HYDROCHLORIC ACID (Hydrogen chloride)		0
HYDROGEN SULFIDE		0
ISOPHORONE		0
ISOPROPYL ALCOHOL (Isopropanol)		0
MALEIC ANHYDRIDE		0
MANGANESE AND COMPOUNDS	2.64E-08	5.53748E-07
MERCURY AND COMPOUNDS (INORGANIC) values also apply to:	5.62E-09	1.49591E-06
Mercuric chloride	5.62E-09	1.49591E-06
METHANOL		0
METHYL BROMIDE (Bromomethane)		0
METHYL tertiary-BUTYL ETHER		0
METHYL CHLOROFORM (1,1,1-Trichloroethane)		0
METHYL ISOCYANATE		0
METHYLENE CHLORIDE (Dichloromethane)		0
4,4'-METHYLENE DIANILINE (AND ITS DICHLORIDE)		0
METHYLENE DIPHENYL ISOCYANATE		0
NICKEL AND COMPOUNDS2 (values also apply to:)	3.21E-07	1.21195E-05
Nickel acetate2	3.21E-07	1.21195E-05
Nickel carbonate2	3.21E-07	1.21195E-05
Nickel carbonyl2	3.21E-07	1.21195E-05
Nickel hydroxide2	3.21E-07	1.21195E-05
Nickelocene2	3.21E-07	1.21195E-05
NICKEL OXIDE2		0
Nickel refinery dust from the pyrometallurgical process2		0
Nickel subsulfide2		0
NITROGEN DIOXIDE		0
PARTICULATE EMISSIONS FROM DIESEL-FUELED ENGINES	8.77E-05	3.31116E-05
PERCHLOROETHYLENE (Tetrachloroethylene)		0
PHENOL		0
PHOSPHINE		0
PHOSPHORIC ACID		0
PHOSPHORUS (WHITE)		0
PHTHALIC ANHYDRIDE		0
POLYCHLORINATED DIBENZO-P-DIOXINS (PCDD)(AS 2,3,7,8-PCDD EQUIV) 2,7		0
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN2,7		0
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN2,7		0
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN2,7		0
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN2,7		0
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN2,7		0
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN2,7		0
1,2,3,4,6,7,8,9-OCTACHLORODIBENZO-P-DIOXIN2,7		0
POLYCHLORINATED DIBENZOFURANS (PCDF)(AS 2,3,7,8-PCDD EQUIV) 2,7		0
2,3,7,8-TETRACHLORODIBENZOFURAN2,7		0
1,2,3,7,8-PENTACHLORODIBENZOFURAN2,7		0
2,3,4,7,8-PENTACHLORODIBENZOFURAN2,7		0
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN2,7		0
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN2,7		0
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN2,7		0
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN2,7		0
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN2,7		0
1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN2,7		0
1,2,3,4,6,7,8,9-OCTACHLORODIBENZOFURAN2,7		0
NAPHTHALENE		0
PROPYLENE (PROPENE)		0
PROPYLENE GLYCOL MONOMETHYL ETHER		0
PROPYLENE OXIDE		0
SELENIUM AND COMPOUNDS		0
Selenium sulfide		0
SILICA (Crystalline, Respirable)		0
STYRENE		0
SULFUR DIOXIDE	2.98E-06	8.52361E-09
SULFURIC ACID AND OLEUM		0
SULFURIC ACID		0
SULFUR TRIOXIDE		0
OLEUM		0
TOLUENE		0
Toluene diisocyantates		0
TOLUENE-2,4-DIISOCYANATE		0
TOLUENE-2,6-DIISOCYANATE		0
TRICHLOROETHYLENE		0
TRIETHYLAMINE		0
VINYL ACETATE		0
VINYLIDENE CHLORIDE (1,1-Dichloroethylene)		0
XYLENES (mixed isomers)		0
m-XYLENE		0
o-XYLENE		0
p-XYLENE		0
	TOTAL:	1.51E-04

Plant #: P# 12786
Plant Name: GMP Metal Plating Inc
Number of Sources:

Pollutant Name	Emission/lbs per day	Acute Hazard
ACETALDEHYDE	0	0
ACROLEIN		0
ACRYLIC ACID		0
AMMONIA		0
ARSENIC AND COMPOUNDS (INORGANIC)1,2	7.95E-09	7.50392E-07
ARSINE		0
BENZENE1	9.12E-06	1.32435E-07
BENZYL CHLORIDE		0
CARBON DISULFIDE1		0
CARBON MONOXIDE	1.40E-03	1.14908E-06
CARBON TETRACHLORIDE1 (Tetrachloromethane)		0
CHLORINE		0
CHLOROFORM1		0
CHLOROPICRIN		0
COPPER AND COMPOUNDS		0
Cyanide And Compounds (inorganic)		0
HYDROGEN CYANIDE (Hydrocyanic acid)		0
1,4-DIOXANE (1,4-Diethylene dioxide)		0
EPICHLOROHYDRIN (1-Chloro-2,3-epoxypropane)		0
Fluorides		0
HYDROGEN FLUORIDE (Hydrofluoric acid)		0
FORMALDEHYDE	7.55E-07	2.5914E-07
ETHYLENE GLYCOL BUTYL ETHER – EGBE		0
ETHYLENE GLYCOL ETHYL ETHER – EGEE1		0
ETHYLENE GLYCOL ETHYL ETHER ACETATE – EGEEA1		0
ETHYLENE GLYCOL METHYL ETHER – EGME1		0
HYDROCHLORIC ACID (Hydrogen chloride)		0
HYDROGEN SULFIDE		0
ISOPROPYL ALCOHOL (Isopropanol)		0
MERCURY AND COMPOUNDS (INORGANIC) values also apply to:	5.62E-09	1.76822E-07
Mercuric chloride	5.62E-09	1.76822E-07
METHANOL		0
METHYL BROMIDE (Bromomethane)		0
METHYL CHLOROFORM (1,1,1-Trichloroethane)		0
METHYL ETHYL KETONE (2-Butanone)		0
METHYLENE CHLORIDE (Dichloromethane)		0
NICKEL AND COMPOUNDS2 (values also apply to:)	3.21E-07	1.00996E-06
Nickel acetate2	3.21E-07	1.00996E-06
Nickel carbonate2	3.21E-07	1.00996E-06
Nickel carbonyl2	3.21E-07	1.00996E-06
Nickel hydroxide2	3.21E-07	1.00996E-06

Nickelocene2	3.21E-07	1.00996E-06
NICKEL OXIDE2		0
Nickel refinery dust from the pyrometallurgical process2		0
Nickel subsulfide2		0
NITRIC ACID		0
OZONE		0
PROPYLENE OXIDE		0
HYDROGEN SELENIDE		0
SODIUM HYDROXIDE		0
STYRENE		0
SULFATES		0
SULFUR DIOXIDE	2.98E-06	8.52361E-08
SULFURIC ACID AND OLEUM		0
SULFURIC ACID		0
SULFUR TRIOXIDE		0
OLEUM		0
TOLUENE		0
TRIETHYLAMINE		0
Vanadium (fume or dust)		0
VANADIUM PENTOXIDE		0
VINYL CHLORIDE (Chloroethylene)		0
XYLENES (mixed isomers)		0
m-XYLENE		0
o-XYLENE		0
p-XYLENE		0
	TOTAL:	8.79E-06